MITSUKO UCHIDA
MOZART AND THE FUTURE

THE HI-FI SHOW GUIDE FREE INSIDE
In recording studios, sound reproduction must have exceptional dynamics, frequency response and superb clarity. Whether it's rock, jazz or classical — leading artists rely on the experts: their own ears and Tascam equipment. If you don’t know where your next Grammy is coming from — then you probably won’t know that this professional quality equipment is available on the home hi-fi market — under the name TEAC.

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The pianist Mitsuko Uchida continues her Mozart piano concerto recordings (see reviews) and in our interview (page 75), looks forward to new projects. (Photo: Christian Steiner). This month's equipment section starts with the Linx Nebula integrated amplifier and Theta tuner: page 42. (Photo: Tony Petch).

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THE HI-FI SHOW
Heathrow Pent Hotel, 14th-17th September 1989. Opening times: trade only, 14th September 10am-6pm, 15th September, 10am-4pm; Public, 15th September 4-8pm, 16th and 17th September, 10am-6pm. Admission free.

THE HI-FI SHOW GUIDE
Free with this issue is the 32-page official guide to The Hi-Fi Show, packed with information on the 200-plus brands that will be seen and heard at the Show in September.
With the development of the K2 Interface we've ironed out one of the most common problems with CD players.

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The XL Z1010. From the JVC Super Digifine series of hi-fi components.

As for that well-worn phrase, 'all CD players sound alike'; we invite you to be the judge.
COMMENT

Our reports of DAT's death, it now seems, were exaggerated, as reported in this month's 'News', page 11, the 'continuing talks' referred to by Barry Fox ('Technology', August) have suddenly produced an agreement between the IFPI (representing the record industry) and the audio producers which will allow DAT recorders to go on sale, officially, before Christmas. Meanwhile, on the professional front, standards have now been agreed for the implementation of time-code on DAT. Fostex already has a four-head time-code equipped recorder (see 'Views'), but it is the adoption of an industry-wide standard which will now allow the majors to offer four-head DAT machines suitable for broadcast and studio applications, from ENG to mastering, which need accurate editing and video lock capabilities. At the Montreux ProTV/Video show, both Sony and Panasonic showed prototype recorders and editing units. (At the same show, incidentally, Stellavox, now part of Goldmund, showed its pro R-DAT machine, while that other great bastion of analogue, Nagra, at last showed its own 20bit, 48kHz-sampling digital tape-recording system using four-track 1/4in tape with rotating head!)

BitStream

A revolution in digital decoding? Or just marketing hype? Martin Colloms gives the background to the launch of PDM and MASH converters in 'Bit Wars' [page 35]. Since that article was written, the first appearance in the UK of a genuine Philips PDM ('BitStream') CD player has come with a Philips factory loan of a mocked-up player outwardly designated 'CD840', but containing the 'works' of a CD582 or '782 connected to its 'fixed' output sockets, plus an additional circuit board carrying the PDM decoder and providing a level-matched output to what would normally be the 'variable' sockets. Too late for full coverage this month, the design and implementation (and especially the construction of this particular demonstration prototype) raise many issues and will be the subject of future reports.

In my own listening, I found that the PDM section of the PDM player did sound better than the '82 section, but by a surprisingly small margin. If you gave this sound the usual blow-by-blow analysis, it would not score as high as a Marantz CD85; on the other hand, there was at least a hint of the much more musical CD sound which I heard from the PDM section of Paul Miller's butchered Sony (TA-F630ESD) amp [August]. The CD840 mock-up used Philips' differential double-converter arrangement (to give normal CD output level from this low-voltage chip), and was compromised in many ways. I am prepared to believe that there is a fundamental 'rightness' to the sound of this converter, manifesting itself as a distinctness in the existence of various instruments, the ability of a back-

Steve Harris

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Binders
Loose-leaf binders for annual volumes of HFN/RR are available from Binders, 79 Whalley Road, Wiltshire. Blackburn, Lancs. BBI 2LF 1971 to 1982 are covered by two binders (Jan-June-July-Dec's subsequent years require one binder each). Price £4.50 each (post paid). For earlier years, please ask for quotation.

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next month
Free with next month's magazine* is a superb 16-track compact disc celebrating the best of British music: produced especially for HFN/RR by Chandos Records and presented in association with Technology, it contains complete items from the best British composers from Purcell to Elgar to Britten. October equipment reviews start with a major loudspeaker test, covering a group of high-quality models from leading British manufacturers. CD player reviews cover the newest models from Pioneer and Sony (from the so-called '45-bit' range) as well as the Philips PDM prototype. There will be an exclusive review of the expensive but beautifully-built Nakamichi 1000 DAT recorder, with surprising conclusions; and a first technical review on Kelvin Labs Class A integrated amplifier.

In the features section Barry Fox will take a critical look at the competing systems of 'recordable CD' by recorded title. October, and Ben Duncan will begin Amp 02, a new state-of-the-art amplifier for home constructors. There will be an interview with cellist, Yo-Yo Ma, music news and more record reviews than any comparable publication. On sale September 15th Order your copy now!

* This offer is available to UK readers only.
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91% of Magneplanar owners confirmed that if they were asked to consider another type of speaker, they would still buy Magneplanar.
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'I have the simplest of tastes...'
'I am always satisfied with the best'
Oscar Wilde
**Improved listening**

*Dear Sir,* I very much enjoyed Peter Herring's article ‘Mozart on Forte-piano’ in the April issue. Articles such as these help me become a better listener, and thereby increase my enjoyment of recorded music. Please publish other pieces on the recording of classical music, particularly those involving currently available audiophile-standard vinyl discs or CDs.

Although I realize you must include budget and mid-priced hi-fi gear in your pages, I urge you to maintain your strong coverage of the high end. *HFN/RR* is one of the few magazines that shows a commitment to both serious audiophile equipment and recorded music.

**Mark McHarry, San Francisco**

**Facts straightened**

*Dear Sir,* I was reading your July interview with some arrogant pianist who, your headline says, 'considers himself an expert on recording techniques' but who sounded like an idiot to me — when I realized that that idiot was supposed to be me!

Sure enough, there’s a picture of me, and my name. But if that’s supposed to be me, all I can say is that Michael Powell misquotes and misrepresents me. He has me saying things about audio which I never said, and which, if I had said them, would undermine whatever claim I may have to being knowledgeable. I did not say that the Super L3S is ‘so insensitive to set up’ that it ‘cannot be driven by most amplifiers.’ I don’t even know what ‘insensitive to set up’ means, for Pete’s sake. What I did say is that the superb BC3, which we use in my Caltech lab, is difficult to drive. I did not claim BBC authority for needing 100 kHz sample rates for high-quality digital audio. I did not say that the people at Sony ‘fell about laughing’ when I asked about high-precision digital converters. It wasn’t Sony but another company entirely. I did not say one wants to know the ‘phase shift’ of a phono cartridge; it was rather the ‘absolute phase’ or polarity I spoke of.

I did not say ‘Designs using feedback will certainly have a liability for increased total harmonic distortion’. I never said the ‘old Advent system’ is ‘the best’ cassette setup for recording. I said that the separate Advent microphone pre-amp was a decent unit which one can sometimes find used and cheap.

I do hold two posts at California Institute of Technology, one as pianist in residence. The other is not ‘Professor of Music,’ but lecturer in music in the department of electrical engineering. The course I teach is not ‘Science in Music’ but ‘Projects in Music & Science’.

Mr Powell distorts my language, too. I speak American English, which does not include such phrases as ‘they fell about laughing’ or ‘it’s just not on’, among others put in my mouth.

As for the core of my work, my piano performances, the piece might have mentioned that the interpretations have been received enthusiastically in many quarters. This would be fair because UK readers interested in hearing my music-making for themselves have no quick way to do so. (At the moment we have distribution in the USA and Italy, but not the UK. Mail-order from us is the only way for UK listeners to get the albums.) Moreover, because of this lack of UK distribution, the records have, with one exception, not been formally reviewed in UK magazines.

Mr Powell has misquoted and misunderstood also my comments on British, American, and Japanese cultures, which were not the brusque judgemental pronouncements he makes them, but attempts at a reflective coming-to-grips with the three societies. As presented, it seems that I think British products are ‘inferior or quirky’ while American ones by implication are the reverse. As we all know very well, that is not the case. Many American products are poorly designed and made, while British design is a byword and many British companies turn out high-quality products with enviable consistency.

Nor did I say ‘the Japanese . . . have no feeling at all for old culture’. In audio, this bizarre notion would be contradicted by the well-known popularity of tube amplifiers and horn loudspeakers in Japan. And beyond audio, of course Japan has a feeling for its own heritage. A culture without that feeling is a contradiction in terms. Even an outsider like myself may appreciate translations of Japanese literature from Sei Shonagon to Kawabata; and Japanese art in woodblock and cinema.

We’re all idiots from time to time. But I’m not quite the idiot that *HFN/RR* and Michael Powell make me out to be. **James Boyk, Los Angeles**

**Continued research**

*Dear Sir,* Michael Powell (in his Profile article *HFN/RR* July 1989 pages 27-31) quotes James Boyk as saying that the BBC is closing its laboratory which looks at recording technology. I am pleased to say that this statement is unfounded. The BBC’s Engineering Research Department continues to do work in this field and there are no plans for such work to cease.

Anybody wanting to purchase or to subscribe to BBC Engineering Research Reports should apply to Mr C Smith, Research Executive, BBC Research Department, Kingswood Warren, Tadworth, Surrey.

**Henry Price**

**Head of BBC Engineering Information Department**

**Budget Ribbons**

*Dear Sir,* May I convey my thanks to you for publishing the article ‘Ribbons on a Shoestring’, *HFN/RR* October 1988. Ulle Thofte deserves congratulations for the details assisting home constructors.

Although I deviated slightly from building the speakers as described, listeners agree they can make pleasant noises. It would be interesting to hear if other readers have built the Ribbons.

Having read *HFN/RR* from issue No 1, I found this article as worthwhile, as the ‘Sub Woofer for Quad Electronics’ published in March 1970.

Incidentally, I hope to reach my 70th year shortly, and look forward to further excellent projects that will keep me out of mischief!

**J D Goodey, Kent**

**DAT Progress**

*Dear Sir,* Your ‘Comment’ column in July’s edition of *HFN/RR* refers to the present confusion within the industry over proposed formats for DAT. Although you were apparently unable to reach UK industry spokesmen ( no one at Harman Systems, UK distributor for Fostex, was contacted), you say: ‘It is believed that a new generation of four-head DAT machines are on the way, giving off-tape monitoring and hence more control of recorded quality’.

We were relatively surprised to read this projection, since the Fostex D-20 DAT recorder ( a bona-fide 4-head machine, with off-tape monitoring facilities) has been selling well since the beginning of the year, and has become something of a de facto standard, with 250 units installed all over the world.

For your further information, ‘industry standards’ for the format (implementation of SMPTE/EBU timecode on DAT) are still in negotiation.

**Richard Wear, Harman Studio Systems**

**Aiming to please**

*Dear Sir,* I have taken *HFN/RR* since its inception. I purchased a pair of KEF B139 bass radiators after your review. Even before that I had Wharfedale Super 1 and Super 3 to go with my Williamson amp. I built the Jack Bickers staff ‘wobble arms’ from his designs in your magazine.
Meet the DNM team at the 1989 Penta Hi-Fi Show rooms 1212 and 1214

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I sent off my cheque the other week for my annual subscription. However, the magazine is not what it was. In particular where are the reviews of medium priced, and budget CDs? [How about 'Reflections' pages? — Mus Ed]

Many of my best CDs are from these; ADD ohm bedroom simply because it is expensive, not necessarily because it is better sounding. If anything needs attention regarding improvement, it is the quality of CD. It took me four years before venturing to buy my first CD player, and even now with my second machine (Marantz CD65SE II) I find myself enjoying many of my old vinyl records more.

BBC Radio Three beats the lot I reckon! More reviews please of classical medium and budget priced CDs. Less of this high-end stuff.

I have a few who agree with me. Don't throw your readership away.

In spite of all this, thank you for years of pleasure from your magazine. I look forward eagerly to it each month.

E Hyde, Sittingbourne

Putting the record straight
Dear Sir, With regard to your item 'Happy Birthday B77' (HFN/RR July 1989), may I point out that Stanley Kelly was the first to distribute Revox in the UK. But being more of a scientist than businessman he did not sell many!

Colin Hammond, while on holiday in Switzerland, saw an E36; then convinced Revox that he was the right man to handle Revox in Australia.

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E Hyde, Sittingbourne

Coping with Mahler
Dear Sir, It occurs to me that it is only in the last few years, with the introduction of real hi-fi and speakers which can produce high volume levels with some degree of accuracy, that so many have fallen under the spell of Mahler and other composers who write for very large orchestras. Until recently only concert goers had any idea of the physical impact that their works can have on a listener. Transistor radios and small loudspeakers might enable people to pick out the tunes of Haydn or Mozart, but they have little chance of conveying the weight and power of the 'Big Boys'.

Which brings me to an important hi-fi matter. For anyone who is fortunate enough to have a listening room in which something approaching concert hall volumes can be reproduced without disturbing the family or neighbours, it is helpful to know how loud a speaker will play before noticeable distortion sets in.

I appreciate that in general you ensure that readers are well-informed in this respect, but I would like to make a plea that all HFN/RR speaker reviews, comparative or otherwise, include an approximate maximum sound pressure level capability of a pair at 2 metres. [Our test results show just that! — Ed] Readers will then have a wider range of information and thus a better choice of loudspeakers which might make the best attempts at producing the enormous sounds required by Mahler, Stravinsky, Shostakovich and Co.

Keith Breakwell, Hi-Fi Services in the Home

Historically out in front
Dear Sir, Format and contents of HFN/RR is really out in front. I particularly enjoyed Stan Kelly's audio history (HFN/RR Jan-March '88) and being an old audio enthusiast, it brought back memories of the earliest days of high fidelity.

Question: Did Decca offer an elliptical '78 style for their 1949/50 cartridge? Reg Molany, Australia

Right to reply
Dear Sir, A few points concerning your journal seem to have accumulated over the last few months, some of which require elucidation.

1. The present layout and general style of presentation I find most attractive, excepting only the crude sketches in the 'Regular' items. Personally, I think the previous 'valve' drawing for 'Headroom' excellent in every way, and hope you will revert to this, with something similar adopted for other pages.

2. The revived 'Radio' page. Heartfelt thanks for reinstating this section. If my previous passionate plea has influenced your decision to any degree, then I am very pleased. In wishing Mr Butler every success, I hope the 'day-to-day' output will not be ignored totally: perhaps your reviewers could chip in with their impressions of 'live' music broadcasts, as Mr McKenzie used to — after all, they presumably don't spend all their 'audio hours' listening to re-repeated playings of recorded fare, which one must admit is of somewhat 'pickled' character! Anyway, thank you again; the first edition is excellent. Mr Butler devotes space to the truly dreadful decision to compress part of Radio 3's output. As soon as I heard about this, I wrote to Mr Butler, expressing strong opposition to Mr Drummond's 'ramification'. I have to admit to being totally bemused to why anyone should feel a need to listen to a radio in a car, so I have not experimented in this environment. However, for years I have listened virtually daily to the 7 to 9am programmes via my Hacker Sovereign 3/Richard Allan extension speaker (mono) in the kitchen: a location, of course, to a high level of non-musical noise. I would have thought that the compression might have been expected to increase audibility and these circumstances too, but I am afraid that after several days of trying to find a suitable volume setting I have virtually given up listening now. Perhaps 'sensible' settings being at relentlessly loud levels lacking the light and shade which I take to be one of the glories of 'Western classical music'. I hope you will pass these comments on to the BBC; what is most annoying is that I have often, in my 'Kitchen hours' regretted losing the 'quiet less', yet it never enters my head to propose compression as an answer — like car listeners, if you listen in poor conditions, you ask for all you get.

Needless to say, I am not prepared to light up the valves to listen to such unrelated material on my main system! Another point has occurred to me since I wrote to the BBC. I used to find record broadcasts useful to help assess quality (in all senses) with a view to purchase, but now there is little doubt that the nature of the performances themselves is being misleadingly compromised along with the record dynamics. All in all a disastrous move, which I hope and pray is not the thin end of the wedge. I feel the experiment should be abandoned forthwith.

3. 'CD Rot' (Editorial, September 1988), I responded in detail to Mr Miller's request for information on reader's CDs. The 'Next Month' promised the results of the investigation, but I have not seen any further reference to the subject. What is the state of play of Mr Miller's investigations, please? Please clarify the position in the magazine very soon.

4. Letters (part. ref. Airey, December '88). Makes a good point. Your footnote promised 'more reviews soon' (cables). How long before 'soon' arrives? (I presume you would tell us if you had hit problems.) There is a tendency to give 'non-replies' to letters you consider of sufficient merit and interest to print: a 'bare' answer would be some of Mr Vips' queries on 'sound-staging', another of Tayler's blunt question re 'bir-wiring' and whether any technical help was to be forthcoming (August 1986). This is frustrating! You printed the letter, but did not say yes, no, perhaps, or even 'don't know'. Why not?

Mr Donald G Trimby, Lancashire

Readers' Letters

Letters for publication should be addressed to the Editor and must contain no other material or enquiries. Letters seeking advice on technical matters will be answered, resources permitting, at our discretion but we regret that we are unable to answer questions on buying specific items of hi-fi.
Mørch DP-6 - UNIQUE CONCEPT OF TONE ARM

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Arm tubes of 4 different masses - from ultra light to extra heavy - can be supplied. The unavoidable fundamental resonance is partly determined by the compliance and the weight of the cartridge that is to be used and partly by the weight of the tone arm (known as the "effective mass"). However, the frequency of the fundamental resonance can be moved up or down by altering the weight of the tone arm. Thus simply by choosing an arm tube out of the 4 masses available the fundamental resonance can be moved to a frequency, where it does no harm.

With the lightest of the arm tubes you get the lowest effective mass, and with this arm tube the tone arm is the lightest in the world. This is important for cartridges using a low tracking force, as they have a high compliance. For cartridges using a high tracking force having a low compliance, one of the heavy arm tubes should be chosen. Users that own more than one cartridge can mount each of them in its own arm tube. Changing a cartridge becomes a simple swap between arm tubes, and the mass of the arm is always optimized for its cartridge.

See U.S. Magazine
The Absolute Sound
vol. 12, issue 49, fall 1987, p. 113/114

The bearings are mounted so that they are level with the record. Therefore in the case of warped records the motion of the stylus will be completely vertical when bumps are negotiated, so that no warp wow will be heard.

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World Radio History
DAT ROW SETTLED
Agreement has been reached at a meeting in Athens between the international record industry and hi-fi manufacturers over copyright and digital audio tape (DAT). The agreement allows DAT machines to go on sale to the public, and frees the medium's users to make digitally-perfect copies from CD — something which the music industry has so far vigorously opposed. The manufacturers now have to fit only a simple anti-copying device which will discourage tape-to-tape digital transfer and piracy, but will not prevent once-only copying to DAT for home use. In return, the manufacturers have agreed not to lobby the record industry for the imposition of a 'tape levy' although the European Commission looks set to make it mandatory after 1992, when the UK will fall into line. Some DAT recorders may be available this year, but 1990 seems more likely.

PIRATE DESIGNS
Pirate Design Associates has been hired by B&W to produce a radically-styled CD player, a pre-amplifier and monoblock power amp, seen above. The pre-amplifier features a 'hooded' top cover and two-tone colouring. The CD player is a free-standing unit looking like a pagoda on legs. Prototypes are on active display at the London Design Museum.

British Quality Unmatched
DIN has opened its first hi-fi and video outlet in London's Melcombe Street, NW1. In the belief that Britain is home to some of the finest hi-fi in the World, the shop's manager Kenneth Docherty said at the opening: 'British products compete with the Japanese, but offer a level of quality unmatched by the mass market'. Open six days a week from 9.30 to 6pm, evening appointments may be booked on 01-224 4413.

Oxford Acoustics Developments
Oxford Acoustics has expanded to encompass three divisions and a distribution network. The name Oxford Acoustics will be reserved for the high-end products such as the Crystal Reference and Signature turntables, and the new battery-powered pre-amplifier system. A mid-price range of wider availability will sport the Oxford banner, the first product with this badge will be the £1,650 Crystalite turntable. For the third range, consisting of affordable electronics, the OAC name will be used. Design input for OAC products will come from Colin Wonfor, previously with Inca-Tech. The first OAC product will be the Mistrale, a £550 reference integrated amplifier. Also available will be a range of accessories, including the original Inca-tech plugs. Oxford Acoustics and Oxford Distribution, Unit 4, West End Industrial Estate, Witney, OX8 6UB. Tel (0993) 771774.

Improved Tape Response from Maxell
Another step forward in cassette tape technology has been claimed by Maxell as it unveils the new UDI range. The UDI, normal position Type I, uses the company's non-pore Epitaxial magnetic particles comprising a compound of gamma ferric oxide and cobalt ferrite they are able to store a higher energy than other particles. The tape's power output has been raised with low and middle range MOI, improving by 0.5dB over the previous UDI. Available in 45, 60, 90 and 120 minute lengths, the 900 will cost about £1.24.
Maxell (UK) Limited, 3a High Street, Rickmansworth, Herts WD3 1HR. Tel (0925) 777171.
KEF UNI-Q TECHNOLOGY.
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“In listening tests the first thing that distinguished this speaker from other similarly priced models was the extraordinary ability to float an image. It had an airy, effortless quality, with an almost holographic portrayal of depth and width around the speakers.” “Other aspects of this speaker’s excellence include solid, uncoloured bass, very dynamic and deep, as well as lots of dynamic range.” Audio Ideas Guide Winter 89.

“Whatever your budget, don’t fail to audition one of the KEF Uni-Q models before making your choice. You will certainly not regret it.” Son Video February 89.

“Stereo focus was undoubtedly its trump card. Here the standard achieved was ahead of many competitors…” HiFi News & Record Review October 88.

“… marvellous sense of vocal diction and precise focus of the percussion.”

“The sense of acoustic between the speakers was most convincing…” New HiFi Sound May 89. “Vocal integration is particularly impressive, and detail is communicated in abundance…” “… fine stereo imaging without having to fix your head in a vice.” “The coherence benefits of Uni-Q were clearly audible…” “Recommendation is mandatory – even quite enthusiastic.” HiFi Choice July 89.

“Easy, relaxed and neutral performer.” “Imagery was good, with plenty of depth, even on recordings that I had imagined as being intrinsically very deep.” “The KEF could sometimes sound engaging, almost seductive…” “… the C55 is civilised and tonally sweet…” What HiFi? October 88.

“Soundstaging and image specificity were both good, and even seated well off-axis, I found the speakers’ stereo involving and well developed.” “Where the C35 was exceptional for its price was in the way it provided good depth images at the extreme left and right of the soundstage.” “… its treble was actually articulate and well resolved.” New HiFi Sound October 88. “… stability and accuracy of the stereo focus was out of the ordinary…” “… this design gave an unrivalled consistency of sound quality over a wide range of listener positions and specific speaker locations.” HiFi News & Record Review October 88.

These models in the new C-Series range incorporate the KEF Uni-Q Driver, a brilliant new concept in loudspeaker design that unifies woofer and tweeter in a single, integrated module. For more information on KEF Uni-Q technology write for a free leaflet.

KEF Electronics Ltd., Tovil, Maidstone, Kent ME15 6QP. Telephone: (0622) 672261. Fax: (0622) 50653
US manufacturer Carver has announced two new CD players, finished in grey to match existing Carver separates. The TL-3300 (£695) features high-resolution 18-bit, 8-times oversampling, dual D/A converters, 22-key random access programming and remote control. The TL-3100 (£340) offers 16-bit, 4-times oversampling, 16-channel D/A converter, 22-key random access remote control and co-axial digital output. Price is £549.90 including hand-set. A&R Cambridge Ltd, Pembroke Avenue, Denny Industrial Centre, Waterbeach, CB5 9PB. Tel (0223) 861550.

Arcam has launched a replacement for the Delta 70 CD player. The Delta 70.2 adds a number of convenience features including direct program entry via the hand-held remote control, improved display and remote volume control. Sonic improvements have been added through the use of twin power transformers (one for digital and one for analogue as used in the Arcam Black Boxes), 10 regulated power supplies, and the latest Philips 16x1 chip set. Si 'crown' precision D/A converters. Other features include the CDM4 single laser beam transport mechanism with vibration isolation and damping, long-life brushless turntable motor, non-magnetic, all-aluminium chassis with damped sandwich-construction mechanism support, full 64K adaptive error correction system and co-axial digital output. Price is £549.90 including hand-set. A&R Cambridge Ltd, Pembroke Avenue, Denny Industrial Centre, Waterbeach, CB5 9PB. Tel (0223) 861550.

ARCAM INTRODUCES THE DELTA 70.2

Two new models have been added to the JBL Control series. The Control 10 is a compact three-way design suitable for ceiling, wall and tripod locations. The Control 10 is shielded to allow for sitting near a TV or VCR. Power handling is specified as 300W and the frequency response is a claimed 40-20kHz. The Control 12SR employs a 40mm low frequency driver and 44mm titanium compression HF driver fitted to a flat-front bi-radial horn. Harman, UK, Mill Street, Slough, Berkshire SL2 5BD. Tel (0755) 76911.

CARVER CD PLAYERS

SARAY FINED FOR CONTEMPT AFTER FAIR TRADING OFFENCES

Saray Electronics (London) Ltd, with branches in Tottenham Court Road and other London addresses, has been fined £40,000 for contempt of court in a case brought by the Director General of the Office of Fair Trading under the 1973 Fair Trading Act. The company admitted to being in contempt. Two directors of the company, Vashi Tulsiani who admitted to being in contempt of undertakings in respect of Saray's course of conduct, and Naranidas Tulsiani who admitted to being in contempt in relation to Audio Marketing Limited were each fined £10,000 and sentenced to three months imprisonment, suspended for two years. This is the second case to have been brought against Saray under the Fair Trading Act, an unprecedented step which resulted from the receipt of a number of complaints from customers over a period. The earlier proceedings in 1985 resulted in a £1950 fine for the company.

ASHLEE FURNITURE is able to undertake the custom design and construction of fine furniture cabinets, suitable for blending into rooms furnished with 'period' decor. For details of this service, contact Ashlee Furniture, The Old Mill, Maryland, Wells-Next-The-Sea, Norfolk NR23 1LY. Tel (0328) 7104207/10064.

The BBC RADIO COLLECTION has been enlarged with additional new titles. Murder and intrigue on tape as three dramatized thrillers for summer listening are released: The Skull beneath the Skin, The Nine Tailors, and Tinker, Tailor, Soldier Spy.

CALSOD VERSION 2.00 is the latest edition of the software package offered by AudioSoft for computer-aided loudspeaker design. The programme runs on IBM PCI XT and compatible computers with at least 512 K RAM and a CGA/EGA/VGA or Hercules graphics card and allows the user to produce an accurate simulation of the sound pressure and impedance response of individual drivers. Supplied with a 200 page user manual, CALSOD Version 2.00 sells for AUD $349 including aircraft postage and packing. For full details, contact AudioSoft, 128 Oriel Road, West Heidelberg 3081, Melbourne, Australia.

DENON has introduced a new range of audio tapes, to be marketed exclusively in the UK by Hitachi Sales (UK) Ltd. Types include DX490, available in triple packs for £4.79, HD8 100 100-minute tapes, available in twin packs for £4.99, and HDM 100 100-minute tapes, available singly for £3.99.

LANDFALL PRODUCTIONS is a new label releasing spoken-word tapes, available in twin packs for £4.59, DX490, available in triple packs for £4.79, and HDM 100 100-minute tapes, available singly for £3.99.

LEVER'S CD/VAPEL The Lurking Fear and The Tell-Tale heart and HP Lovelock's The Lurking Fear and The Thing On The Doorstep.

Price is £3.99 and distribution is via Comber Records.

NIMBUS RECORDS has set up its own distribution network for the Nimbus and Hermes labels. Richard Judd Electronics Ltd has introduced a new line of audio amplifier valves, known as 'National Gold'. Each valve is specially tested and hand-selected. Manufactured by Richardson at its plant in LaFox, Illinois, USA, National Gold valves are available as singles, matched pairs or quad sets. Richardson Electronics (Europe) Ltd, The White House, 18 Church Road, Leatherhead, Surrey KT22 8BB. Tel (0372) 379414.

TDK will be opening a tape manufacturing plant in Luxembourg producing both audio and video tapes. The plant is scheduled to open in November 1990; monthly capacity will be 7m audio and 4m video tapes.

TECHNICAL & GENERAL, suppliers of spares for Connoisseur, Goldring, Garrard, Lenco, Thorens, SME, BSR and other classic turntables, arms and cartridges has moved. The new address is PO Box 53, Crowthorpe, E Sussex TN6 2BY. Tel (0892) 654534.

THAT'S TAPE (Taiyo Yuden) has entered into a joint venture with Sony, 'dedicated to the development and manufacturing of CD-R drive equipment'. The venture is known as START LAB, which stands for Sony Taiyo Yuden Advanced Recording Technologies, the two companies sharing the capital investment at 50% each. The Sony hardware will be branded Stair Lab, while the software will continue under the That's banner.

WHARFEDALE's new commercial speaker, the Programme 2180, has been installed at RAF Bentwater.

BRIEFING
ROKSAN ARTEMIZ — SHIRAS — XERXES
& OTHER ROKSAN HOTCAKES ON DEMONSTRATION

ALSO ON PERMANENT DEMONSTRATION:
A & R, ACOUSTIC ENERGY, CREEK, DENON, DEPOS, HEYBROOK, ION SYSTEMS, LINN PRODUCTS, MARANTZ,
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TELEVISION SOUND
IN STEREO

With the introduction of stereo TV sound — (Nicam) we announce our Mark 3 Tuner. Operating independently of a TV set its only requirements are a UHF aerial and mains supply.
The sound outputs can be "pipied" to a Hi-Fi system or directly to two loudspeakers.

- Superb Stereo
- Compact Disc Quality
- Dual Language Mono
- Frequency Synthesised Tuning
- Channel and Programme "Read Outs"
- Tape Recording Outputs
- Composite Picture "Output"
- Optional Remote Controller
- Alternative Built-in Loudspeaker Amplifier

For further details please write to:
Motion Electronics Limited, 622 Tonbridge Road, Wateringbury, Maidstone. Kent ME18 5PU.
Tel: (0622) 812814.

AT-450E
PC-OCC

Building on the success of the legendary AT95E and AT110E comes our masterpiece...AT450E.
With an outstanding price/performance ratio, it features an all metal body to combat unwanted resonance. This highly rigid structure also sports advanced PC-OCC internal coil windings and lead wires plus gold plated terminal pins for the cleanest signal possible. Then add a real jewel - the .4 x .7 mil polished elliptical stylus - and create yet another moving magnet winner.
SEE YOUR A-T DEALER OR CALL US FOR MORE INFORMATION ON 0532-771441
DENON ADDS BUDGET CASSETTE DECK

Denon has introduced the first in a new series of five tape-deck models. The DRM 500, retailing for only £169.95, features Dolby BX Pro as well as Dolby B/C, two-motor transport, large SF hyperboloid profile head blocks for BX Pro, variable bias control including metal tape, full logic operation, compatibility with Denon's remote control system, music search, one-touch record, auto tape select, auto record mute and switchable MPX filter. Also introduced with the DRM 500 is a new user facility, record return, for returning to the precise spot where recording commenced. Hayden Laboratories, Chiltern House, Chalfont St Peter, Bucks SL9 9UG. Tel (0755) 888447.

MUSICAL FIDELITY LATEST

Replacement for MF's best-selling P140 power amp is the new P150, price is £399. Also upgraded are the P270 and A370, now with 24V, suffixes, again using the technology developed through the SA70. The P270 retains for £1399, while the A370 now sells for £2399. Taking over from the top-end MVX pre-amplifier is the MVX2, which features a thoroughly revised phone section. Price is £2999. Musical Fidelity Ltd, 15-16 Olympic Trading Estate, Fulton Road, Wembley HA9 OFT. Tel 01-900 2983.

RUARK SPEAKER MODIFICATIONS

Both the Sabre and Broadsword models from Essex-based Ruark Acoustics have undergone significant design changes four years after initial production. Both are now equipped for tri-wiring, while the Broadsword is wired internally using van den Hul cable. The Sabre is now £349 and the Broadsword £795.

The Ruark Accolade is supplied ready for tri-wiring at £1845, but may be obtained with each crossover in a separate box which allows them to be located close to the amplifier. Ruark Acoustics Ltd, Unit 2 G 9, Amstowe Lodge Industrial Estate, Arterial Road, Rayleigh, Essex SS6 7U.

NEARFIELD SPEAKER FOR DOMESTIC MARKET

Bruton-based Reflection Arts is making available its Model 250 compact, near-field monitoring system for the domestic hi-fi market. Carefully developed to optimize sonic accuracy in close proximity to the speaker, the design has been in use in professional recording areas. The system is 3-way, operated by an electronic crossover of 2.4dB/Octave at 700Hz and a passive filter bringing out the 1in dome at 6kHz. Prices and availability are being finalized. Reflection Arts, Atlantis Building, High Street, Bruton BA10 OAE.

ERRATA

We regret that the August issue contained a number of errors. In the review 'Middle Ground Speakers', the Test Results tables for the Rogers LS6a and Monitor Audio R300MD speakers headed for 800 and 80000 (as UK price is still to be announced). In a 'Briefing' item (page 13), QED's telephone number should have been given as (0782) 246326; another phone number correction we should add here is to note that Acoustic Gold's number is 01-941 6737. And finally, in Barry Fox's August 'Technology', the references should have been to Dolby B's suppression of HF (frequency) noise, not RF noise.

Yugoslav designer Josip Hrastic has produced the new Oakley Image 'S' valve pre-amplifier as a logical successor to his Image model released in July 1988. The Image 'S' is intended to overcome restrictions of the standard model which had four valves and no sophisticated stabilization of the anode supplies. The brand new version, priced at £499, employs an extra tube, with the fifth valve used as a cathode follower in the line stage. An excellent stability of LF is thus claimed, making the pre-ampl compatible with a wide range of power amplifiers. The power supply has been re-designed and improved with a new regulating block to keep anode voltage clean and stable. The phono stage has been modified and boasts an increased gain. Audiofreaks, 15 Linn Way, Ham, Surrey TW10 7QT. Tel 01-948 8153.

EVENTS

27 AUGUST-1 SEPTEMBER
Sound Architects' International Organisation annual conference in Oxford. Details from: Helen Harrison, IASA President, Open University Library, Walton Hall, Milton Keynes MK7 6AA.

27-29 AUGUST 1989
East Coast Electronics Expo, Jacob K. Javits Convention Centre, New York City, USA. Contact Larkins-Phznick-Larkin, 100 Wells Ave, PO Box 9103, Newton, MA 02159-9103 USA.

28 AUGUST 1989
Brighton Records Fair, Corn Exchange, Church Street. 10am-5pm.

7 SEPTEMBER 1989
Arcam Musical Evening, Audio Counsel, 12 Shaw Road, Oldham. Tel 061-633 2602.

8-17 SEPTEMBER 1989
Montreal International Music Festival, Montreal, Quebec, Canada.

14 SEPTEMBER 1989
Naim Musical Evening, Audio Counsel, 12 Shaw Road, Oldham. Tel 061-633 2602.

14-17 SEPTEMBER 1989
The Hi-Fi Show, sponsored by HFN/RR. Heatherbro Penta Hotel, Trade only 14-15 September. Details from 01-868 2599. Admission FREE.

14-18 SEPTEMBER 1989
23rd Sim-Hi Fi Fes audio fair, Milan, Italy.

18-21 SEPTEMBER 1989
MediaVise, audiovisual media trade fair. RAI International Exhibition Centre, Amsterdam, Holland. For information, phone YJ Jousse on (0) 20-549 12 12.

20 SEPTEMBER 1989
Linn
THE PROFESSIONAL WAY TO PIERCE YOUR EARS.

If you're looking for reproduction that really shines, introduce your ears to Agfa. Agfa tapes are used extensively by professionals in the sound recording industry. But now you don't have to be a professional to tell the difference.

Agfa C-DX II S is a brand new dual-coated chrome tape for demanding connoisseurs. The perfect accessory for the very best equipment.

In fact, whatever equipment you use, you can be sure there's a tape in the Agfa DX audio range for you. Each and every one made to the highest possible standards.

If you thought quality like this was hard to find, you've obviously been looking in the wrong places.
BELT EXPERIMENT AIRE

Peter Belt's enterprise has had national exposure on BBC Radio. The Robin Ray's Waxworks series, on Radio Two, invited its listeners to take part in an experiment designed to discover the efficiency of the PWB foils. The experiment began with an on-air test which required the listener to say whether a standard CD of Liszt's Sonata in B-minor by Sviatoslav Richter was any different from the excerpt played using a Peter Belt treated disc.

Those interested in the exercise were invited to write to the BBC, and the first one hundred respondents were sent a full questionnaire to complete as well as a sample of the foils to try in their own home listening environment.

Eighty one of these forms were returned to the programme of which 64 per cent said they noticed an improvement at home when foils were attached to their CD's, LPs or cassettes. Those were not blind – audience having been told which of the two discs played on-air had been treated. For the test to have been more meaningful, Mr. Fox suggested that it should have been 'double blind'. The producer of the programme, Jeff Link, in acknowledging this criticism said that because the subject has provoked so much interest and created such a response he was convinced that it was still worthwhile.

NOVEL SOUND INSTALLATION

Aspects of Love, Andrew Lloyd Webber's latest production, employs an unusual loudspeaker system at London's Prince of Wales theatre. Designed by Mark Evans, Sound Design, the set-up employs chaotic units without enclosures.

Tannoy 15in, and Urei 12in, dual-voice coil designs, installed a new audio video system without acoustic loading and will work with Klemens Kundratits (left), General Manager. Sales co-ordinator Tony McMahon is pictured centre. The company will distribute the Swiss Label Ex Libris worldwide and the German-based Schumann catalogue. Import-labels in classical and jazz fields will include the French Black and Blue, the famous Savoy, the US label Muse, started in New York, and Inak – the high-tech-southern German label. A single European warehouse, in Eibenstock, will service all UK requirements.

Koch will also work with New Note, responsible for ECM, GRP, and Nuoera labels (product from these labels is still to be distributed for the UK market by Pinnacle, however).

INTEGRA AUDIO: VALVES FROM CANADA

Integra Audio is a new line of valve electronics from Canada. The range features stereo and monoblock pre-amplifiers and a monoblock MOST/FET amplifier. The TP1 Stereo Pre-amplifier is a two-stage valve design offering 'logic' switching, solid-core wiring, hard-wired throughout, star earthing and outboard power supply. Valve component con-

SHOPTALK

THE AUDIO SHOP has opened in Westbourne, Bournemouth as a new specialist hi-fi dealer.

DORCHESTER HI-FI has been appointed as a franchised dealer for E.A.R. valve electronics.

Dorchester HI-FI, 17 Durrngate Street, Dorchester, Dorset DT1 1FP. Tel (0305) 64977.

GRAHAM'S HI-FI celebrated its 60th birthday with the opening of their new premises in Camberley Yard, London N1.

LAKELAND HOME MUSIC has been appointed dealer for ATC.

SOUND PRINCIPLES is a new retailer located at 52 Queen Street, Wellingborough, Northants. Tel (0933) 441907. Agencies include Artisan, Audio-Technica, Celestion, Heybrook, Spendor.

Opening hours are 10am-6pm weekdays and 9am-5pm on Saturdays.
1500 CHARACTERS.

THE EXACT REPRODUCTION OF CALLIGRAPHY IT REQUIRES SHODO IS THE ART OF JAPANESE.
In Shodo, the texture of ink on each sweep of every letter must be exactly right.

It can take a year to get just one letter right; and then the novice will move on, to practise on a total of over 1,500 characters.

So Shodo is much more than an ornamental art; it is a mental discipline, requiring years of study, until the student has the same mental control as a novice Zen Monk.

It may seem presumptuous, therefore, to compare this ancient tradition with the art of reproduction found in an Aiwa cassette deck.

But Aiwa engineers approach their task with the same sense of dedication. And the XK009 comes closer to perfect sound reproduction than any rival machine.

Its many features include the Dolby HX Professional System, which improves recording quality on all tapes; the unique AMTS compartment, which reduces distortion; gold-plated terminals for perfect transmission.

So we have a paradox which any student of Zen would appreciate; because, to perfect the art of "copying," Aiwa engineers have had to make a whole series of original breakthroughs.

THE ART OF AIWA

FOR FURTHER INFORMATION ON AIWA PRODUCTS & DELEAS TELEPHONE: 01-200 0200.
The SONUS FABER AMATOR has always been the definitive cabinet loudspeaker as far as Pinewood Music is concerned. Regardless of size or cost, there is no more beautiful piece of high end woodwork available.

The Amators are lovely pieces of Italian furniture that will grace any room, and you could be forgiven for buying them on their looks alone. But the seduction does not end there — in fact it's hardly begun. These may be miniature speakers, but they are capable of doing justice to the world's finest equipment. For instance, one of Pinewood's clients has a pair of Amators driven by an Audio Research SP-15 and a pair of Classic 150 monoblocs. The sound? Let's just say that he is so amazed that he has placed an order for a Goldmund Reference turntable.

But don't be daunted: you will achieve wonderful results on much less esoteric equipment. If you like your music uncoloured, open, dynamic, subtle and fragrant — with the capability of raunchy high levels if required — then the Amator is your baby.

Why not do a couple of things today? Read the review in this issue and then telephone Brian Rivas at Pinewood Music for a demonstration that will not easily be forgotten.
Re-allocating VHF frequencies, and shunting public service broadcasts from the narrow band to the new ultra-wideset, should provide a pick at the problem of broadening the choice of radio listening. The real breakthrough will come when completely new bands, allocated to television broadcasting, start carrying digital radio programmes piggy-back on the analogue TV signal. There are two options here, and neither looks rosy.

First: satellite. I have already explained ['Technology', May '89] how Britain's two rival satellite systems, Sky and BSB, are using different sound transmission technologies.

BSB has now finally admitted the inevitable, that it will have to delay a service launch from this September to next Spring. If you missed this announcement, and are still expecting to be able to buy a BSB system this autumn, don't feel guilty. The vital announcement was made in such a carefully controlled way, completely aside from the million plus blitz of advertising that had previously promised a September launch, that it's unlikely many people have a clue as to what's really happening. The cotton wool confusion surrounding the service launch is entirely typical of the way BSB has done business right from the start.

To the first chink in the armour showed on May 11, when BSB issued a statement, in response to press speculation, admitting 'some slippage' in the development schedule but still saying that it might be 'recoverable'.

On May 25, BSB's chief executive officer Anthony Simonds-Gooding finally owned up, but in the most extraordinarily half-hearted manner. Under mounting pressure from the Press, and the investors who are sinking more money into BSB than any private venture short of the Channel Tunnel, Simonds-Gooding held a briefing, for just a couple of national newspapers and then released a briefing note to a few more. Technical journalists were not invited.

Whereas BSB normally circulates its press releases to all journalists, via an agency called Pims, the agency was never asked to distribute the note owning up to the delay.

Simonds-Gooding's explanation for the delay is a lulu. I quote verbatim: 'Quite simply, as parts of our technical systems are now forecast to be coming in later than planned, this is putting a time squeeze on the systems integration phase of the process.'

In plain English, this means, we at BSB knew so little about the electronics industry that we grossly underestimated the time it takes to get chips and hardware from drawing board to high street shops. To be frank, I have now four times suggested to Simonds-Gooding that he should organize a hard-fact briefing for the specialist press to tell what on earth is going on inside BSB — and explain why the company has been promising, and advertising, reception equipment for a September launch when anyone with half-brain knowledge of the consumer electronics industry knew that there wasn't a cat in hell's chance of having MAC receivers and Squarials ready for sale.

There had still been no such briefing by late June, more than nine months after the shilly-squarial first 'public test' was launched in a blaze of publicity, but with no-one bothering to tell the press and trade that all they were seeing was a wood and plastic mock-up. By late June there had still been no demonstration of the squarial, not even any manufacturing contracts signed.

Who do they think they were kidding, other than members of the public who held back from buying Sky dishes, and investors backing the project?

Once the rocket has gone up (scheduled for August 10) and BSB's satellite is in orbit, the thing will be irrevocably committed, and the bottomless pit of money opens up. There is a limited second-hand market for an orbiting satellite with transmitters tailored to beam Britain's allocated frequencies into Britain. Unless the BBC and IBA use it for digital radio broadcasting. Now there's a thought...

Meanwhile, another chance for digital radio is being lost. The Home Office has promised that new local TV stations will, from 1991, be able to offer up to 30 extra channels of entertainment by using terrestrial microwave transmitters. The technology is called a Microwave Video Distribution System. The snag is that the only MVDS equipment likely to be available by 1991 is the Delphi model $9,500. The 12GHz signals will travel at least 16km. The number of channels could be doubled, by using amplitude modulation (as used for terrestrial TV transmission) instead of frequency modulation (as used for satellite broadcasting). But AM transmitters would need to operate at much higher powers which would put up the cost. Also AM is not suitable for high definition TV in the future.

There is more room in the 40GHz band, but only because equipment to operate at these frequencies is not yet available. The wavelengths are so short that water droplets and dust in the air limit range of the service to 4km. Most important, receiving equipment is not available for this frequency band which is a devil to detect with.

Whatever frequency band is chosen, MVDS is not a panacea. The receiving aerials must be very accurately sighted on the transmitter. The DIW-DI1 alarming that up to a third of households may not have the required line of sight. So MVDS may in practice only work if it is supplemented by cable connections to homes which cannot see a microwave dish aerial.
The Koss JCK-200 Wireless Headphones

Now you can enjoy all of the benefits of headphone listening with no strings attached. Roam around the room, dance to a CD, listen in bed. Or whatever else moves you.

Whilst the cord may be missing, the great sound of Koss isn’t. The JCK-200 comes complete with soft pneumalite ear cushions that seal out outside sounds to provide a full frequency response with ultra-low distortion, yet they weigh a mere 10 ounces enabling you to enjoy hours of comfortable, fatigue-free listening.

The system consists of a transmitter and battery powered headphones. To use it, just plug the transmitter into the headphone jack on your receiver: amplifier or VCR, switch on the transmitter and the headphones, and you’re ready to go wireless.

To appreciate this new Koss technology, go to your nearest Koss dealer and ask for an audition. One listen and you’ll never sit still for ordinary headphones again.

HW International Ltd, 3-5 Eden Grove, London, N7 8EJ. Tel: 01-607 2717

Please send me full details on the JCK-200 and the full range of Koss headphones plus the address of my nearest dealer:

Name ___________________________ Address ___________________________
Postcode _________________________
This month I am delighted to be able to report a major achievement in outside broadcast technology. BBC Radio OBs has just obtained a mobile satellite link which is capable of sending high-quality stereo audio signals back to London for broadcast over any of the BBC National networks.

Sunday June 4th saw the equipment used on air for the first time when it provided a circuit back to Broadcasting House for the Morning Service transmission which came from Rodborough, near Stroud. On that occasion the BBC engineers booked traditional analogue music circuits from British Telecom as a reserve, but in the event they were not needed.

The new system used the satellite transponders which the European Broadcasting Union, the EBU, has on Eutelsat 1, Flight 2. As BBC Engineering's Eddie Hartley explained, there is at present no problem in booking time on this transponder because the BBC is a member of EBU. However, if availability of circuit time becomes a problem, the BBC will have to look at alternatives.

Access to the satellite is relatively straightforward, as long as the up-link dish (photographed) can be located in a position at the OB where it can 'see' Eutelsat 1, positioned at 7° east over the equator. The signals from the satellite are received by a 3 metre diameter dish, sited on the roof of Broadcasting House in London's Portland Place.

The building is looking more and more like a porcupine - with antenna sprouting left, right and centre; although Westminster City Council's Planning Enforcement Officer tends to turn a blind eye despite the EUTF, on the roof of Broadcasting House.

The mobile satellite unit uses a digital coding system, known as DS-1, to ensure a high quality and yet rugged transmission. The coding system, which has not been used previously by the BBC, has been agreed with the EBU as the standard for the international exchange of radio programmes, via Eutelsat.

The up-link equipment is mounted in a mobile truck and comprises a 300 watt Advent transmitter and a dish antenna of 1.9 metres in diameter. The equipment, including the dish, may be dismantled for transport in a number of flight cases which will then fit in a typical estate car.

In normal use, on the UK mainland though, it is planned to transport the system already assembled in a van which serves as the on-site control position.

Having successfully completed trials and its first programme at Rodborough, the equipment was used at Glyndebourne before being pressed into service for the hectic Radio One Roadshow schedule. During this, the dish was used at coastal resorts the length and breadth of Britain. After several successful days the BBC abandoned the need to book back-up music lines, although it is still necessary to use twisted pairs for the control, cue and co-ordination circuits attributed to a complex outside broadcast. The satellite replaces only the old stereo-pair although the dramatic improvement in sound quality was obvious from the first programme.

Even more dramatic will be a comparison from a northerly resort where previously the Roadshow booked temporary circuits to the nearest BBC Centre and then ran on permanent in-house analogue circuits back to London. While Radio One was available only on medium wave, with its restricted bandwidth, there was no real problem - although the discerning ear could detect when items were being played in from the OB as opposed to those originated in London. Now that the pop-music Network is available in glorious FM stereo across much of the UK, an improvement in bandwidth and signal-to-noise was a necessity.

Classical Vintage

While on the subject of exciting news, I have just received a stop press message from BBC Enterprises. Having outlined in last month's Radio the cassettes available under the Radio Collection banner, BBC Enterprises has now launched what it calls The Vintage Collection of Classical Albums.

These represent great classical and light classical performances from the past, in new digital transfers taken from original 78 rpm discs. A new audience will doubtless be introduced to illustrous performers from the 1920s and '30s captured at a time when a recording was always a 'performance', unassisted by tape-editing or similar modern post-production aids.

The first release included the 1929 recording of Tchaikovsky's Violin Concerto by Mischa Elman with the London Symphony Orchestra; Solomon's 1929 performance of the Tchaikovsky Piano Album; Gieseking's recording of the Cesar Frank Symphonic Variations; and the rare 1935 performance of both sets of Dvorak's Slavonic Dances by the Czech Philharmonic Orchestra under the legendary conductor, Vaclav Talich.

The combination of improved direct-to-digital sound quality and authoritative detailed sleeve notes and discographical information suggests that the Collection is likely to appeal to buyers from the expert specialist to newcomers - whether they buy it on album, cassette or CD. A further five albums are planned for release in the series towards the end of this year.

All that jazz

The campaigning is over: the IBA has made its decision on community radio in the Capital. LJR, or London Jazz Radio, has won the contract for VHF/FM amid fierce competition. The multi-ethnic station is to be Spectrum Radio. The IBA took into account the high quality of all aspects of LJR's proposed schedule which lists a good range of music styles from big band, rhythm and blues, and forms of Latin American jazz. The station, formed eight years ago, is backed by Michael Gaine, four MPs, four peers and a bishop.

Recognizing that the range of audience tastes in Greater London that would still be largely unserved, the broadcasting authority is to speak with the Home Office in an effort to have more frequencies released. News which will doubtlessly please the 30 runners up in the London FM battle.

Celebrities from the arts, publishing, industry and politics, including Andrew Lloyd Webber, Andre Previn, Lord Hansons, Jeremy Issacs and Joan Bakewell, were not enough to persuade the IBA to opt for Classical City FM; a 24-hour arts and music proposal.

TMS not out

Management sources at BBC Radio seem to have bowed to increasing pressure and are now hopeful of carrying full ball-by-ball commentary on 90% of the 50 days of scheduled Test cricket in 1991.
The new Celestion 3 brings a new dimension to the low budget speaker. And with it the features and built-in quality you expect from Celestion.

Available in walnut or black ash vinyl it will re-awaken your music listening experience with a rich new sound.

THE CELESTION 3.
A NEW JEWEL IN THE CROWN
One has to admire Raymond Lumley for plugging away with his exquisitely-crafted valve amplifiers because, on the surface, his company looks just as quivery as the next. Yet despite a split with his original partner (Roy Grant, when the company was called Grant-Lumley), a dearth of dealers and a recent fire at the factory, Lumley continues to produce world-class valve amps which make all of the right literal and metaphorical noises.

I'm usually rather wary of any company smaller than, say, ICI, but Raymond Lumley Valve Amplifiers have been around for most of this decade and Ray can supply the goods. What you get are hand-crafted, monster valve amplifiers which perform to world-class standards but will not be seen in too many households — if the latter quality is important to you. And while it may seem that the high end valve amp market belongs to the (relative) giants like Audio Research and Conrad-Johnson, there are still enough die-hard customers who'd rather take the road less travelled.

The Lumleys (and the still-available Grants) continue to bask in the glow of reviews earned years ago in one American underground magazine. And although the amps which built the reputation are a few generations back, the latest M-150 monoblocks can trade on the earlier reputation because they are true descendents of the Grant-Lumley units. The styling has changed — Lumley has found an incredible gloss, granite-y finish which will have any fay interior designer in a dither — and the amps now drive loads as exotic as 2ohms, but we're still looking at classic, tried-and-tested amps rather than exotic hybrids.

Brute force seems to be their forte, but not at the expense of delicacy. Rated at 150W each, the Lumley M-150 monoblocks — once the transformer taps were changed — can move a 3ohm Apollo Diva in a 7x7.5m room with no problems whatsoever. Each derives its power from computer-matched 6550s, Lumley having tired of the inconsistency and increasing rarity of KT88s. The midband was uncannily close to the elderly M-100x type I had to hand, but the M-150 now yields bass somewhere inbetween that of an EAR 509 and an Audio Research of current vintage. I'm convinced that the high end shopper can now line up a selection of current valve amplifiers according to bass intensity, choosing the one for his or her system by degrees of 'gritness'. Above all, the Lumley sounds rich and warm, with none of the lean, squeaky-clean solid-state characteristics found in the mid and treble regions of many up-to-the-minute tube units. On the other hand, it isn't quite the blast from the past I found with the Air Tight system last month.

From EAR to Egawa

Tweak of the month: no, not Jean-Pierre Farkas this time but Saburou Egawa, a Japanese hi-fi journalist and consultant I met last month. Tim de Paravicini of EAR, as regular readers will know, spent four years in Japan working for Lux; while there he stuck up a friendship with Egawa, the man responsible for 'discovering' the sounds of cables before Hiraga in France. He's also said to be responsible for popularising the concept of high-mass turntables as first seen in the big Japanese thread drives and now in such beauties as the Basis and Goldmund Reference. Anyway, Tim thought it would be nice if we got together and we did... and I learned more from Egawa in an afternoon than I dreamed possible.

Among the goodies in his briefcase were a few sheets of a new miracle cloth made by Cremonese, from a Japanese manufacturer with the unfortunate name of Kuraray Co Ltd. The fabric is made from polyester/nylon fibres which are 1/10th the size of natural silk fibres and was produced for cleaning and polishing fine musical instruments (hence the name in honour of the birthplace of the finest violins). I immediately recognised it as similar to the revolutionary new lens cleaning cloth from Canon. So let me back-track for a minute.

The Canon cloth, in the shops since around February, is simply the best lens cleaner I've ever tried. It leaves the lenses smear and streak-free, and it doesn't require the use of any cleaning solutions. It's washable and doesn't lose its miraculous properties; price is under a fiver.

Egawa produced sheets of different sizes and the prices he quoted were similar to that for the Canon cloth. This also suggested that Cremonese and the Canon cloth might be the same thing but this is simply educated guessing on my part. As it turns out, Egawa has been using the cloths to clean speaker cabinets, styli, LPs and even speaker cones. First, he cut a small hole in a cloth and placed it over the turntable spindle. He then lowered the stylus straight on to the cloth and let it 'play' for a few revolutions. It left the stylus immaculately clean. I repeated this a couple of weeks later with a bunch of cartridges, electronic cleaners and a Point Of View magnifier, and received visual as well as aural confirmation of the success. That would be enough to justify purchase of the cloth, but it was nothing compared to his cleaning of the drivers in the Sonus Faber Electa Amators. All he did was remove the grilles and gently polish the cone material. With witnesses, I heard improvements in bass reproduction and overall precision. It's worrying.

Photographers already in possession of the Canon cloth: try it on your speakers and get back to me. Others might either buy the Canon cloth or write to Kuraray Co Ltd, LD Sales Dept, LD Sales Division, Shin-Nihonbashi Bldg, 3-4-2 Nihonbashi, Chuo-Ku, Tokyo 103 Japan.

Farkas update: so far the voting is unequivocally pro Farkas. But keep writing.    

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Lumley M-150 tube amp

Ken Kessler
Now in its seventh successful year, The Hi-Fi Show is the one hi-fi event that nobody can afford to miss. Only at The Hi-Fi Show will you be able to see and hear virtually all the season’s new products under one roof, and talk face-to-face with the manufacturers. With more exhibitors and new products than ever before, plus an array of special demonstrations and events, this year’s Show is the biggest ever. With so much to see, you will need to get there early! And, as always, admission is free.

The Heathrow Penta Hotel, Bath Road, Heathrow, Middlesex.

Car parking: follow the signs to the special Hi-Fi Show car parks. (Do not drive direct to the Penta Hotel entrance).

Courtesy bus service: for visitors using public transport, there will be a special Courtesy Bus service operating to and from Hatton Cross underground during the Show’s public opening hours.

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Exhibitors include:

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- Beyer Dynamics
- D Britannia Audio Systems
- Bib
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- Cambridge Audio
- Castle
- Celestion
- Craftwise
- DMM
- Doxa
- Dynaudio
- Dynavector
- Electroactivity
- Ensemble
- Gamepath
- Haltech
- Harman UK
- Heybrook
- Haydn Labs
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- Lindley Audio Applications
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- Marcel Audio
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- Michell
- Mission
- Monotrac
- Monitor Audio
- Monster Cable
- Mordaunt Short
- Math Group
- MB Audio
- Musical Fidelity
- M&R Imports
- NAD
- Nene Valley Audio
- Nottingham Analogue Engineer
- Onkyo
- Oreil
- Origin Live
- Ortofon
- Q Tec Electronics
- Path Group
- Pearl & Oakley
- Philips
- Phonovision
- Portfolio Marketing
- Presence Audio
- ProfAc
- Projek
- Richard Allan
- Rogers
- Rotak
- SFE
- SME
- Sony
- Soundtec Marketing
- Stand Design
- Studio Power
- Tanboy
- Target
- TDL
- TEAC
- Teledyne Acoustic Research
- Trio-Kenwood
- Veda Products
- VEK Loudspeakers
- Wharfedale
- Woodside Electronics
- Yamaha

Sponsored by

Hi-Fi & Record Review

A Link House Magazine
Win the very latest in digital sound technology with this easy-to-enter competition. Technics has been involved in digital audio since the early days of the concept, and with this competition, HFN/RR is pleased to be able to offer exciting products from the company’s new range.

THE PRIZES
FIRST PRIZE is £1,000 worth of the very best digital audio can offer: a stunning Digital power amplifier and a fine CD player. The SE-M100 amp was reviewed by Chris Bryant in the August issue. He highlighted the very good laboratory measurements from the unit, excellent build quality and sound performance which made it ‘one of the best Technics power amplifiers ever’. Strong words indeed, which apply equally to the SL-P555 CD player which makes up the other half of our top prize. This 18-bit 4-DAC machine includes the most up-to-date shuttle search and edit facilities and a digital optical output to feed the SE-M100.
SECOND PRIZE in this exclusive competition is an SE-M100 digital amplifier: £600 worth of innovative technology which sets the design aside from an ordinary power amp. The SE-M100 boasts an increased signal-to-noise ratio because the volume control is in the feedback loop of the converter and therefore out of the direct signal path. Our Lucky THIRD PRIZE winner will receive a Technics SL-P555 CD player, complete with 31-key comprehensive remote controller. 32-selection random access programming, headphone jack with variable level and peak level search for optimum record level which are all standard on this up-market model. Reviewed by Martin Colloms (HFN/RR Aug ‘89), he concluded that the player ‘is an excellent example... offering fine build and finish, with a very good lab performance. Every facility worked well’.

TWO RUNNERS UP will each receive a pair of Technics EAH-X250 audiophile headphones.

THE QUESTIONS
1. In the Technics SE-M 100, why is the digital to analogue converter in the position that it is?
   a) To increase resolution
   b) To minimize the analogue signal path
   c) That’s where they put it!
   d) To optimize signal-to-noise ratio

2. Technics introduced its first CD player in 1983. What was its model number?
   a) SL-P1
   b) SL-P10
   c) SL-P100
   d) SL-P1000

3. Which other Japanese hi-fi brand is owned by Technics’ parent company Matsushita?
   a) Denon
   b) JVC
   c) Sony
   d) Yamaha

4. MASH, Technics’ A to D conversion technique, is an acronym for what?
   a) Matsushita advanced signal handling
   b) Multi-stage noise shaping
   c) Maximum analogue sound histogram
   d) Moving angular source hexagon

5. Which signal modulation technique does MASH employ?
   a) PCM
   b) PDM
   c) PWM
   d) FM

The Rules
1) All entries must be on the entry form provided. Photocopies will be accepted but only one entry per reader will be considered.
2) There will be no cash or other alternative to any of the prizes offered.
3) Employees of Link House Magazines or associated companies, or of Panasonic or its agents, will not be eligible.
4) All entries must be received by first post on 30th September, 1989, when judging will be carried out. The Editor’s decision will be final and binding; no correspondence of any kind will be entered into regarding the competition.
5) The prize winners will be notified by post and the results will be published in the December 1989 edition of HFN/RR.
6) Entry to the competition is taken to indicate acceptance of the rules.

Name and Address

Daytime tel no
When we say "State of Heart", we mean just that. Because each Gryphon product is designed to cut right through to the heart of the musical experience, to reveal every delicate strain, to lay bare all the rhythmic complexities that make music live and breathe.

To achieve this high goal, Gryphon audio designs created a range of fine audio instruments incorporating select premium-grade components and only the best engineering concepts.

- **Uncompromising dual-mono configuration** with independent power supplies, dc conditioning and separate ac cords for total galvanic channel separation with minimal crosstalk, maximum channel separation and improved stereo perspective, better focus and greater dynamic stability.
- **Zero negative feedback** virtually eliminates side and tim, for cleaner, faster transients and sweeter, purer high frequency response.
- **No ac coupling capacitors or compensating capacitors in the signal path** for superior bass performance and more airy, open reproduction of fine detail.

**The Gryphon phonostage**
This true minimalist preamplifier with no internal wiring offers a phonostage, where passive RIAA equalization does away with several gain stages and selectors, a single line-level input and a passive resistor volume control with 72 settings. A bypass switch for the volume control makes it possible to use the Gryphon phonostage in conjunction with another preamplifier.

"...It is, quite simply, one of the finest blends of luxury and sonic excellence available today."  
Hi-Fi News & Record Review, March, 89

**The Gryphon head AMP**
The Gryphon head AMP, with solid Silver internal wiring, incorporates the Gryphon design philosophy of flat megabandwidth frequency response in a low noise, high gain, active step-up device with 30 dB of gain and a signal-to-noise ratio of 80 dB unweighted.

"...The quietest, most coherent MC step-up I’ve used."  
Hi-Fi News & Record Review, UK, March, 89

"This product marks a new high, which is currently unrivalled."  
Suono Magazine, Italy, Oct. 88

"There is none of the unnatural characters that normally reminds you that you are listening to Hi-Fi..."  
Stereo Sound, Japan, August, 87
MULTITRACK RECORDING TECHNIQUES WERE ORIGINALLY DEVELOPED IN THE 50s TO IMPROVE CINEMATIC POST-PRODUCTION, IE TIDYING UP THE DROSS ON HOLLYWOOD'S LOCATION SOUNDTRACKS. ALSO ON THE US WEST COAST, AND ABOUT THE SAME TIME, LES PROFUS (BETTER KNOWN AS LES PAUL, INVENTOR OF THE SOLID-BODY ELECTRIC GUITAR) FIRST USED A 4-TRACK RECORDER IN A MUSIC STUDIO. HE BEGAN TO DEVELOP TECHNIQUES FOR RECORDING MUSIC IN 'LAYERS' IN THE 30s. BY THE MID 60s, 4 TRACKS WERE IN WIDESPREAD USE FOR NON-CLASSICAL RECORDING, AND NOT LONG AFTERWARDS (THANKS TO GEORGE MARTIN'S INGENUITY), 7 TRACKS WERE IN VOGUE. THIS WAS ACHIEVED BY LOCKING TOGETHER A PAIR OF 4-TRACK MACHINES, ONE TRACK BEING NEEDED FOR SYNCHRONIZATION.

TODAY, THE NUMBER OF TRACKS COMMONLY AVAILABLE IN UPMARKET STUDIOS HAS INCREASED TO 32, 48 AND BEYOND. STILL, THE BASIC PROCESS REMAINS UNCHANGED:

1) INDIVIDUAL INSTRUMENTS ARE RECORDED SEQUENTIALLY ONTO SEPARATE TRACKS. TO ASSIST
their playing and timing, the musician(s) have the facility through the foldback cans to hear a cue-mix, comprising the track that's being laid down, with the rhythm section being emphasised for timing (for example).

2) Once the main parts have been set down, the multitrack machine can be set to playback ('repro'), through the mixing console, where the component parts are shuffled and mixed down (ie condensed) to stereo, finally emerging through the control room's monitor speakers. By adjusting the faders and introducing EQ and other FX, the balance, timbre and other qualities of the instruments appearing layered in the stereo picture can be manipulated to the producer's taste.

3) The skeleton is fleshed out. Extra instruments and sections may be added to the multitrack masters (as 'overdubs') and, with hindsight, less than perfect notes and/or timing either edited out (with 'drop-ins') or repeated afresh. Meanwhile, the balance and ancillary control settings established in each subsequent rough mix remains open to change.

4) The final mixdown is a refinement of the rough mixes leading up to it, except this time the mix goes to the stereo mastering machine.

Multitrack recording has spread from Rock'n'Roll and Tin Pan Alley, to become the norm for every kind of music. With it, immense creative possibilities have been unleashed (vide 20,000 Rock releases spanning 30 years) and still countless variations and whole new territories have yet to be explored. Multitracking has achieved its position primarily through being convenient and highly workable. It overcomes the need for musicians to rehearse themselves into a state of superhuman perfection. The producer is quickly able to compile a series of performances, going on to distill and re-create what's best in each. The word 'convenience' is enough to strike a note of terror into any audiophile observer enough to notice how technology sold flippantly on the basis of simplistic money saving and convenience has a habit of turning against its perpetrators — witness the case for nuclear power generation. So did high enough to cause record companies to cut the amount of 'polishing' time they can afford to let the musicians and their producer spend. 'Has this a good or bad effect on the qualities of the music?' queries Captain Iurid. 'Well... asserted the tall producer, idly tapping a nudge-button with his index finger and pausing until he'd finished... 'mattarafact, it can go either way.'

2) The audio signal path is lengthened. After going through the mixer to tape (as with purist recording), it ends up being dubbed to another tape, tracing a fresh path through the mixing console en route: But this doesn't apply to digitally stored elements originating from samplers, sequencers and keyboards, which can be live and direct yet perfectly consistent for every 'take', including the final mix. Also in their defence, studios have an armoury of noise avoidance techniques at their disposal.

3) The musical event is changed. Multitrack enables you to record the guitars (for example) six minutes or six months after the backing track. The musical combination may be judged acceptable at first hearing and while working under pressure. However, the music is now composed of elements drawn out which can be live and direct yet perfectly consistent for every 'take', including the final mix. Indeed, multitrack recording is used by musicians in much the same way as authors use a word-processor to perfect a document.

The heart of the machine

The mixing consoles employed in front-line recording studios have much in common with their live sound counterparts, described in part 1. The main differences are three fold. There are considerably more groups or lines out to the multitrack machine. So the mixer's format assumes an extra tier, eg 48/8/2 or 52/4/32/2, where the second tier is the number of groups or lines out to the multitrack, and the third tier is the number of 'monitors' ie outputs returning from the multitrack. Second, all the variations in the levels of sources need to be switchable and/or routable, to accommodate between 1 and n multitrack outputs during replay and overdub.

Overall, the principal shortcomings in modern analogue consoles are the build up of noise engendered by the multitrack process, and crosstalk between adjacent, tightly packed circuitry, with the manufacturer being compelled to keep the control surface compact and manageable. The logical heights of the 'as many luxury features as possible' syndrome are emboiled in the elegies many of Solid State Logic. Over the past decade, SSL's computer controlled, automated consoles (using VCA's in place of faders) have become the standard in studios where the cost (enough to buy a motor yacht or a main-line diesel locomotive) can be justified. By the mid 80's, the ascending complexity of recording console channel strips faced competition when an up and coming UK maker, called DBX, success fully introduced a series of consoles with a minimal signal path. Alas, even with simplification, the sheer number of parts curtails the degree to which console electronics can be ever-engineered in the pursuit of small sonic improvements. For example, the near exclusive use of op-amps and integrated circuits is just one step further in the pursuit of manufacturing efficiency, both SSL and RAMSA (in Japan) have condensed the circuit stages in their latest mixers into a series of hybrid IC modules. This bodes well for sonic quality, for given a good circuit to start with, it is harder to introduce parasitic reactivities, as well as reducing crosstalk and interstage feedthrough.

FX and ancillaries are more worrying. The minimum requirements are reverber, echo, compressors and noise gates. The producer may want to add aural exciters, harmonisers, box boxes, ancient valve compressors, you name it. For artistic reasons. Each has to be connected to the console. Granted a balanced interconnection, the result should be free from noise, hum and RFI. Still, there are several species of balanced outputs and inputs. As in any complex system containing 'error correction', the effectiveness of interconnects is such that quite major faults can remain in the background until explicitly revealed by a fluke combination of patching or insertion.

From the balcony of Studio 3, The Toad pondered the arc of the gravel drive. The white delivery van had departed, predictably. In the distance, a team of ferrets dressed as gardeners toiled in the shadows cast by the clumps of rhododendrons. The spell was broken abruptly as the chromium-plated telephone just inside the doorway began to ring, twice as loud as usual. A loudspeaker crackled curtly into life 'I have dese Kray twins.' Hearing Dr Andor, The Toad began to swell with excitement '...Sey vill be veady in a little vile.'

The noise equation

At room temperatures, a microphone amplifier optimized for a moving-coil mic with a 2000h source impedance in the midband has an EIN of around — 128dBu. Given a mic of average sensitivity, and assuming the SPL being recorded requires a worst case gain of 50dB (close-miked instruments often require much less), the effective S/N ratio is ±78dBu. Since mic amp noise is constrained by the low sensitivity and moderate impedance of
everyday microphones (which will remain analogue for the foreseeable future), significant improvements hinge on the direction taken by microphone makers. For a clip level of +24dBu, the maximum dynamic range is then (−78+24) = 102dB. That’s about 6dB better than 16-bit digital. If less gain is needed, the margin grows. The noise of n mixer channels summed together is less than you might imagine, because the noise sources are normally uncorrelated. Even so, mixing down 24 or more channels without the appropriate tools is pushing your luck.

With modern formulation, a 4¼in half-track master tape running at 7½ips has a maximum unprocessed SNR of some 68dB, which is 18dB less than 16-bit digital at high frequencies. Thanks to Ray Dolby and his team, ana
gonophones (filters and sophisticated level detection to keep the signal envelope in the middle of the tape window. Dolby SR noise reduction allows the tape decay times should properly be equal, allowing a double-ended system, everything that’s done is undone as soon as the signal exits the tape. That’s provided the engineer has room) decay times should properly be equal, allowing a double-ended system, everything that’s done is undone as soon as the signal exits the tape. That’s provided the engineer has

Digital Multitrack arrived in 1980. In the same year, however, digital tape is subject to abrupt clipping. In allowing a safety margin of 12dB compared to 6dB for analogue recording, the gap closes by 6dB. Also, digital tape is noisier than theory predicts at high audio frequencies. To Ray Dolby and his team, ana
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Figure 1: Playback of an analogue recording — black areas depict limits of auditory window. Toned areas show limits of tape window. Dolby SR noise reduction allows the tape window to be optimally aligned with the auditory window

**Monitoring**

The monitoring system, comprising power amplifiers, crossovers and speakers is the portion of the control room that most closely parallels the domestic signal path. About the time RJ Mitchell was building prototype Spitfires, Guy Fountain devised a speaker within a speaker. Tanno
cy’s driver combined a conventional 12 or 15 inch ‘papercone’ drive unit with a conical horn-loaded tweeter in the apex where the dust cap normally resides. Tanning’s dual concentric principle remains in widespread use for studio monitoring half a century later, while in the USA, it’s Altec’s own version, the 604G. Indeed, until recently, UREI’s 813 was the most prolific monitor in the industry, particularly in US studios. More than anything, dual concentric monitors are revered for their cheerful simplicity.

New approaches to monitor speakers didn’t emerge until the 70s. In 1946, Tom Hidley was a musician. By 1967, he’d graduated to designing studio control rooms. In time, Hidley’s package encompassed the monitor speakers as well. The

Westlake monitors he used were essentially a development of cinema speaker technique: a pair of either 12 or 15 inch direct radiator placed adjacent to a radial HF horn, coupled to a compression driver with a 2½in throat. Being made from real wood, the horn had visual appeal. Still, all the problems of combining a direct radiator with a horn remained, notably step changes in polar pattern and phase at the crossover point, itself placed (as in most 2-way domestic speakers) exactly where the ear is most sensitive. Also, the large throat avoids distortion, but curtails the HF response. By the late 70s, Hidley’s room design-cum-monitoring had become a de facto standard. It was sold on the basis of uniformity, implying that producers and musicians who laid sound down together in the same room (and in the same position) had exactly the same monitoring experience as a listener.

Aural consistency is a requirement for many of the current recording technology. Without it, the mixdown would sound over stereo ghetto-blasters and mid-fi music centres. Auralones were also noted for their ability to sharpen up the stereo image, which was first ascribed to the single driver, *sans* crossover. They were portable too, when a producer wanted to have a new part checked. They were not only portable, they were also economical: one At first, many engineers and producers came to rely on mini-monitors, leaving the main monitors, costing a hundred times more, for checking the low bass and high top, for checking solo instruments (especially drums) at high SPLs for the final mixdown. Today, the norm is to use studio addresses and mixes. Returning to main monitors, Hidley’s 2-way system, though widely adopted, was just one approach. Up and coming designers (notably Neil Grant and Andy

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* Göteborg
German loudspeaker technology—Now in Britain.

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Munro in the UK) considered that the reproduction of mixes (not to mention drum solos) at high SPLs could only be satisfactorily accomplished with a 3-way system. With this approach, two crossover points are required, but at least they can be kept away from the frequencies where the ear is most desensitised. A few US monitor designs already combined a 15in Thiele loaded bass driver with a pulp cone midrange, and a tweeter horn. In recent years, Son Audax, Dynaudio, ATC and DRL-London have developed soft-dome midrange drivers. The application of the soft dome to the midrange helped to dissolve the discontinuity between the mid and HF drivers (previously blamed on the crossover). 3-way active systems have been criticized in some quarters for the extra noise introduced by the crossover, and the validity of the associated active phase — and 'time alignment'.

The TEF equation

In the 60s, the late Richard Heyser was employed at the California Jet Propulsion Labs designing the instrumentation on board NASA's satellites. In 1967, his interest in audio had led him to present* a radical new idea for measuring tape recorders, using a technique he called 'Time Delay Spectrometry' (TDS). Four years later, a paper was presented at the AES, describing the application of TDS to loudspeaker measurements. As with most landmarks, the concept seems simple in retrospect, though the hardware needed at the time would have been daunting to anyone but the most seasoned 'digital' boffin. Heyser's approach was to apply a swept sinewave to the speaker under test. The receiving mic was coupled to a narrow band tracking filter. The signal was then chopped by an FFT, to produce a plot of energy vs time, the ETC or Energy Time Curve. The door into the time domain had been rudely opened.

Heyser's ETC was duly patented, but his recognition. Eventually, TDS was taken up and developed further by Don Davies, a US manufacturer of micro power amplifiers, but to manufacture and market the 'TEF machine', Heyser's TDS measurement system, under License. ('TEF' alludes to the end result: a three dimensional plot of Time, Energy and Frequency). In time, TDS culminated in LEDE. Why? Well, throughout the 70s, monitor system were tuned for a 'flat' response with the aid of 'Real Time Analysis'. Broadband pink noise was fed into the speaker, then a 3rd octave graphic equalizer was tweaked until the RTS's third octave LED readout showed a flat response. Often, the installer had to agree (reluctantly, no doubt) that the monitors actually sounded better when the settings were tuned by ear so precise, many installers would not register flat' on the RTA. Having paid a large sum for an expert set-up, some engineers were defiant enough to remove the equalization altogether. Bit by bit, the jigsaw fell into place. TDS revealed the bad influence of early reflections in the room. Word got around that third octave equalizers couldn't actually cure acoustic anomalies; they just translated problems in one domain (aptitude vs frequency) into another plane (energy vs time).

One approach is to build better, finer equalizers, and use them sparingly. Another is to keep working on the acoustics.

Today, studios have learnt that acoustics must come before EQ. To a great extent, the secret lies in attaining a balance between the reverberant and direct soundfields, both in level and arrival times. The first LEDE (Live End, Dead End) control room was designed by Chip Davis in 1979, using the information gained by TDS. The front half of the room, up to the listener's ears is the wave front emanating directly from the monitor. The rear section of the room is made live, so after 10ms, a highly diffuse reverberant field, designed to be as even as possible over the audio band, comes into play. In having highly reflective metal surfaces, recording equipment which has to be shielded up-front (eg the console) presents a problem, but conversely, equipment which can be sited at the rear of the room can actually contribute to the diffusion of the reverberant.

TEF plots neatly explains why mini monitors sounded so good. By listening in the nearfield with the speakers displaced from major reflective surfaces (something most hi-fi listeners will be familiar with), conditions are similar to an LEDE room.

By comparison, today's big monitors require a minimum listendng distance of six to eight feet (2.25m), before the individual sources gel, so the 'dead end' has to extend this far at least.

The professor swung open the door of the cupboard. After the ensemble had recovered from the blast of hot air, he continued, raising his voice above the whine of multiple heat-exchangers 'Processing is done by these Cray supercomputers. Access to over 10,000 Giga-bytes in the musical components library is gained in pico seconds from the Transputer track-over there. Even running at 1 GHz, we computed that several thousand hyperspheric hard-discs would be needed to store all past and future music individually.' It vud cause ein global electron depletion' said Dr. Andor, nodding. 'So you can still have fun assembling music from component parts' concluded the Professor, pulling the door closed, and winking at the tall producer.

* Recording studioese
cass: headphones
cue-mic: a mix sent down the foldback.
RTA: Real-Time Analyser, a steady-state audio spectrum analyser.

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RECORDING
We use two pairs of ATC SCM100 active monitors to evaluate our work. They are simply the best speakers I've ever heard, by a significant margin. They can deal with huge dynamic ranges, yet they have a transparent, natural, absolutely convincing sound.

— Alan Wiltshire
Nimbus Records

...absence of coloration or spurious dips and peaks is this fine loudspeaker's most likeable feature. It showed itself on voices of all kinds, strings, brass and percussion as a neutral fidelity to one's impressions of live performances.

— John Borwick
Gramophone magazine

...they are unbreakable and capable of yielding levels which no sane householder would countenance. This flawless handling of dynamic range and contrasts, utterly devoid of any form of compression, rendered the ATCs suitable for both ear-busting rock and the kind of classical you dream about...

— Ken Kessler
Hi-Fi News & Record Review

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We are entering a new phase in the CD bit war, but the first battles in that war began even before CD was launched. They were fought between Philips — the originator of CD, a product which appeared as a logical offshoot of early Laser Vision (video disc) technology — and the co-developers Sony. At that early stage Philips had decided that a 14-bit linear system would suffice as regards the necessary resolution, and that in any case it was almost impossible to manufacture digital-to-analogue IC converters at a moderate cost which would maintain significantly better than 14-bit accuracy. However, with an eye to the future, Sony had independently decided that 14-bit and its 84dB dynamic range would be insufficient, and, highly conscious of likely studio performance targets, pursued the goal of 16-bit recording and replay. The Sony PCM-F1 domestic digital recorder (using video tape as the storage medium) gave a good foretaste of 16-bit audio, was very well received, and helped to decide the issue.

Sony was eventually making quite accurate 16-bit replay converters, fast enough for a linear conversion method with one DAC time-shared between channels. In consequence, early high-quality CD players such as the Sony CDP 701 proved to be respectably accurate even at −90dB modulation. Meanwhile, Philips needed to integrate its existing 14-bit DAC technology with the newly agreed 16-bit CD format, with the sampling rate now set at 44.1kHz to provide a nominal audio bandwidth of half this, namely DC to 22.05kHz.

A gifted team at Eindhoven made the decision to use digital signal processing (DSP) to process the 16-bit data to 14-bit. They could simply have truncated the data, discarding the last two bits which represent very low-level signal information; but instead they chose to avoid the several problems inherent in a 16-bit linear approach, and in so doing set the stage for several future generations of successful CD players.

Put briefly, 16-bit linear decode generally used one good DAC, time-shared between channels, resulting in a small time delay between the two channels equal to one half of the sample period of 11.3 microseconds. This caused some minor problems with mono compatibility at extreme HF, while a less favourable aspect was the deglitching and analogue switching required for channel separation, followed by that much maligned device, the hybrid multi-pole brickwall filter. An analogue component, the latter generally used many stages with a consequent loss in fidelity and clarity, while its transient response and HF distortion were often poor. In addition, the output was anything but linear-phase.

Philips’ innovative alternative incorpo-
rated the following now familiar details: a worthwhile ‘4-times’ resampling factor, linear-phase digital filtering to 16-bit resolution, and a technique which we shall meet later, namely noise-shaping. The latter helped to provide the best 14-bit data for presentation to Philips’ own dual, double-mono, non-time-shared DACs. These required no output switching or de-glitching, while the final audio signal was essentially linear-phase and well correlated between channels. With ultrasonic and alias filtering accomplished in the digital domain, a simple analogue filter of well-damped Bessel characteristics was all that was required, greatly simplifying the audio chain. It was generally agreed that Philips had won this technology/ideology battle, despite the ‘inferior’ use of 14-bit DACs. Putting this achievement in perspective, the Philips ‘14-bit’ system has now lasted for more than six years, and has given sterling service in a number of high-end players including the Cambridge Audio CD1, the Meridian Pro models, the SD and 207 – and the US Sonograph and CAL designs.

Although the Japanese manufacturers perceived the particular merits of the Philips solution, it was nonetheless several years before they too began to offer resampling digital filtering. For example, Yamaha and Technics with their 2-times oversampling systems using 16-bit converters. But by now there was no doubt that, when correctly exploited, digital filtering sounded better than analogue brickwall techniques.

A new battle then developed among player producers, to increase the performance of digital filters and raise the resampling rate. Almost two years elapsed before a further generation of 4-times resampled designs appeared, by which time Philips had developed their second-generation design, using a 16-bit dual DAC, the famous TDA1541. Fulfilling Philips’ original promise concerning DAC accuracy, the first generation 16-bit 1541 equipped players actually exhibited poorer resolution than their older 14-bit designs, and it is only during the last year that this 16-bit type has ‘come right’ in combination with the latest ‘P’ type digital filter. The use of noise-shaping and 4-times resampling actually endowed the 14-bit design with 15½-bit resolution, very close to the theoretical 16-bit code limit, while most of the imported so-called ‘16-bit’ machines were measuring just 15½-bits or poorer.

Higher and higher resampler rates implied more demands on the DACs, since the fundamental clock or switching signal rate is correspondingly increased. In the pursuit of 4-times and then 8-times resampling rates, converter accuracy often began to suffer. Cambridge Audio shocked the industry by introducing a 16-times 16-bit machine, even if the technique employed was something of an abbreviation, involving use of the usual 4-times digital filter followed by a 4-times multiplexing system which employs four Philips TDA 1541 DACs, each working at one quarter of the 16-times rate. This is a clear example of how the CD war is being fought with numbers – the bigger the better. Cambridge Audio has since announced a 32-times design, though this is not yet available.

Having temporarily run out of resampling increases, the industry has also turned to the number of actual replay bits as a source of marketing advantage. Here the situation has got very silly, with confusion rife amongst many purchasers as well as members of the press and reviewers. Some recent Sony players carry the legend ‘45-bit’, where the audio resolving DAC employed for replay is a 16-bit type with a typical 15½-bit performance. Thoroughly misleading, the ‘45’ refers only to the digital signal computation section in the digital filter. The more bits in this department, the more accurate is the resampling and filtering computation, but in the final analysis the CD standard remains at 16-bit, while the vast majority of available recordings are made with little better than 14-bit resolution. Digital filters are commonly ‘24’ and ‘32’ bit, an appellation describing their internal architecture, and unless the filter actually throws away data the precise number of bits is not too critical at this stage.

Turning to the more relevant DAC, yet more claims are made concerning the need for higher and higher bit resolution and accuracy here. Despite the CD code itself remaining at 16-bit, we have seen 18-bit and now 20-bit DAC systems in use, employing several different techniques to achieve the largely theoretical high bit performance. Again, these can only approach the fixed 16-bit system resolution more closely. Just how close do we need to get? If one inspects the theoretical graphs, an improvement from 4-times to 32-times resampling for the cases barely any advantage. Similarly, a bit increase from a practical 15½-bit to ‘20-bit’ provides just about the same improvement: less than half a bit, or just a few decibels of useful dynamic range or low-level distortion improvement.

A good large-scale orchestral recording with a 72dB dynamic range (12 bits) and another 12dB (2 bits) of ambience information descending into the noise-floor has a 14-bit or 84dB encoded range. A 15-bit linear replay decode will impair this signal negligibly, as a host of listening tests have verified. A 4-times resampled 15½-bit signal can sound really good, as is confirmed by the bulk of Philips or Philips-system players sold. Further increases in sampling or replay can only make fractional improvements to that 14-bit recorded signal. This is the fundamental reason for the lack of correlation between higher sound quality and either higher resampling or greater decode bit levels.

So much for the existing system, but now we have a newly introduced technology which will in time become a major force. This is the one-bit Bitstream, and similar ultra-high resampling, low-bit-systems such as MASH. The present decoding systems have a lot of life in them yet, even at the true audiophile end of the market, while the new 1-bit technology has a theoretical elegance and a practical simplicity which indicates a promising future.

In the digital domain, audio is stored and transmitted as a series of numbers representing near instantaneous amplitudes, these being accurately coded against time. There are numerous ways of manipulating these numbers — for example in the small computer sections which are programmed to operate as audio filters. The conversion of original audio into a digital code can likewise be accomplished in many ways, as can the decoding back into analogue form for replay. The traditional approach has been to use a block measuring system, where each timed segment of audio is converted directly into digital code at the same overall required accuracy, eg for 16-bit a theoretical precision of 0.0015% — and this at sampling speeds! Practical constraints on AD and DA converter design result in several problems concerning linearity, particularly at low levels. These include drift, and kinks in the transfer function of the sort sometimes seen in our CD player review plots of low-level linearity. At the recording end, AD converters
The relatively straightforward technique of dividing time digitally is used to sequence the ladder in equal 1-bit steps. This contrasts sharply with the block current or voltage multiplying system attempted in the analogue domain by conventional linear DA converters.

The Bitstream operating system looks complex on paper, or when considered as a block diagram as in Fig 2, but can be summarized as a 32-bit oversampling digital filter driving a 1-bit PDM (Pulse Density Modulation) DAC via a 2nd-order noise-shaper operating with a bit equivalent resolution, at a 256-times overall resampling rate. Digital dither is used to avoid beats or similar correlated noise. For the more technically inclined reader, Fig 3 picks out the central blocks from Fig 2, to indicate the 17-bit to 1-bit PDM transfer accuracy of the combination of a very high resampling rate with feedback multiplication via a noise-shaper. At a simpler level of comprehension, Fig 4 compares conventional and pulse-width DA conversion in very basic visual terms, in a diagram derived from a description of the NTT MASH system. All the other illustrations here are by courtesy of Philips.

No breaks or steps are present in the Bitstream linearity graph, which, when fed a dithered encode signal, remains on the line right into the noise-floor at -110dB. Very little filtering is required at the audio output, and output circuitry generally follows existing Philips practice. Philips' keystone Bitstream chip is the SAA 7320, whose functions are set out in Fig 2. It is capable of operating on a single 5V supply and includes two DACs, four uncommitted output op-amps, and the digital filter processor. CMOS technology is used, and this single device performs the whole DA conversion task, distributed across a variety of circuit components in conventional players.

The Bitstream linearity graph shows that the chip is far from perfect, but the signal-to-noise performance is respectably low at about -91dB referred to the fundamental (narrow-band 1kHz) noise above 20kHz would be filtered out. With an inherent distortion at below 0.00001%, there is little to argue with in 1-bit resolution. In terms of advice to the consumer, it is now obvious that a propaganda war is being waged between CD manufacturers. The best thing is to keep an eye on new developments while awaiting the results of reviews and comparisons with existing standards. Based on very early results, I would see benefits from MASH and Bitstream in the budget and middle sectors of the market, due to consistently good performance, and the fact that the IC technology will have matured further before it can be applied to state-of-the-art players.

A BRITISH PIONEER; ALEC HARLEY REEVES CBE

Last year, in 1988, was the golden jubilee of the most significant invention in audio engineering since Edison's work of the late 19th century – pulse code modulation, or PCM; the man behind it was Alec Harley Reeves.

He began his career in the French laboratories of the giant international company ITT, and played a major role in establishing the first radio-telephone link across the Atlantic in the mid-20s. But he made his most significant breakthrough in the mid-'30s. Reeves had been trying to find a solution to the problems of noise, distortion and crosstalk that multi-channel radio links often suffered. He proposed a system in which voice signals were electronically coded into streams of pulses before transmission and then converted back into analogue sound at the receiving end. This was Pulse Code Modulation. His basic patents, filed on October 3rd 1938 in France, also included proposals for error correction, a fundamental prerequisite for all forms of digital transmission and recording. By 1943 a basic PCM system using valves was in use for secret long distance radio telephone links, such as that used from Churchill's war-time bunker to the President of the United States. Reeves was reluctant to work on offensive weapons, but his inventions included the multipoint gas counting system the forerunner of Radar, a radio navigation system called 'Oboe' and probably the war's most accurate bomber guidance technique. For this, he was awarded the MBE in 1945.

It was the arrival of the ideal electronic switch, the transistor, that spurred along the commercial evolution of PCM and by November 1962, the first PCM telephone junction network was inaugurated between London and Holborn telephone exchanges. In recent years, the emergence of mass produced ICs has now made possible a full digital working of the entire telephone system. Active till the end and working on optical fibre techniques, Dr Reeves received an honorary doctorate from the University of Essex, just four months before his death from cancer at the age of 69 on 13th October 1971.

There are over 100 patents to his credit; but above all, no one should minimize the remarkable contribution to the science of sound transmission and recording by Dr Reeves: but his original pulse code modulation technique is still at the heart of most commercial formats and will remain so.

Reg Williamson

TECHNICAL
DAC stands for Digital to Analogue Converter. A composer like Johann Sebastian Bach would have benefited enormously from having his orchestral suites and concertos played through it. Previously the digital messages from a C.D. were converted to ordinary analogue sound inside the C.D. player itself. Because handy as digits are you can't hear them. The sound then travelled via phono leads through the pre-amp to the power amp and eventually to the speakers. A journey Marco Polo would have been proud of. The problem being that there were quite a few skirmishes with outside interference on the way. It therefore made sense to move the DAC's nearer to the speakers. So we put them in the pre-amp. The digital messages then made the short hop from the C.D. via an optical link to the pre-amp and then on to the power-amp. This meant that there wasn't even the faintest possibility of outside interference. (Something Johann Sebastian would have welcomed.) Once the principle was established, it was therefore a sound idea to retain the music from a C.D. player in digital form for as long as possible. This has been achieved in the SE-M100 digital power amplifier (a 115W rms per channel Class AA power amp of twin mono construction). The 4 DAC's are now incorporated in the power amp itself. As near as possible to the speakers and closer still to perfection. If you're hooked on the classic ways of listening to music the SC-M100 also has two analogue inputs. One is variable and can be used for either a
tuner or cassette deck.

One is fixed and can be used with a pre-amp such as the SU-A40 for records as well.

But then you aren't really taking advantage of our new technology.

Situation the DAC's in the power amp means that every note, every nuance, every subtle key or chord change can be heard.

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His "Art of Fugue" and "Chromatic Fantasia" have been described as "having rhythmic vitality, instrumental inventiveness, emotional intensity and amazingly daring harmony".

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Although Koss, the company, has a strong sales position in the States, the European market has turned its allegiance to more clinical-sounding headphones since the Koss boom era of the early '70s. John, the company's founder, virtually invented the concept of the headphone — although he had visions of its in another application.

John started in business in Milwaukee in the late '40s by using a wedding gift of $200, intended for a sofa, to set up a business renting TV sets to hospital patients. Despite a rather shaky start, his business grew and he expanded it by entering the then infant hi-fi market. There he produced what many thought was a gimmick but turned out to be a product which would revolutionize the Western world. 'The idea of private listening was triggered by the fact that at that time stereo was emerging on the scene,' explained John. 'I had heard binaural discs recorded using microphones 8in apart, and I found them very, very exciting.' His interest was triggered by his musical background. John was a trumpet player and played in bands while he was at High School. 'Mono earphones had been around for a long time, but stereophones, which we attempted to establish back in 1958, and created the market for, were something new.'

Koss and his partner Martin Lange made some prototypes using surplus World War II earphones. They took them with them to the first portable player to the hi-fi show at Milwaukee in 1954 (Hotel Wisconsin) — we had only a table with a white cloth and three of our compact models — but as people came to our booth and put the headphones on they couldn't believe the sound. Soon our room was crowded and the question everyone was asking was: 'How do I put those phones on my unit?'

'I had to keep explaining that that wasn't the idea behind our unique record player package. But they kept saying: "Right but how do I put them on my own unit?"; so finally after a few days of the show I realized that maybe we had something with the headphones, but we didn't need the compact.' So we put two pictures of the band on each ear of a good 'phone — it turned out to be a marketing disaster, although today they are fetching a small fortune at auction. We abandoned the idea and moved to more conventional items.

'July 1979 saw our first in-house driver, a blow-up-proof element (the KE111 from Howard Sother) for the Pro4AA which had become an industry standard worldwide. Lightweights followed in 1972 with our HV1, which is still acceptable today and difficult to replace. The HVX followed, and in 1979 we introduced the little portable, collapsible KSP.' The telephone rang and John was called away to attend his London rehearsal that night. 'I found a buyer to keep it going.'

Koss has not been confined to headphones, though. In 1966 he bought an equipment manufacturer Acoustec in Boston who produced high-end amplifiers and tuners and an electrostatic speaker system. 'We worked for a long time trying to make a full-range, thoroughbred electrostatic but I think we were a little ahead of the times and people just didn't have the money to buy exotic equipment. Despite rave reviews it was difficult.'

More recently, 1980 saw the K40s — digital delay unit (now called surround sound) but as John explained: 'tinning let us down again. 1980 was the start of a big downward swing in the US with 20 per cent interest rates and seemingly endless economic problems. Koss was the first company to develop a cordless headphone, the JCK200, in June 1986, but Sennheiser was quicker to launch its own product which found favour with the hand-of-hearing, although John's engineers have toiled over various infra-red designs for some years.

Other innovations to take a toll on the Koss enterprises and the hi-fi industry in general were the introduction of home VCR and the booming games industry, although John Koss has survived them all with new designs.
Though Linx may be a new name to some readers, Linx products have been in production on and off for some five years. Of New Zealand origin, the company is now based in the UK, so many changes have taken place. But the original designers have come over to continue their good work. The current Linx Audio set-up is part of a group which also imports a range of brands covering Audioplan, Micromega, van den Hul and Eminent Technology, but Linx themselves now produce a variety of integrated amplifiers, pre/power combinations, and a

The long-awaited Theta tuner joins the Linx Nebula in the company's first UK-built product range

by Chris Bryant

LINX NEBULA AMPLIFIER

With established Linx house styling, the Nebula is a standard full-width unit with its corners chopped off to create a low-profile quasi-lozenge shape. The case is of steel given a black plastic finish, with anodised finned heatsinks set into each end. The front panel is of black Perspex, which looks good when it's clean but
takes finger marks all too easily. Each function is denoted by backlighting of a red label residing above the relevant switch. Linx call the Nebula a straight-line amplifier, as it has no tone controls, while the Quasar is their full-featured integrated model.

On the Nebula are two large knobs at the left end, one for volume and the other for balance. Stage-centre is taken by the touch-selector panel, outlined by a thin grey line, with the Linx logo below. The touch-selectors are formed from fingers laser-cut into the Perspex, which, when lightly pressed, contact buttons located on a PCB panel behind. Encompassed here are standby/on, input selection, tape monitoring, and muting. The logic switching that this accomplishes remembers its setting when in standby mode. Finishing this off is a headphone socket at the right end, which remains active when the speakers are muted.

The rear panel has the standard assortment of inputs and outputs. Looking at the amp from behind, the 4mm socket/bind-posts (one set only) for the speakers are on the left. A fused IEC mains socket is on the right. Complete with the Linx logo below. The red label residing above the relevant grey line, with the Linx logo below. The touch-selectors are formed from fingers laser-cut into the Perspex, which, when lightly pressed, contact buttons located on a PCB panel behind. Encompassed here are standby/on, input selection, tape monitoring, and muting. The logic switching that this accomplishes remembers its setting when in standby mode. Finishing this off is a headphone socket at the right end, which remains active when the speakers are muted.

Inside, everything is located on a single PCB, with the exceptions of the front-panel logic switching, which controls input relays placed mid-board after the disc stage. Everything looks neat, and the general layout of stages is fairly logical. The gram circuits use low-noise op-amps. The speaker outputs are relay protected, and what little internal wiring there is, is all of good quality.

Sound quality

In fairness to this product, it's up against some fierce competition from established UK manufacturers. Arcam, Audiolab, Mission, Musical Fidelity and QED are the first UK manufacturers. Arcam, Audiolab, Mission, Musical Fidelity and QED are the first manufacturers I think of when I think of British audio. They are well respected in the industry, and their products are known for their high quality and performance.

I make no excuse for listening to a lot of CD these days, with my analogue turntable relegated to a subsidiary role. It's not that I don't like LPs, but my CD system now sounds so good that I haven't bought a black disc for months. On CD, then, through my normal system, the Nebula was sufficiently good on first hearing to create interest. Liking everything else it has its strengths and weaknesses, but the basis of a good amp was fairly obvious.

Strengths start in the bass. It's got pretty good slam and reasonable definition. It can sound a bit fat and overblown, losing some control when the going gets tough, but even so it is better here than many. Some of the mid-bass is also revealing, the Nebula's finest feature, a real strong-point, with good tonality and sounding neither hard nor forced. This part of the audio band is natural and easy, with good depth, width and detail.

The treble, however, is less good. It has grain. This doesn't mean that it's unpleasant, but it fails to display the transparent detail now sounds so good that I haven't bought a black disc for months. On CD, then, through my normal system, the Nebula was sufficiently good on first hearing to create interest. Liking everything else it has its strengths and weaknesses, but the basis of a good amp was fairly obvious.

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20kHz. Power output into an 8ohm load with one channel driven was an honest 19.5dBW at 1kHz (90W), and held up well at the treble end. Into 4ohms with both channels driven, power output fell to the rated 17dBW (50W), and into 2ohms with a low-duty-cycle burst signal a healthy 16.6dBW was seen before clip. The peak current capability of the unit was a fairly respectable ±2-4A. The balance control lacks a centre-indent, but with the knob judged by eye to be in the centred position the L/R outputs were 0.87dB apart at 0dBW when the m-m disc input was driven with a 5mV/1kHz signal. For the volume/balance tracking measurement the balance control and the L/R inputs were set near centre position, and it can be seen that some errors did creep in at low volumes.

The input sensitivities of both the m-m and m-c inputs were sensible, though the CD input was a little too sensitive at 4mV. This means that the bottom end of the CD range will be far too high for wider use, especially with extra-efficient loudspeakers. The frequency response at the line input showed some very modest tailoring at LF (—1dB at 20Hz), but the gram stage (Fig 2) is more band-limited: —2dB at 20kHz and —1.3dB at 20kHz.

Conclusion

The lab test threw up one or two problems which do need sorting out. The Nebula has the makings of a good amplifier, which is clearly shown by the excellent mid-range performance, but elsewhere it is not as convincing.

LINX THETA TUNER

The Theta is an expensive FM-only tuner (£400) which uses analogue circuitry but features a digital frequency display. It is based on the Canadian Magnum Dynalab tuner board and circuitry, which is built into the standard Linx box. With the need for heatsinks obviated, the clean lines of the Linx case are reinforced, and the simple styling is effective. The front panel is of black perspex, with a single tuning knob on the right to balance the frequency display. The touch controls are the same as on the amplifier, but the thin grey styling line now encloses the display as well as the selectors. The latter are employed to cover inter-station muting, AFC, narrow IF bandwidth, and mono.

One problem encountered on the review units was that the output jacks were set too far behind the front panel, and a rather hefty push was needed to promote operation. But other Linx samples I have tried (including the amplifier) have been far better tolerated, and a light touch is generally all that is necessary.

There are no presets, so all the tuning has to be done manually. This may not appeal to some, but it’s not much of a hindrance as local station locations are quickly learned— if not already known. Also, the display can be used to show multi-path interference or (more normally) signal strength. The signal-strength meter is divided into 11 segments and there is a helpful and very effective centre-tune indicator. Also included on the front panel next to the frequency read-out is the stereo reception indicator.

The rear panel is very simple, with only one pair of audio output phono-sockets and one coaxial aerial input. The aerial requires a BNC connector (supplied) which will produce a firmer connection than the types normally employed.

Sound quality

Right from the start this tuner impresses when used with a good aerial. It’s incredibly smooth, bringing a quality to FM radio reception not often encountered. Indeed, it comes as a surprise that this level of quality is available from the medium. The Theta seems to have an ability to resolve and convey a larger proportion of broadcast information than almost any other tuner I have handled. It does it in a way which pulls the listener’s attention to itself. With a consistency based on the quality of the signal rather than what is added or taken away by the tuner’s circuitry.

The mid-range is special. It’s so relaxed and informative, revealing a wealth of detail and ambience while remaining smooth and natural. On BBC live broadcasts it handled dynamic contrasts exceptionally, somehow protecting delicate parts of the music from burial by the heavier portions. The treble too is in the highest class, being mainly devoid of any added grain or extra sibilance, and it sounded well integrated with that fine mid-range. The bass is tuneful and fluent, but it lacks some slam and seems a bit on the light side despite a flat measured response at LF.

Staging is also strong when the programme allows, and even when a transmission is not so good it manages to extract that last bit from what is available. It delivers good width and manages to provide plenty of stage depth, with images well defined within the space provided. When the quality of the incoming signal dictates that a narrow selectivity setting is required, some of the natural immediacy and life is then lost. The stage closes in to some extent, but even in this mode listening could still be enjoyable.

Lab report

The signal-strength meter accommodates a wide range in its 11 segments, covering inputs from 2µV to 2mV. The frequency response (Fig 3) is sharply filtered above 16kHz and very slightly sloped from 7kHz, but is very flat in the important mid-band. While the ultimate signal-to-noise ratio (CCIR/ARM/1kHz ref) only measured 70dB in mono and 62dB in stereo, the noise-floor shown on a spectrum analyser was well down. Sensitivity for 50dB S/N breaks no new ground, but at 3µV for stereo and 20µV for mono reception I would rate it good enough for most sensible purposes. However, in my view the RF muting threshold is set too low at 1µV. Alternate channel selectivity is 57dB and the capture-ratio measured 1.5dB, both fine for this type of unit. The 19kHz and 38kHz pilot-tones are well rejected and their sidebands also adequately suppressed, all better than 60dB down on a fully modulated signal. Channel separation isn’t spectacular, but more than adequate for good stereo reception. Total harmonic distortion at peak mod was independent of stereo/mono mode, and is just about OK at —12dB (0.8%). The output level for a 100% modulated signal is 780mV and the channel balance was near perfect.

Conclusion

Sonically, this is one of the best tuners I have auditioned to date. Although devoid of presets and some of the other technical luxuries now in vogue, it is definitely one to seek out for its sound quality.

OVERALL CONCLUSION

Linx have produced two products conforming to an integrated system format. When correctly tolerated the switches work well and the ergonomics are generally quite liked. The amplifier is not up to the high standard set by the tuner, but its mid-range is very good. The treble has too much grain and the bass needs better control. Technical performance was really only fair, and it needed a lower noise m-c input and lower levels of hum throughout.

[Linx has since utilized a lower-noise op amp in the m-c stage — Ed]

The tuner is one of the best available anywhere, with an exceptionally lucid and coherent mid-range, a smooth and even treble, and an interesting and tuneful bass. And the performance of the RF/FIF section is strong as well.

LINX THETA

![Image of Linx Theta tuner](Image)

**Test results**

- **Sensitivity for 50dB signal-to-noise ratio**
  - Mono/stereo
  - 2µV: 30dB, 20dB
  - 3µV: 25dB, 20dB

- **Ultimate signal-to-noise ratio** (CCIR/ARM/1kHz ref) only measured 70dB in mono and 62dB in stereo.

- **Capture ratio** measured 1.5dB.

- **Total harmonic distortion** at ±10dB mod. 3kHz, mono/stereo
  - ±10dB: —6dB
  - ±12dB: —6.5dB

- **Stereo separation, 1kHz+3kHz, mono/stereo**
  - ±40dB: ±5dB
  - ±55dB: ±7dB

- **Phase deviation, 100kHz modulation**
  - ±15°

- **Channel balance, stereo**
  - ±0.7º

- **Dimensions (width, height, depth): cm**
  - 450x200x50

**Typical price inc VAT**

- **£110**

**Supplier**

- Linx Audio, PO Box 20, Canvey Island, Essex
  - SSS5 GB. Tel.: (0268) 590789
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Quad pro quo: The Quad 606

Launched as a higher-powered alternative to the 306, Quad's 606 power amplifier still offers a lot of watts for the money.

Notwithstanding a condition set by Ross Walker of Quad, to prove to him personally and reliably that amplifiers do sound different before reviewing a Quad model again, the clamour for an assessment of the 606 has grown to such a point that neither I nor my editor can reasonably ignore it. Two privately owned samples were made available to me for this review, and both were tried as it was important to check that their performance was representative.

Quad enjoys an enviable reputation in the audio industry, both for its excellent service record and for its electrostatic loudspeakers, while the pricing is generally realistic. Quad's products were often highly innovative in the past, and the low rate of model turnover adds to the feeling of confidence. The fact that second-hand values are well above average would seem to support this. At the same time, Quad is seen as a rather conservative company which has successfully navigated the troubled waters of the last decade without commercial involvement in the more controversial aspects of audio — for example, the question of sound quality differences between amplifiers. In fact the company has gone to some lengths to promulgate the view that when operated within their limits, and with good experimental procedure to control source and matching, and most importantly level, all good amplifiers will sound the same.

It would seem that the company view is that Quad amplifiers are 'good' and sound alike; by inference, any models which do sound different are inaccurate. I differ from Quad in that I believe that an amplifier can be good and yet sound different from another good model; thus a scale of performance can be established, which I have based on direct review experience of over 500 models. Through the use of long-term references, one's aural judgement may be quickly recalibrated, while the pursuit of excellence for its own sake provides a state-of-the-art reference whose standard is perpetually advanced.

If you accept my findings on perceived sound quality differences between passive components (generated under controlled test conditions on a variety of capacitors, resistors and inductors) then it is also not hard to accept that amplifiers consisting of complex and different arrangements of such components will sound different, despite established lab tests and specifications tending to indicate that they are all 'good' and are being used under well matched conditions.

Most amplifier designers are well versed in sound-quality aspects of their craft, and can testify at length to significant alterations in sound which may arise in a single design from relatively subtle changes in construction, subjective shifts which do not show up when measured externally. For example, the layout or routing of a single earth-return circuit which allows for a more generous current delivery under peak-programme conditions; this makes it more tolerant of speaker loading. In later years the 405 was joined by the 406, with the 606 released a year or so ago, and offering twice the power at 140W per channel, into a load of 8 ohms.

Specifying the power output of the 606 is a complex matter, best illustrated by...
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Moordown, Bournemouth
Tel: (0202) 529968
Quad's own graph for minimum ratings, which is specified for low mains at 230V (Fig 1). The usual 240-245V supply, will give a margin over these minimum claims. One channel driven, the 8ohm delivery is 170W peak and 155W continuous, rising with a 4ohm load to 270W peak-programme and 180W continuous. Maximum power is developed between 4 and 5 ohms, with a continuous current rating of 6.5A RMS or 9.5A peak. Short transients may draw 14A peak, and the amplifier may generally be regarded as a 150W-per-channel design.

Below 4ohms loading the power declines rapidly, and the output on transient peaks has fallen by approximately 6dB at 2ohms. It is, therefore, suitable for passive (resistive) loads only. At any level up to 1.50W, as a Class-A/B design, the Quad's idling power is very low at 30W drawn from the mains, rising to 850W on maximum power, both channels driven into a 4ohm load.

Contained in a neat case finished in silver-grey with grey Nextel top and bottom sections, the unit is the same height as a Quad tuner and pre-amplifier when the two are stacked. Input is via gold-plated phono-sockets, and output by nickel-plated three-way binding-posts, with 4mm sockets. Access is either restricted for bare-wire connection, and care must be taken not to short either the live or the ground connection to the chassis cover. An on/off switch is provided, but in a Quad system the 606 would normally be powered via the control unit. Mains inputs and outputs are to the I.C. pattern.

Design & technology

The 606 uses Quad's established and patented current-dumping technology (see Fig 2), where a high-quality Class-A amplifier forms the kernel responsible for the bulk of the sound and the performance. This output section is suitably suited to resistive (flat impedance) loads only, with a current rating of 4.5A RMS or 6A peak. The bulk of the sound and the amplifier forms the kernel responsible for the entire system. The transformers proper are relatively unimportant, and they are arranged as a set of six per channel, in quasi-complementary, direct-coupled push-pull configuration. They are metal-can TO3 types, with a healthy safe operating area.

Built by combining two diecast shells of aluminium alloy, the case is also a heatsink and comes apart like a clam. The design and engineering of the case is admirable, while the interior is well laid out and easy to service. The power-supply is central, founded on a massive 'toroidal' transformer, with separate secondaries for each channel. The transformer is a low-impedance type, further magnetically shielded by a thick steel cover. The reservoir capacity is modest at 6,800µF (6.3V), comprising BC high temperature rating types.

Built as replaceable modules, the power amplifiers themselves are connected using relatively modest tinned push-on connectors of ordinary commercial quality. Internal mains wiring is unsnubbed, but there is a warning to this effect on the rear panel. Protection is by means of a combination of time-delayed electronic current limiting and on-board supply fuses, while gross overload is covered by a 10A resettable circuit-breaker in the input supply line.

Given that the supply electrolytic is the weakest link in the chain, I was surprised to find that my measurements gave an idle voltage of 60V on the 63W rated capacitors. I would prefer to see a higher rating here, since the manufacturer's own figures are 70V at a maximum of 70°C for a respectable service life.

Auditioning

For the auditioning, the Krell power amplifier references were supplemented by others covering a wider performance range, including a Musical Fidelity P140, the current Cyrus One, and an AudioLab. Sources included an Alphason Sonata H800 with that increasingly satisfying van den Hul MC2 cartridge feeding a Pink Triangle PIP II pre-amplifier, while a Marantz CD85 provided digital replay for the sessions. The speakers used included the excellent Spendor SP2.2 and the Celestion SL700, both bi-wired.

First impressions of the 606 were of a sweet, pleasant sounding amplifier with no obvious vices and with low listening fatigue, and at completion of the test these observations remained unaltered. It could play loud, certainly up to the quoted specification, though its ability to play into clipping was not as secure as with some models we have reviewed. Given the 150W power delivery, it is unlikely that anyone would routinely need to overdrive the 606. The sound quality was essentially constant over a wide range of loudness, though some additional loss of slam and grip was noted in the bass at high levels.

Assessing the fundamental subjective performance of this model, it proved to live as close to the long-term average as it was possible to get. Given that this is a modern high-quality product from a company that is essentially a British legend, this was inspiring. Working with the recent audiophile reference ratings, the 606 scored 37%, which was equivalent to a large number of the better quality international brand products, but rather below that of models from UK specialists, such as the Mission Cyrus One (44%), the MF P140 (54%), and audiophile quality—such as the MF A100—far away at 72%.

Getting down to the nitty gritty, the amplifier was considered to be low in perceived coloration, this being mainly restricted to a mild thickening in the cello range. Most common faults such as obvious boom, hardness or treble splash have been avoided. In this respect Quad may claim neutrality and accuracy.

The sound did not vary significantly with different speaker loadings.

As regards more controversial aspects, subjectively the 606 failed to deliver sufficient ambient depth or air. The effect of the 'closed-in' quality was noted in an excessive dryness and a loss of acoustic dimension. High-level up-front detail was handled well enough, but with more complex material, information at lower levels sounded masked, the veiling insufficient to curtail apparent depth on some programme by as much as a half. It could reproduce some depth impression, but only when the programme had considerable depth and ambient content. Put simply, the amplifier was not very transparent and did not fully reveal this known potential. In terms of transient speed and attack was noted. In general terms the bass was unexceptional, described as subjectively soft and lightweight and lacking sufficient agility, slack and rhythm to establish the 606 as a contender in this price range. The mid was pleasant, although some loss of transient speed and attack was noted. In general terms the treble was high-quality—sweet and pure if missing a touch of life and sparkle.

Stereo soundstages were slightly narrow, and within the sound picture there was some mild concentration towards the centre—but without significant improvement in specific focus. In fact focus and the differentiation of solo instruments within concerted performances was considered exceptional. Finally, it was clear that the 606 is a rather laid-back performer giving the impression of muted dynamics. The feeling of drive and energy present in good performances sounded...
This month we feature an audiophile product of jewel finish and transparent quality; and easily affordable! In a highly-tuned audio system, only one weak link in the chain causes frustrating, degraded sound. To celebrate our Tenth Anniversary we have now commissioned the new “Four by Four”, the perfect set of two red and two black locking 4mm plugs. In many ways the design is the classic gold-plated speaker plug, knurled top and wide cable entry to accept and clamp a very large diameter of copper wire. But there are some refinements, starting from the jewel-calibre and feel of the product. Over the years the deep gold resists tarnishing, and the unique double lock prevents slackening of cable bite and within the socket. The transparent collar also prevents shorts-circuits. The price of this perfection is £9.95 for a set of “4 x 4” (45p First Class postage in Britain) or £19.90 (post free) for two sets.

Reference Systems give more musical satisfaction than similarly, doubly or higher-priced mixtures of components. When The Music Room was founded, only one of the British specialists pursued the ambitious goal: Mission Electronics. (The classic Linn/Naam systems, contrary to popular mythology, was never so-designed.) Today, the Mission CYRUS system is based on their super-CD Player PCM II as their excellent analogue products have been abandoned in the digital rush to riches. Who can forget the Classic 774 tonearm, or the stunning Mechanic?

ARCAM, who grew to greatness with amplifiers, soon added tuners, phono cartridges and now excellent CD Players: from budget to audiophile status, they are excellent. Compact Disc Players, unlike turntables, give the Japanese and the British electronics companies a familiar project and a futuristic project: CAMBRIDGE AUDIO entered the arena with CD technology which is far from ordinary: for £650 a very musical sound is assured to please some of the analogue purists. It is a big mistake to allow their amplifiers to be eclipsed. We can reveal that one day soon, you can complete ARCAM and CAMBRIDGE systems with a cassette deck.

QUAD is the aristocratic British manufacturer of High-Fidelity and the current range of products combines the most up-to-date design and quality of perfect construction with reliability, life-time investment and pleasure. The discreet mid-compo- nent size and design poses a problem because Japanese CD players don’t look right. By the time you read this Newsletter we expect we shall be supplying the first QUAD CD Player.

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Even the ESL’s have competition, of course, and our goal has always been to collect and compare impartially all that is of world-class under our canopy. We see the same integrity from MAGNEPAN PRODUCTS from the smallest models at £675 per pair, through the 1.4’s and the 2.5’s which feature the unique ribbon design. Again, words cannot describe the musical sounds of these box-free loudspeakers which are crafted like fine musical instruments based on more than twenty years of intense experiments and experience which you inherit when you acquire one of these products.

I feel bad, knocking boxes, because some of my best friends build them and to be perfectly serious, those specialist companies such as MONITOR AUDIO build products of beauty offering sonic excellence far beyond what you expect from their compact dimensions and modest prices. The Monitor Sevens, or the R-1200 floor-standing towers which have been much copied, are simply too cheap in their own country.

There is no conflict between the best value and the absolute best. Sometimes budget buyers feel intimidated surrounded by very expensive equipment, but we operate in what is still a very narrow specialty: performance Hi-Fi. Only in our separate Bang & Olufsen Center in Bath Street, Glasgow do we stray into what we believe is easily the best in its class.

The philosophy is the same: to discuss and to demonstrate in order to allow the customer to see, hear and make up his or her own mind; and at any price point, to give the best advice and service possible. After all we have that reputation to consider for our second decade...
somewhat subdued, and some of the better UK budget integrated amplifiers can do better in this respect.

Lab report
If the Quad 606 could be assessed solely on the basis of the lab results, its rating would be high, since this model is clearly an excellent design if viewed in a purely electrical context. Its ability to deliver clean volts and amps over the audio range was well established. Correct in absolute polarity, and with a very low output impedance, the 606 exhibited excellent power-bandwidth at both 4 and 8 ohm loadings, singly or with both channels driven. At 8 ohms it cruised at 21.4dBW (150W), with a flat output short-term peak of 22.5dBW, or a little under 220W. Dropping in level by a little over 1dB at 4ohms, a fine result, the output was 220W into that load, rising to an absolute maximum of 300W on transient peaks (405W). Thus the 606 is clearly suited for direct connection to many CD players. DC offset at the output was quite negligible, at less than 1mV on both channels, while the signal-to-noise ratio was fine at better than 105dB relative to full power, with a negligible hum content.

As regards supply modulation, the result was exemplary, with an exceedingly low content of mains supply components (for Fig 4). The graph reveals that even at 100Hz the rejection was better than 100dB, with the artefacts shown being either analyser noise or residual harmonics of the 50Hz primary input tone (both channels driven into 40ohms at 1/2 of rated output level).

Conclusion
By established precepts, the 606 is undoubtedly a fine amplifier, offering good value for money and with sales fully supporting this contention. Build quality and finish were generally excellent, if to good commercial rather than audiophile practice, though I have minor reservations concerning the two noted internal points: the over-rated supply capacitors and unshrouded mains connections.

In general the lab performance was exemplary, and although the peak current reserve was unexceptional, it will handle speaker loads well in its designed areas. High peak powers were available, and the performance varied little with frequency, loading or level.

My main reservation lies in the contentious area of perceived sound quality. Renewing my amicable disagreement with Quad over this question, on the evidence of the 606 I cannot accept that the manufacturers are correct in their view on subjective accuracy. It is true that Quad amplifiers do sound similar, and the 606 was not far removed from the 405 which I revisited a year ago, itself not very different from the 405 I owned some six years prior to that. My contention is that because the sound quality of the 606 has not significantly advanced over that of earlier models (and despite being eminently competent and vice-free in subjective terms), it fails to offer significant competition for the better separate power amps now on the market. Indeed, leaving aside questions of peak power and overall dynamic range, I found the comparison with some of the best of the inexpensive integrated amplifiers to be a severe test for the 606.

So much is right about the 606, particularly from an engineering viewpoint, that I honestly wish it could have sounded better on test. Sonically it stands at the long-term industry average level, which, in my views, will not be good enough in the future. I believe that many of the buying public are well aware of subtleties in amplifier sound quality and are capable of acting upon them. ☞

**Quad 606**

![Fig 1. Quad 606: Manufacturer's graph plotting output versus loading value and signal duration](image1)

![Fig 2. Quad 606: Block diagram of current-dumping system](image2)

![Fig 3. Quad 606: Frequency response; each vertical division equals 1dB](image3)

![Fig 4. Quad 606: Power-supply modulation spurious from 35Hz to 22kHz, vertical scale running from — 20 to — 100dB](image4)

**Test results**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
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<tr>
<td>Rated power 8 ohms</td>
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<tr>
<td>Measured power (at 25°C AC, 90Hz)</td>
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<tr>
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<td>Continuous 5 ohms</td>
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<tr>
<td>Burst 10kHz 8 ohms</td>
<td>22.5dBW 22.5dBW</td>
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<tr>
<td>+ 6 ohms</td>
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<tr>
<td>— 6 ohms</td>
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<tr>
<td>Rated power 8 ohms</td>
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<td>Ac 50Hz 8 ohms</td>
<td>— 96dB — 90dB — 76dB</td>
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<td>Intermodulation</td>
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<td>Rated power 8 ohms</td>
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<td>Frequency response</td>
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<td>Low level</td>
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<td>— 80dB</td>
<td>107dB</td>
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<td>Typical price inc VAT</td>
<td>£489</td>
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**Supplier:**
Quad Electroacoustics Ltd, 30 St Peter's Road, Huntingdon, Cambs. Tel. (0480) 52561
Hello again, back after a long absence due mostly to idleness on my part (Kevin) and the pressure of evaluation work (Russell). Well what's new, we have some new budget (well budget for us) integrated amps, and some expensive (even expensive for us) electrostatic loudspeakers and a range of US made cables.

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CHOICE COMPACTS

Three budget speakers: the
KEF C15, new Energy ESM-4 and Wharfedale Ritz Diamond

by Martin Colloms

Selected from the HFN RR major test programme on 65 models, this month we present speakers from two major UK companies and a design from that increasingly visible Canadian company, Energy. All three are priced in the £100 to £160 range and are small enough to be called miniatures, though in truth the Wharfedale and Energy models are on the larger side of the classification.

KEF’s C15 is a true wall-mount or bookshelf design, and despite modest cost and diminutive size it has the build quality and finish of an English thoroughbred. We took great care to wall-mount this model properly for the unsighted panel tests, and the results speak for themselves. The C15 is not intended to provide disco levels or conspicuous bass, but it does have two clear applications — one as a component in a sensible budget system, and the other to provide respectable sound levels of decent quality in a visually unobtrusive manner.

Wharfedale’s Ritz Diamond is something of a throwback — a speaker aimed at providing more level and power than the classic miniature Diamonds. Accordingly, it is built on a larger scale, with traditional standards applied to tuning and diaphragm technology. This model may be moved further from the wall than the C15, and will also drive bigger rooms to higher sound levels.

Superficially similar to the Ritz Diamond, the Energy ESM-4 comes from a manufacturer with some experience of generating designs offering above-average clarity and dynamics. A full lab measurement programme was pursued, followed by unsighted panel auditioning, so much confidence can be placed in the results, which are set against those for a comprehensive field involving a total of some 70 listening sessions.

ENERGY ESM-4

Energy is a Canadian company based in Ontario, and has now acquired quite a reputation overseas having been recently introduced into the UK. We have chosen a budget model from the range — a compact, bookshelf design for wall-mounting on a good shelf or on a 50cm stand.

The ESM-4 comprises a two-way reflex and comes supplied in mirror-image pairs with a wood-print vinyl covering. A 5-year warranty is included. An 80W power-handling is claimed, which should allow decent sound levels to be achieved with the above-average sensitivity.

Sound quality

Its price is way below the average for our composite survey, but the ESM-4 scored an above-average sound rating of 55%. More deviation than usual was noted in the panel results, with some listeners liking it a lot, and others scoring it lower, with comments on a degree of midrange ‘hardness’ and ‘brittleness’, plus some boxiness. Its punchy, dynamic quality was, however, liked by all; it gave a good sense of rhythm and drive to performances. In addition, while it failed to disguise its small-box origins completely, it did offer a surprising degree of detail, lending a clear, ‘immediate’ effect.

Stereo images sounded well focused, thanks to the high information level, and it was considered quite well balanced overall, demonstrating good stereo depth and perspective. The bass had moderate coloration but was free from boom, and sounded both fast and articulate. The treble was also of above-average smoothness in this particular recipe.

Design and technology

Enclosing a volume of 14-litres, the system was tuned to 50Hz by a sensibly sized 4cm diameter by 6cm deep port, with the interior lined with fibreglass wool absorber. The enclosure panels are of normal 12mm grade, with a thicker 19mm front panel.

Bass-mid is handled by an Energy 170mm steel-framed unit fitted with a high molecular-weight 135mm straight-sided cone, suspended on a foam half-roll surround. The bass unit is directly coupled to the amplifier for maximum clarity, and the 3rd-order phase-correcting crossover uses normal commercial quality parts and couples to a 19mm polyamide VIFA tweeter above 2.5kHz. The grille has been rebated to reduce diffraction, while electrical connection is via spring-clips.

Lab report

Exactly on sensitivity target at 88dB/W, the ESM-4 was not compromised by its impedance which is a natural 80hm value and rated as ‘good’ (Fig 1c). The bass extended to 60Hz for ~6dB, with a practical limit of 50Hz in-room. The anechoic axial trace (Fig 1a) does suggest some ‘isolation’ to the LF response, but the room-averaged plot (Fig 1f) reveals a tolerably good acoustical room drive, despite the 400Hz dip. Above about 600Hz the axial response is nicely even, and this is confirmed by the 2-metre 1/8-octave equivalent curve (Fig 1b). The lateral responses are fine here, but the response at 15° above axis shows a significant loss in output near the crossover. The speaker should therefore be elevated or otherwise lifted to ear height.

In the room, the mid/treble integration was remarkably good and helped explain why the speaker sounded so crisp and ‘open’. Working hard at 96dB (Fig 1e), 2nd-harmonic distortion was high and reached 6% at 200Hz, but at a more normal 86dB sp (Fig 1d) the distortion improved considerably, with a maximum of 1.5%. The 3rd-harmonic settled in at around 0.6%, which was perfectly satisfactory. The suggested 80W peak-handling limit was a sensible one. Pair-matching was fine at ±0.5dB, while grille defraction effects were moderate.

Conclusion

This lively speaker overcame a mild degree of thinness and brittleness to deliver a sound with considerable life and energy — true to the maker’s name! The panel was impressed by its direct, communicative quality, the high level of delivered information telling much about the stereo soundstage, its focus, depth and width.

The bass was not particularly extended, but was articulate and rhythmic. The mid showed some mild harshness and the speaker was less happy when driven to high levels. It should not be bought for its loudness capability, but it can get loud enough for most normal applications. The build and finish were modestly workman-
KEF C15

This model is drawn from KEF's new range, but is too small to have the Uni-Q feature. A conventional miniature two-way, the C15 design is intended for use on a shelf or, better still, on a highish stand (50cm) backed to the wall. It is very small and will fit unobtrusively into many furnishing schemes. High sound levels are beyond its compass, due to the below-average sensitivity and small bass driver, but it should suffice for normal domestic purposes. The finish is a vinyl print, and the moulded grille has been properly rebated. Electrical connection is via three-way binding-posts.

Sound quality

Making an amazing attempt to disguise its modest price and small dimensions, the C15 blazed away on the wall, generating a not boxy nasality to it. But over the rest of the range coloration was low, while the sound was well integrated and the presentation also included a fair measure of pace and drive. Stereo depth was reasonably good, while the soundstage width and focus were rated as 'good'. Within its compass, rock and classical programme were equally well suited to the C15, and it also fared well on grounds of low listener fatigue.

KEF's favourite technique of a very large diaphragm built on a precision die-cast frame, driven by a high-power 32mm motor-coil. Specially made for KEF, the titanium foil tweeter features an integral surround, tangentially pleated like a microphone capsule to provide the necessary compliance; the unit is ferro-fluid cooled and damped. Internal wiring is via tag connectors, the crossover approximating to 4th-order acoustic and built with commercial quality components.

Lab report

On the nose at 85dB W. the sensitivity was below average but suggests the possibility of better bass than the size might indicate. Specified at 8ohms, the speaker actually measured a typical 6ohms, which rates as an 'average' amplifier load (Fig 2c). Pair-match was excellent at ±0.3dB, while the axial response (Fig 2a) shows a mild lower-treble dip which almost disappeared on a 5° above-axis reading. Don't place this speaker above ear level unless it is turned over. The grille was better left off from the look of our reference graph. At 2 metres with averaging (Fig 2b), the mild humps are smoothed out and the overall trends can be seen. These are substantially good and reflect the speaker's inherent equilibrium.

Confirmation was provided by the listening room response (free-field as usual), where the midrange is seen to be broad, even, and well integrated with the treble (Fig 2f). The bass just attained reference level at 50-80Hz, albeit with some irregularity below par, but without major effect. Distortion was fine at the 86dB sound level (Fig 2d), while the 96dB level (Fig 2c) was attacked with considerable valour even at low frequencies: creditable for the size, but beginning to show the upper limits.

Conclusion

A new miniature, the C15 performed with maturity. The bass was inevitably restricted in power and breadth, but what there was remained respectably balanced, audibly and informative. The midrange met KEF's high standards for tonal accuracy, neutrality and uniformity, and on several occasion panel comments noted how faithfully orchestral sounds were reproduced. The treble was tidy and sweet — open, but not drawing undue attention to itself, which is the hallmark of a good tweeter as well as good system.
design. In truth, the audition score was very respectable for the price and especially for the size of box. If you also take into account the fine build quality, plus the consistently good lab results, a strong recommendation is assured. The C15 was certainly exceptional on value grounds.

**WHARFEDALE RITZ DIAMOND**

Although capitalizing on the established Diamond name, the Ritz is a different animal in all respects, not least in its size. The Diamond is classed as a true miniature, but the Ritz is just in the compact class measuring some 35cm high and fitted with an 180mm bass-mid unit. It is a bass-reflex model with a small port on the rear. The enclosure is covered in a vinyl wrap, with three-way socket binding posts for cable connection.

Offering a high sensitivity, this speaker should operate well with quite small budget amplifiers. The thick 15mm grille frame is unrelated and is probably best left off for critical listening, while wall or free-space positioning are possible with this model.

**Sound quality**

Achieving a below-average rating of 44%, the result was in truth fair enough for the price. Panel agreement was close, with little argument over either the ratings or the way the speaker sounded. Vocals were thinned and over-projected, with the mid suffering from a ringing emphasis on piano and excessive 'clack' on percussion. The midrange, the dynamic performance of this model did not rate very well and was disturbed by the 'odd' bass.

Bass frequency extension (typical) was 40Hz. At 2 metres the averaged response (Fig 3d) shows a strong rise into the midrange, the dynamic performance of this model did not rate very well and was disturbed by the 'odd' bass. A rather flattened soundstage was apparent. Despite the false 'speed' shown in the midrange, the dynamic performance of this model did not rate very well and was disturbed by the 'odd' bass.

**Design and technology**

With a 12-litre internal volume, the system is tuned to a 5th-order alignment by a combination of a large electrolytic series capacitor and bass-reflex loading accomplished by a small rear-mounted port, 52mm in diameter and 65mm deep. Internal standing-waves are handled by a foam lining. The plain carcass is built of 15mm chipboard, with the front panel made of 15mm MDF and both drivers surface-mounted.

Bass-mid is served by a steel-framed unit with a 140mm paper-pulp diaphragm, while the treble is handled by an older Wharfedale unit, a 19mm soft polyamide dome, ferrofluid damped. The commercial quality crossover is 2nd-order for the bass and 3rd-order for the treble, wired via push-on tags.

**Lab report**

Checking out at a high 93dBW sensitivity, this was slightly prejudiced by the 'average' rating for load impedance (Fig 5c). A token 8 ohms, it dips to 4.5 ohms in the treble range. The Ritz will perform with as little as 10W per channel, and maximum sound levels of 104dB are possible for a stereo pair on peak-programme inputs of up to 75W.

On pair-matching, errors of up to 1dB were seen at some points, while the grille clearly disturbs the treble. The reference response (Fig 5a) shows a strong rise into the midrange, followed by a severe presence-bass trough and an elevated treble. The bass rolloff had a sharp corner at 90Hz, and such changes often result in an audible boom. At 2.5 metres the averaged response shows little improvement.

The results for this model were not too bad. One had the feeling that there was some good traditional Wharfedale engineering inside trying to escape. The listening results correlated well with the

**Suppliers**

KEF Electronics, Eccleston Road, Maidstone, Kent ME15 6QF. Tel: (0622) 672261

**Test results**

<table>
<thead>
<tr>
<th>Test results</th>
<th>K E F C 1 5</th>
</tr>
</thead>
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<tr>
<td>Size (height x width x depth, cm)</td>
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<td>Recommended placement</td>
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<td>Impedance characteristics (case of driver)</td>
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<tr>
<td>Frequency response uniformity</td>
<td>Good (+5% variation)</td>
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<td>Typical price per pair (inc VAT)</td>
<td>£99</td>
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</table>

*Fig. 1/W into 8 ohms
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measurements, and this speaker's problems were fundamentally associated with its idiosyncratic frequency response. This was a classic 'boom and tizz' design, and the panel had no problem in identifying it as such.

In-room, the sharply tuned bass results in an isolated if muted boom, while the peaked lower midrange response did neither the coloration nor the tonal quality any favours. Moreover, the depressed lower treble robbed the speaker of openness and transparency. Finally, the upper treble was left out on a limb where, robbed of its underpinning bass, it sounded exposed and tizzy. Its brightness didn't help matters either. I am sure that Wharfedale could do much better than merely offering what is fair value for money in this price sector.

GROUP CONCLUSION

Ultimately the Ritz Diamond proved to be a disappointment in that it sounded surprisingly old-fashioned. Listeners new to hi-fi may be initially impressed by the speaker's distorted frequency balance, but my judgement is that in the long run such a sound will prove unsatisfactory. The larger Wharfedale 505 II (soon to be reviewed) is a far safer bet and is well worth the extra expense provided you are able to accommodate it.

The Energy ESM-4 is perhaps an example of how the Ritz should have sounded. It was not without flaws — it was unhappy, for example, if driven to the limit — but it proved consistently rewarding in a musical manner. Offering a remarkably good tonal balance, free from boom or tizz, this Energy model sounded lively and clear, telling more than the usual story at this price level. As such it is well worth hearing and achieves a firm recommendation.

In terms of value for money, the C15 is something of a star. It goes about its business in a neutral and unobtrusive manner, showing an inherently high quality that is sufficient to do fair justice to quite a wide range of system prices and performance levels. Even on the Krell amplifiers, although nominally out of place and hugely outclassed, the C15 delivered a respectable performance. Within its limitations of modest power-handling, bass extension and maximum sound levels, this is a fine product, and achieves a strong recommendation — a 'best buy' if ever there was one.

Next month: A major speaker review will cover significant models from some of the most noted British manufacturers including Spendor, B&W and others.

WHARFEDALE RITZ

<table>
<thead>
<tr>
<th>Measurements</th>
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<td>Size</td>
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<td>Recommended amplifier power per channel</td>
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<td>Wall frequency extinction</td>
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<td>Bass frequency extension (typical in-room)</td>
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<td>Approximate maximum sound level (per pair @ 2m)</td>
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<td>Forward response uniformity</td>
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<td>Typical price per pair (inc VAT)</td>
<td>£130</td>
</tr>
</tbody>
</table>

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Audio-Technica's latest moving-magnet cartridge features a metal body. Is the AT-450 the new sub-$50 heavyweight?

by Ken Kessler

Following a run of moving-coil smash successes cannot be an easy task. Audio-Technica has shown its commitment to analogue with such absolute bargains as the AT-F3 and AT-F5, and dealer gems like the 'OC' series and the decidedly high-end AT-ART. Now it's time to address the lowly moving-magnet.

I use the term 'lowly' without contempt; it's partly fashion which has dictated that m-mcs are the cartridges of choice, and with very few exceptions. Audio-Technica which has shown just how wonderful an affordable m-c can be with the sublime AT-F3. Still, there remains a core of consumers with either pre-amps or integrated amplifiers which require high output cartridges, mainly of moving-magnet design, or who own tone-arms which prefer to see the generally higher compliance of m-m cartridges.

Despite the infatuation with m-cs, some do have faith in m-m designs, including Stilton Audio, who have offered metal body versions of existing plastic body m-m cartridges. Among the many benefits are a reduction in body resonances and an increase in structural rigidity; the rebodied cartridges showing far greater coherence and precision than their lesser brethren. Audio-Technica has taken note of this tweak and produced an affordable ($49.95 to be exact) metal-bodied m-m cartridge dubbed the AT-450E/OC.

This created a truly schizophrenic sound. Imagine, if you can, a cartridge with some enticing upper frequency magic which invalidates the warranty.) Because the AT450E/OC presented new with nothing but problems, yet tried it not only in my trusted tonearm, the SME Series V, with a choice of counterweights, but also in lower mass designs such as are fitted to Thorens and AR turntables. Despite playing with different-sized counterweights and damping fluid, I could not rid the AT-450 of the dreaded 'Grado hop'. The cartridge, even when dialled to the maximum playing weight and with full damping, jumped all over the groove at the slightest sign of disturbance. Lowering the cartridge into the groove became a near-surgical activity, while simply flicking a switch on the pre-amp mounted on the same floor-standing unit caused it to cross a couple of revolutions' worth of groove. It made the Ken Chan Koetsu seem like the Sir Nigel Gresley. Static compliance is high at 35x10cm/dyne while dynamic compliance is low at 8.0x10cm/dyne, which tells me that some numbers have left on my modulator form at the bottom of a bowl of soup.

Oddly enough, the AT-450 would eventually settle down and track like a bloodhound. It returned perfect figures through the Ortofon test computer and sailed through some unbelievably hairy material, including the blockbuster Bang Baroom And Harp, the recent Wilson extravaganza Center Stage, a cluster of test LPs and some acid-house disaster I keep strictly for its torture value. But to reach this state of bliss, you have to flip the cueing lever and back away quickly, as far away from the hi-fi as you can. I swear, I can feel the air currents endowed this with St Vitus' dance, and I use a listening room with a poured concrete floor, too.

Another problem I encountered was susceptibility to hum, which meant fiddling around with cable layout and choosing of pre-amp. The output, specified as 5mV but measuring only 3.5mV on my sample was enough to keep the Audio Research SP-14's volume control to the south of 10 o'clock, while the channel balance was a near-perfect 0.2dB. Channel separation was 30.0dB for the left channel, 27.9 for the right and the tracking, as I mentioned before, was 80um - at the limits of the test computer, with the room temperature at 21°C and the cartridge tracking at 1.5g (within its range of 1.2g to 1.8g).

This created a truly schizophrenic sound image. Can, if you can, a cartridge with some enticing upper frequency magic which invalidates the warranty. But that's what reference points are all about, and this cartridge fell far short of what I want from LP playback. Giving it every chance I could - Oracle Delphi Mk III set up to perfection, Audio Research SP-14 pre-amp, active Apogee Design, with two Aragon power amplifiers, a king's ransom in Master Link interconnects and speaker wire - I couldn't get the AT-450 to sing. It did some things incredibly well, and I found it hard to fault the image specificity, soundstage width and upper bass/lower midrange clarity. With powerful, large-scale works like the Wilson recording, the AT-450 could convey the energy of an orchestra with utter confidence. The stage had enough depth to suggest three-dimensionality and the cartridge could also reveal a sense of space or air around the performers. Where its weakness glared was in conveying the subtle, inner details which identify a thoroughbred.

On quieter works, especially acoustic guitar with solo piano, the AT-450 stomped over the little nuances which are necessary for the convincing re-creation of a musical event. The resonances of an acoustic guitar were stifled, creating a hollow rather than rich sound. The piano seemed thin and muted, bordering on the honky-tonk sound of Ragtime Razzmatazz... which is not what you want from a Chesky pressing.

It puzzles me as to how this one got past Audio-Technica. Forget the obvious boon of the AT-450's higher output. Save up another ten or twenty quid and buy an AT-F3, which I reckon is the best cartridge of any type below the ton.+

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Pursuing ever-better linearity,

Denon offers a luxury '20-bit' CD player with a host of facilities

by Martin Collins

Just a few months ago I reviewed Denon's current 1500 series model, the 20-bit DCD1520. Now we have the flagship of the new generation, the 20-bit DCD3520 (£1,000), and as befits a machine at this elevated price level, the finish and feel are first-rate, the facilities fully comprehensive. The loading drawer glides in and out with evident precision and will take 3in single discs.

A front-panel volume control is partnered by a number of secondary facilities, the latter located under a hinged section of the panel. The headphone jack is here, but the volume control is responsible for that as well as for the variable output phono-sockets on the rear panel. This control is motorized and may also be actuated via the remote handset. Fixed audio outputs are also provided in both phono and balanced XLR format. Three digital outputs are present, comprising optical and two wired coaxials, selected via a front panel switch.

Well equipped, the remote control carries the full range of facilities, including auto-space, auto-edit and display. The latter is most informative in providing data about the general operating condition and the number of tracks programmed, plus track indexes and timings.

Design and technology

Denon calls its technology '20-bit Delta' and claims to have overcome the minor problems present in other systems. Upon investigation, the player is seen to use two 18-bit Burr Brown PCM converters, supplemented by a 'piggyback' 2-bit converter added to the circuit loop driven by an 8-times re-sampling digital filter (SSM 5813) with a 20-bit serial output. A serial-to-parallel converter is necessary, as the PCM64 DAC has an 18-bit parallel input bus, extended by two more bits.

The balanced output section is additional, executed without the need for transformers. System control chips are by Sony, while the transport is a high-quality linear-motor design using precision die-castings. A sub-chassis of mineral-loaded compound provides the foundation for the transport, with the whole floated on a sprung vibration isolation system. The overall construction is substantial, and separate power transformers are used for the analogue and digital sections.

Sound quality

The resemblance to the DCD1520 was strong, but the 3520 did manage to notch up a small advantage. Once settled in, a merit rating of 72% was established. This was respectable if not outstanding.

The bass of the 3520 was particularly good — the sound was strong and firm, articulate and wal focused. Fine LF extension was also demonstrated, while the mid-range was judged to be very neutral, with excellent exposition of detail.

It was judged excellent in the treble, exhibiting fine purity, very good focus and harmonic differentiation, and with minimal grain or 'haze'. Stereo imaging showed good width and depth, though the latter was not quite to audiophile standards. In general it sounded respectably transparent.

In the area of musical dynamics, pace and rhythm, the DCD 3520 was a shade sleepy and laid-back, more classical than rock orientated if you like. A worthy performance, but for the money I would have expected a substantial gain in sound quality over the DCD1520.

Lab report

Given the furore concerning the accuracy or otherwise of 20-bit players and questions of their long-term consistency and noting that since the DCD 1520 report was completed we have learnt that another reviewer had a go at tweaking, our sample was tested as it came — fresh from Japan.

As manufactured, the player did show good linearity, but not to the standard promised by the 20-bit label. At a — 90dB test level the two channels averaged 2.5dB high, approaching a half-bit error in 16. In fact the linearity graph (fig 1) shows the beginning of a drift away from the intersections as early as — 80dB. The slope is desirably uniform and quiet clear down to — 110dB, but with a mildly compressive error. As has been found with other 'linear' 18- or 20-bit machines, drift since manufacture often erodes claims to high resolution. But the end of the story, since absolute bit accuracy does not relate fully to resolution in a musical sense. A player designed to perform clearly and cleanly to low levels will have lower perceived distortion and a quieter background than one which is not despite the presence of mild slope errors.

The low-level sound was particularly clean, with strong correlation provided by the spectrum and graph for a — 90dB dithered test signal, where the sinewave shape shows remarkably little noise or distortion (fig 2), while the coupled spectrogram is subjectively sweet, with just a trace of 2nd-harmonic lifting above the noise-floor at 20dB down, 110dB below full modulation.

From the integrated — 70dB dithered tone distortion of — 35dB (albeit mainly odd harmonics — fig 3) a fine overall dynamic range of 105dB could be specified. Signal-to-noise ratios were exemplary, hardly affected by weighting or emphasis, and averaged 110dB.

The output was polarity correct, and frequency responses were extremely uniform, with or without de-emphasis. The high-level single-tone distortion results were fine; for example, — 94dB at 1kHz for full modulation (0.002%). However, it was less happy on the full-level intermodulation test, 19/20kHz mixed one-to-one, giving a just satisfactory result of — 68dB (fig 4). First and 2nd order difference products are evident, but with the 1M test-signal reduced by 10dB the performance improved to a good — 86dB of difference-tone, while the performance above 20kHz was rated as exceptionally good. The wide-band spectrogram showed an exceptional degree of purity. Using a fairly wide 1kHz filter, the noise-floor in the audio range was — 108dB when energised by a — 70dB tone, while at above 50kHz it settled at an amazing — 130dB referred to full level. RF levels at the output were also very low.

Conclusion

The build quality and finish were to flagship standards, while the controls and...
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A GIFTED AMATOR

He fell in love with Sonus Faber Electa. Now he meets Electa Amator, the big sister...

by Ken Kessler

What knocked me out in March, reviewing the Sonus Faber Electa, was its panache, the way it balanced every aspect of speaker performance in the same way that it addressed the speaker's physical presentation. The latter is so remarkable that the Electa's beautiful cabinetry overshadows its actual performance, the mouthwatering visuals being so striking that most Electas are probably sold on looks alone.

Remember too that the Electa, despite some minor chestiness and a rather brutal way of showing up the partnering power amplifiers, has the capability to swing with the music, to respond to the driver's output of the music without breaking up (or breaking down) and can deliver high levels and a huge soundstage which belie its size. It is to other high-priced mini-monitors what Italian supercars are to German supercars. The former have soul, the latter have technical brilliance.

With this in mind, what on earth could Sonus Faber possibly offer with the Electa Amator? It differs mainly in details, the most obvious being its cabinet profile, with sloped rear baffle and rea- rather than forward-firing port. The enclosure size of the Amator to the Electa is narrower, slightly shorter but a fair bit deeper.

In order to keep the Sonus Faber 'look' of curved edges, while at the same time trying to accommodate the 180mm driver as used in the Electra, the company cooked up some amazing woodworking techniques which curve the cabinet sides around the edges of the driver. The result is a cabinet which bulges a third way up, and the grille frame has been shaped to compensate for this styling fillip. Under the grille, it's the same leather-clad baffle, but now the speakers are arrayed vertically instead of offset. This is possibly partly because of the relegation of the port to the rear and also by cutting away a fair portion of the 28mm tweeter's surround plate to allow for close coupling of the woofer to the tweeter.

Although the drivers have the same dimensions and identical appearance as those used in the Electa, they differ in a number of ways. The mid/bass drivers' cones have been treated with a carbon/ acrylic coating to decrease resonance and improve linearity, and the drivers are matched in pairs to rid the factory. For the upper frequencies, Sonus Faber has unearthed a new, special driver dubbed the T300D Esotar, originally created by Dynaudio for the professional market. This 28mm dome tweeter is built to zero-tolerance and costs roughly £220 at today's exchange rates, just for the tweeters.

As with the Electa, the Amator is supplied ready for bi-wiring, with easily-removed gold-plated links connecting the four gold five-way binding posts. As before, the owner is treated to solid Brazilian hardwood and Italian walnut, handcrafted to form an aesthetically pleasing, non-resonant cabinet weighting 15kg. Sensitivity is high as 88dB for 1W at 1m, and the company recommends amplifiers in the 50-200W range. But don't think for one minute that this speaker will work well with mid-fi amplification. Considering the hefty price tag of £2250, I had no qualms about auditioning the Amator solely with high-end products. The speakers were auditioned in a room large enough and dead enough to eliminate room acoustics as a variable. A frighteningly lifelike recording of the harp-sichord, Michel Keiner's performance of Bach's Goldberg Variations showed that with the 'super' tweeter in the Amator, the dearer speaker is even faster and cleaner than the Electa; its top end transparency with the grille in situ matches the Electa without grille.

The 'speed' of this speaker is its most remarkable strength, relative to the dearer model's. Of rich wooden resonances, while a cappella showed an almost complete removal of the chestiness noted with smaller Sonus Fabers.

Speaking of 'smaller', the dearer model's slender baffle resulted in even better imaging capability, especially in terms of image specificity. The lessening of reflections by shrinking the baffle is a well-known practice; with the Amator, it means that the Sonus system more closely approximates a point source than does its predecessors.

What both the Amator and the less expensive Electa offer over all other quality mini-monitors — besides the finest cabinetry ever seen on a hi-fi product — is the ability to go loud, to rock hard and to convey power without the listener ever knowing that the speaker is no bigger than the monitor on a PC. The LS3/5A can't take the hammering you can dish out to the Sonus Fabers, while the SL700 simply gives up when driven too hard.

Ask any audiophile, though, what he or she wants out of a small loudspeaker and they'll say 'bass' before they say 'level' or 'dynamics'. The Electa is good enough to satisfy all but those who were weaned on MFIs or big infinity systems; the Amator's extra 5Hz is enough to offer a perceptible gain in 'weight' on the kind of material able to inspire it.

If there are grounds for complaint, it's only when you audition these side by side with some monster system like Divas, with seemingly infinite bass extension, or the WATTs themselves, which have yet to be matched, in my experience, for sheer precision in terms of image-shaping. The transparency, probably the best I've heard from a box with cones and domes, is exceeded by planar systems, but they are, invariably, more space-consuming. We're left with what I think is simply the best all-round small box currently available, regardless of price.

SONUS FABER AMATOR

Manufacturer's specification

System type: Two-way, ported enclosure
Mid/bass driver: 180mm, treated cone
Tweeter: 28mm Dynaudio T300D Esotar dome
Impedance: 8 ohm nominal
Sensitivity: 90dB 1W 1m
Power rating: 50-200W
Frequency response: 45-50kHz ±5dB
Dimensions: 220 x 370 x 350mm W/D/H
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The PD-470 LE (limited edition) is a full-width machine presented in the usual satin-black. Although the price is modest ($275), the face is impressive and complemented by a comprehensive display which simultaneously shows track number, index number, timings and a 1-20 calendar display of tracks. Other information includes repeat modes, tracks programmed (in any order for up to 20), autospace and cue. A well-equipped remote handset is provided, as well as coaxial digital output and a headphone socket, although usefulness of the latter is curtailed by lack of an associated volume control. Standard and 8cm discs may be played without adapters.

Both the remote and regular operating panels have a 10-key array for rapid track selection and programming. Index points can be accessed, while the time button cues the display to indicate successively total time, remaining time, and specific track timing. Such features are now common on all but the most basic designs, and are programmed into the majority of control microprocessors used in the industry.

Sound quality
Reverting to my notes for a standard PD-470, it was obvious that the LE version exhibited superior sound quality. Checking the scores indicated that this was a significant 15%, bringing the overall rating up to 60%, close to the average for modern machines if still a little less than for budget best-buys such as the Marantz CD 150 (68%).

Improvements noted with the LE version were a cleaner, cleaner and more explicit treble, and more detail at high levels and on complex material. Slightly improved focus and a tighter, better defined bass were also apparent. The player was not without character, which I would describe as lean and lively. In the bass there was a feeling of tautness and precision which partly made up for a shortfall in the sense of rhythm and pace. Through the mid-range the quality was mildly 'electronic'—less sweet and spacious than average, and less suited to a bright, forward sounding system.

Stereo depth was average and there was a mild loss in low-level detail and ambience. When present, such detail can help expand the soundstage. With critical material played on headphones, some decoder 'buzz' was audible with very quiet backgrounds, a species of distortion I do not view very favourably. More emphasis should be placed on genuine low-level resolution and less on technical claims for excessive rates of resampling or greater than 16-bit replay.

Technology
Using Burr Brown PCM 56P type 16-bit DACs, the player employs a 4-times resampling digital filter, with the signal chain completed by a thunder analogue filtering. It is here that some improvements have been made over the standard model; for example, by the fitting of good quality polystyrene capacitors for the filter elements and the replacement of a low-grade in-line dual IC op-amp by a superior 5532 type, mounted on a small conversion board. The output chain now has metal-film resistors.

Physically, the 470 has a lightweight build, lacking any special reinforcement or panel decoupling to reduce vibration effects. The CD transport is by Sony, and some of the control ICs also emanate from this source, partly the digital filter. The build is economical, with a single-board construction, while the low power consumption is illustrated by a small mains transformer. The digital output is properly buffered and may be switched out of circuit to reduce radiated interference.

Lab report
It has been noted before that some of the lower priced re-sampled players do not deliver particularly good linearity, and the PD470 was no exception. The linearity graphs are revealing (Figs 1 & 2), showing an imbalance between channels and an increasing error from as early as ~75dB modulation. On the right channel there are missing codes at ~57dB, while at a coded ~90dB the right-channel output is over 15dB low and the left is 12dB down. An attempt was made to recover a ~90dB signal, but as the graph shows (Fig 5) the 470's converters were not working too well at this level. Another indication was given by the dithered tone recorded at ~70dB, where the distortion averaged ~27dB (4.4%), a rather poor result considering that ~40dB (1%) is possible. Fig 4 shows the associated odd-order harmonics. However, high-level linearity was more than satisfactory, with fine full-level distortion results on both THD and IM tests. Much-compressed rock will not suffer any loss through this model, or indeed any music of limited dynamics and minimum low-level ambience.

Turning to the basics, channel balance was excellent, with very good separation at mid band, falling to a satisfactory ~6dB by 20kHz. Measured signal-to-noise ratios were fine at typically 100dB, while out-of-band noise was rejected well and only modest traces of RR signal were present, mainly in the system noise floor. The frequency response shows an HF rise — flat to 3kHz and then lifting to a maximum of 6dB near 20kHz (Fig 5). In addition, the de-emphasis circuit was inactive on the first sample we checked, leaving pre-emphasised discs sounding still brighter. But with de-emphasis working the response agreed with the normalised result within 0.2dB.

The output was a standard 2V sourced from a highish 980ohms. Error-correction was poorer than average, only passing a 0.5mm gap (not atypical for the type of machine), while mechanical noise and shock resistance were not average. A polarity-correct output was obtained, with moderate ringing on impulse waveforms.

Conclusion
I would have suggested a better machine as the basis for a touch of UK sonic tweaking, as the standard PD-470 is exceptional from both sound quality and technical viewpoints. On our first sample the de-emphasis fault was admittedly an isolated error, but the below-par error-correction and indifferent linearity results were not unrepresentative.
MITSUKO UCHIDA
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MUSICAL FIDELITY BI INTEGRATED AMPLIFIER

An editorial decision was made to take a first look at the B1 in 'Pot Pourri' since the early sample obtained was of pre-production vintage (but properly built for all that.) As soon as a working production model is available, a full technical review will appear in in HFN/RR.

Initial indications suggest that this £200 integrated amplifier will cause a major shakeup, thanks to its remarkable combination of technical performance, power, build quality and sound. Rumour has it that in overall performance it could be the best MF integrated yet, irrespective of price. Current MF models may have the edge in specific areas — for example, the A1 in sweetness, the B200 in dynamic power and the A100 in treble purity and power but none of these appear to pack the all-round punch of the B1. Specified at 2x35W 8ohms, the B1 will deliver up to 80W on peaks with a generous 20A peak current, second only to the massive A370 in the MF range. In contrast to many other MF designs, the B1 doesn't care a damn about speaker loading, and runs really cool into the bargain.

Cleanly and elegantly styled, the B1 sports an extruded alloy facia and a close fitting metal case. A straightline design devoid of balance, tone controls or filters, it does have an effective analogue disc input for both moving magnet and moving coil cartridges.

Judging from the results of a couple of hours listening, MF have a winner. In fact, there is every sign that it is unnecessarily good and may prove to be something of an embarrassment due to its ability to reveal source imperfections. Conversely, with good sources it hardly sounds like a budget amplifier at all.

A surprise comes in the bass which is pretty tight — not at all like a small MF amplifier. In the past these have been noted for musical grace rather than bass punch. The tonal quality through mid and treble is fine, while the clarity is high and the presentation of focus and depth is outrageously good for this class of product. It got loud enough with virtually anything to which it was connected. In an audio market where the Chancellor’s fiscal policy may already have taken an excessive toll, MF appears determined to hold on to a healthy share of what is left, by producing an unusually competitive model. For the full story, wait for the complete review — at this point it is certainly a model to look out for.

Martin Collins

TROY TA-110P IN-CAR AMBISONIC PROCESSOR

Whilst investigating the theory of Ambisonics (HFN/RR Feb '89) it was evident that there was a decided lack of available decoders on the market at that time. One company, Troy, was manufacturing an in-car version: this seemed an ideal application for the technology considering a vehicle's inherently bad acoustics.

Having already discovered that 'normal' stereo gave a narrow and frontal presentation, I installed this mobile accessory. I must confess that as this was a short-term test the installation would not have passed inspection, the equipment being left on for several days were rectified. Trevor Butler

Supplier: Musical Fidelity Ltd, Unit 16, Olympic Trading Estate, Fulton Road, Wembley, Middx HA9 0TF. Tel: 01-900 2999

Supplier: Troy Ambisonic, 70 Chobham Road, Sunningdale, Berks. SL5 0PG. (0900) 291150

'direct sound' as well as 'secondary reflected sound'. The rear speakers, however, are mainly responsible for 'primary reflected sound'.

The TA-110P processor measures just 50m205x140mm (hwd) and may be fed with a signal from a car radio, cassette machine, or in-car CD player. The controls are very straightforward: a rotary fader which adjusts the front-to-rear balance, a width knob to govern the 'sound stage' to create the illusion of being anywhere between the front stalls and the very back of the auditorium. There are then just three buttons: Bypass, Enhance, and U11J; one of these must be selected at all times in accordance with the software being deployed.

Bypass is intended for use only when receiving weak radio signals and during set-up. Enhance is the main mode and effectively enhances conventional stereo into Ambistereo surround sound. For material which has been Ambisonically U11J recorded (eg Nimbus CDs) the U11J mode is used to obtain the full benefits. The experience of in-car Ambisonics is one not to be forgotten easily whatever the seating position. Gone are the days when rear seat passengers have to suffer the indignities of an audio system set up for the driver's appreciation. Since the TA-110P is not a graphic equalizer it does not require constant re-setting to compensate for a vehicle's changeable internal environment. The effect is of three dimensional sound in which the listener becomes the focal point, while there is a curious introduction of 'height' to the audio picture. The music is presented at car level rather than rising through one's boots.

The Troy TA-110P is an all-British development and the technique is now being applied to a domestic decoder which will be mains driven. Attempts to use the in-car version in a hi-fi set-up using an external 12V power supply worked well after a few earthing problems were rectified.

Trevor Butler
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DENON DCD 3520

Fig 1. Denon DCD-3520: linearity plot below -60dB

Fig 2. Denon DCD-3520: dithered 1kHz sinewave at -90dB, waveform below and distortion spectrum above

Fig 3. Denon DCD-3520: spurious up to 10kHz associated with 1kHz tone at -70dB

Fig 4. Denon DCD-3520: intermodulation spurious for 19/20kHz tones at 0dB

Fig 5. TEAC PD-470 LE: frequency response, each vertical division=0.5dB

TEAC PD-470 LE

Test results

| Channel balance | 0.01dB | 0.01dB | 0dB |
| Stereo separation | 100dB | 128dB | 94dB |
| Channel phase difference | 0.3° | 0.7° | -1.4° |
| THD 0dB | -96dB | -96dB | -96dB |
| THD <10dB | -96dB | -96dB | -96dB |
| THD <70dB | -96dB | -96dB | -96dB |
| Intermod 19kHz/20kHz,0dB | -96dB | -96dB | -96dB |
| Intermod 19kHz/20kHz, -10dB | -96dB | -96dB | -96dB |
| Frequency response, left | -96dB | -96dB | -96dB |
| Frequency response, right | -96dB | -96dB | -96dB |
| SN, 20kHz/20kHz unwtd | -100dB | -100dB | -100dB |
| SN, CCIR/ARM, 1kHz ref | -100dB | -100dB | -100dB |
| Output level, 0dB | 2.4V | 2.4V | 2.4V |
| Output impedance | 29% -unch. | 29% -unch. | 29% -unch. |
| De-emphasis (error in dB) | 0 | -0.03 | -0.08 |
| Track access time (Tr 15) | 4.5secs | 4.5secs | 4.5secs |
| Error correction capability | gap >2mm | gap >2mm | gap >2mm |
| Mechanical noise | -98dB | -98dB | -98dB |
| Spurious up to 100kHz | -97dB | -97dB | -97dB |
| Resolution at 90kHz, left/right | +0.0dB | +0.9dB | +0.0dB |
| Dimensions (w/h/d) | 43.4 x 28.2 x 8.9 | 43.4 x 28.2 x 8.9 | 43.4 x 28.2 x 8.9 |
| Typical price (inc VAT) | £1,000 | £1,000 | £1,000 |

TEAC (UK) Ltd, 5 Marlin House, The Croxley Centre, Watford, Herts WD1 8YA. Tel: (0923) 225235

Supplier:

TEAC PD-470 LE must be seen as rather a disappointment. Offering unexceptional value and with some evidence of sample variability, a recommendation must be withheld.

Thus any enhancements that might be made to the analogue section cannot show their true potential, and although the sound is certainly improved, the uplift is still insufficient to bring this model close enough to the standard set by the basic 4-times 16-bit Philips machines, even at the £150 level. The latter now deliver a respectable 15.8-bit linearity, so the 14-15 bit performance of the revised low-level linearity was pretty good. Delivering a good sonic standard, the 3520 was certainly in the upper bracket, but was clearly not particularly good value. In fact the DCD1520 delivers a large proportion of this machine's sound at a considerably lower cost.

61 facilities all worked very well but, on the basis of the results for this review sample, the question of long-term drift and the alignment of the D/A converter remains an issue. I doubt if many of the 18- or 20-bit linear players will stay at peak specification over long periods of actual use in the home, so the arguments currently being put forward by several manufacturers for systems with greater than 16-bit replay solution are somewhat academic at present. In other respects, though, it can be affirmed that the 3520 delivered a respectable 15.8 bit linearity, so the 14-15 bit performance of the revised

65 Thus any enhancements that might be made to the analogue section cannot show their true potential, and although the sound is certainly improved, the uplift is still insufficient to bring this model close enough to the standard set by the basic 4-times 16-bit Philips machines, even at the £150 level. The latter now deliver a respectable 15.8-bit linearity, so the 14-15 bit performance of the revised

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Pocket-money miracles have always been the most satisfying problem solvers, so it's with much glee that I announce the availability of two new additions to the Accessories Club catalogue which sell for substantially less than the cost of one full-price compact disc.

The first is the update of a classic product which I've been using for longer than I care to admit. Without wishing to inspire some tedious 12-page missive from Keith Hunt, I swear allegiance to the near-legendary Decca carbon fibre cleaning brush, which was probably the first of its type. (I'm sure that Keith will correct me if I'm wrong...)

Anyway, the familiar, slim-handled black-bristled brush has been replaced by the clever new Decca 2 plus 2, with alternating black and yellow bristles. The new bristles, nestled between the carbon fibres, are said to be made from aromatic polyamides, but I couldn't smell a thing so I'm at a loss to tell you why Decca is making such a big deal. What I do know is that the new brush is even more effective at discharging static than its predecessor, and that it picks up even more micro-dust.

The improvement is partly down to the reason for the '2+2' nomenclature. Not only does it refer to the two types of fibres, it also identifies the cleaner as sporting two lengths of fibres. One side is for normal use, with soft, flexible fibres, while the other side is for rougher, longer and therefore harder bristles. All you do is slide off the handle, reverse the brush and the other side is ready for use. I prefer the longer bristles, but the shorter ones came in handy on some second-hand discs which needed a rather serious clean.

The other bargain this month is one I've been screaming for ever since I learned that 19mm spaced banana plugs are the easiest, most straightforward and practical of all the myriad connectors I've faced. Vecteur, manufacturer of some rather complex speaker pre-LAST Power Clean dust-off. The Decca 2+2 will carry the legend into the next century, judging by the longevity of its predecessor.

Ever on the look-out for worthwhile accessories which don't cost the earth, the vigilant Ken Kessler has located two which sell for under a tenner each:

'audiophile' spaced bananas and an all-new Decca record cleaning brush!
The table contains specifications for different audio systems, including speakers, amplifiers, turntables, and options. Each entry is listed with pricing details. The table also includes a section for CDs and a note about saving money when purchasing a complete system.
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A psychology of recording

by Christopher Breunig

MITSUKO UCHIDA

After Mozart, Debussy. But what of the long term?

A favourable acoustic, and music Mitsuko Uchida has been playing since she came to recording Debussy’s twelve Etudes. ‘The wind howls there, you see, and there are aeroplanes – RAF aeroplanes training, and so on. If the weather is filthy they don’t fly, but if the weather is filthy there would also be a howling wind. We almost lost a whole day, because in Debussy there are so many pianissimos.

The recording followed a Queen Elizabeth Hall recital in April, Uchida had programmed the studies in Austria, Holland, Germany, and England.

There’s one aspect of my technique that suits Debussy’s music; which is lightness, fastness, and flexibility. And when you have this it is a first step to a certain natural playing of Debussy. Flexibility and lightness doesn’t help at all playing Beethoven – then I really have to work very hard on the sound.

At first, you don’t think they are that difficult – I started playing the Etudes when I found everything difficult. I didn’t see any difference between the difficulty of the Debussy and the difficulty of a Mozart sonata. So, I started them very early. When I took them up later on I thought “oh, they are okay”; but when it came to the crunch: God was it very hard! Because, compared with the Préludes, the extent of concentration is incomparably higher. In spite of all the changes – and you have to be ready for every one – you also have to have a clear vision of the whole piece. The tightness of every event is quite stunning. After having recorded the Etudes, and doing a TV version of it, I came home and sat down, played the Préludes, and thought “I must have been mad…”.

Was it your suggestion to Philips? Because they are not that common.

That is why I wanted to do it. Especially at a concert, hardly anyone plays all 12 in one go. As a set, yes; a few in combination with other things. But I believe in a group to be formed. That conviction I probably when I played the Mozart sonatas for the first time, complete, in public. You have a totally different vision and experience of the whole thing. But what did you think, as a listener, to hear them? It wasn’t difficult to come to them, as a listener. ‘I bet not. Because there is so much life, such funny moments here and there, so much imagination; flight of imagination, and strange vision. It’s like looking at – what do you call that thing? Kaleidoscope. ‘Yes, I can go on for ever! There’s nothing monotonous about them being études, not at all. Whatever technical purpose the composer might have had, no music should ever sound… It is, utterly, my personal problem if I am playing: I should present it at a stage when it feels easy, looks easy. Even when I am suffering! No-one should know. That is something I believe in: that you just get the essence of it, and “wow” was it tough.

Can we jump to the television programmes you did on Mozart, with Jeffrey Tate? Was the first [on the C major Sonata] improvised, or scripted?

Both programmes where I was participating there was no script. For the solo programme I devised, like a sonata form, a structure; what I had to say. I had worked out vaguely how long each section might take, thought about it a lot, and then “bang!” off we go. They just needed to splice out a few mispronunciations.

Did they try to dissuade you from talking about subdominants – it was quite technical!

It was quite a struggle in that first place to get that little sonata to be accepted: everybody wanted something more obviously dramatic, like the A minor. The little C major fitted my scheme very well, because it was so concentrated, but concise. If I had started off on the C minor Fantasia and the Sonata I would be talking very vague stuff, the mystery of Mozart without the details. Would you like to do more? One hopes…

‘I’d love to. I did a fairly conversational piece for German television on the Debussy Etudes. Twenty minutes of talk – of course we recorded something like an hour. The producer threw ideas, questions at me. The only condition was that whatever I said I would have to produce on the piano. Somehow I didn’t take it in clearly, and I said “after Wagner’s chromaticism Schoenberg was inevitable”, and he said “Show me some Wagner”. Ach! Tristan und Isolde, or something like that. We talked about concepts: what Debussy did, what the meaning was, what his special way of thinking was – how he opened his own new world and established his clear language.’

So, what comes next?

‘I don’t know what to bring out now because, from my Mozart experience, I am convinced should I ever record Schubert sonatas, which I would love – it has been my greatest love – I shall do so only when I have been playing them as a set. It is different from studying them, or playing them in public one by one. It will take a long time.

‘So you will give cycles in concert, then?’

‘That would be in the not too near future. I am planning to do, for instance, some Impromptus in concerts, and if they are ready I might record them. Or I might have a couple of late Chopin pieces, including the Polonaise-Fantasy. They are wonderful pieces: the Barcarolle, Berceuse, some of the late Mazurkas; late 2, 3, 4, 5, 6. The last Scherzos or something like that. But I was thinking in terms of Schubert and Beethoven. I shall take a lot of time: five years, if I am lucky. Because then the concepts are coming up in concerts. In terms of solo music I might, in secret, try out the Diabelli Variations in a couple of years. So I shall build up a Beethoven repertoire, thinking of him in
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Kathryn Stott
termeds of ten years or so. And in between I think I shall pick up everything, and do probably quite a lot of 20th-century music, including Schubert, Haydn, Schoenberg — definitely Schoenberg. I adore the Concerto!

'I hope I shall have it ready for recording in the not too distant future; but the difficulty is what to combine it with. Alban Berg: there is the Sonata, and the Chamber Concerto. That is definitely on the agenda. Webern I play anyway. And... sneaking in, in some 20th-century music that people don't know, or people wouldn't recognise: as encore pieces.

What about song?

'I don't think even as part of my preparation for Schubert sonatas I will look at songs, ideally with a German-speaking, a German national, in Schubert songs. As I myself have an odd Viennese background I want people who would be actually reciting the poet you do the Seven Early Songs, it's fantastic who would be actually reciting the poet. Albright Berg: there is the Sonata, and the Chamber Concerto. That is definitely on the agenda. Webern I play anyway. And... sneaking in, in some 20th-century music that people don't know, or people wouldn't recognise: as encore pieces.

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You do the Dichterliebe of Schumann, preferably for. From a big company's point of view it is, or people wouldn't recognise: as encore pieces.

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Students together at Budapest, now teaching at Colorado and at Guildhall; recording for Decca

by David Nice

Bartók was the recurrent strain in my conversation with Gábor Takács-Nagy, who seemed as keen to return to the point as I was. Hardy surprising, perhaps, since the Takács Quartet had just been immersed in a second Bartók cycle in London. The first was back in 1985 at the Wigmore Hall, where the companion works were Beethoven's Rasumovsky quartets. How had it changed for the players?

'Well, three years makes up quite a long time in our lives, since we have been together for nearly thirteen. I can't say how things have changed in detail but I would have to go back and listen to the recordings we made for Hungaroton, and then I could tell you. Now we have on loan to us four Amati instruments; then I was playing a Stradivarius, and the others [the second violinist Karoly Schranz, the viola player Gábor Ormai and the cellist András Fejer] had no such good instruments. Sometimes when I want a bigger sound I return to the Stradivarius, but with the Amatis there is a brighter tone for all of us. I think perhaps our attitudes have matured, especially towards the Third and Fourth Quartets. You know how Bartók changes completely after the First and Second, when he breaks out of the classical forms — perhaps we have found more energy there.'

As a Hungarian, Takács-Nagy has always found Bartók a familiar presence. 'When I was in the kindergarten at the age of 5, they taught us Hungarian folk-songs — so I recognised many of them when I heard them in Bartók's music. And of course his writing is very bound up with the Hungarian language — ta dum, ta dum, always the accent on the first syllable.' The Quartet was able to forge other links with a tradition. 'In 1981 we went to Canada to study all six quartets with Zoltan Székely, who was a close friend of Bartók's and founder of the Hungarian String Quartet. And he was able to tell us more than was printed in the score — where Bartók wanted the Hungarian Quartet to play just a little faster, where he wanted more expressive playing. He told us that they worked very hard on sudden dynamic changes.' Those split-second changes struck me as hallmarks of the Takács's second cycle. They helped, surely, to add a sense of danger, of never being quite sure what's around the corner? 'We try not to think what's going to happen next. When we're playing a crescendo, and immediately afterwards there comes a subito piano, we try to keep our minds on the crescendo so that no-one will know what's coming. We try to play Bartók as if we were composing. It should be true, of course, for any other composer. It must be fresh. Every time I return to Bartók, I want to feel that incredibly fresh inspiration.'

Székely was one influence — Takács-Nagy reflects on their work with him — and too was the viola player of the Hungarian Quartet, whom they visited in the United States. Earlier teachers at Budapest's Franz Liszt Academy, where all four players studied, are remembered with affection, above all György Kurtág — 'a fantastic composer but also a genius in teaching, an amazing mind' — and András Mihály. 'There are other great teachers there — they would be world-famous as artists if they had travelled more. I'm proud to have come from Budapest, because Hungary is a fabulous training-ground — not only for Bartók, but for other central European composers. We learned as much about Beethoven, Mozart and Haydn there.'

Now the Takács players are passing on their experience to a younger generation, as the quartet-in-residence at the University of Colorado, where they have lived for the past three years. 'It's a very important base for us — we have our own studio, and after a tour we need to rehearse solidly, for perhaps three weeks. We use a tape-recorder in rehearsals, because it's very important to be able to listen to yourselves. Everything is better in course of performance, but in rehearsals for a while we need to take everything apart and listen carefully, and the recorder is a great help. Time to reflect is important, too. I can't imagine travelling all the time and stopping in one place for maybe three or four days. They seem to like us in Colorado; it's an inspiring atmosphere.'

Has the Colorado arrangement in any way impeded their tours? 'No, they give us a great deal of freedom. Of course, it's good publicity for the university — when we record for Decca, we mention the name, and so on. And while we are there, we teach, and we play six quartets a year. Do they enjoy the teaching? Yes, but our English is not so good, it's hard to work for four or five hours at a time. But I have learned so much from it — from other teachers and players. We have also been teaching at the Guildhall School in London. There's fabulous talent there: I was surprised by the quality of two of the quartets we worked with.' The outside influence of other musicians is important, too. 'We've built up a very good relationship with András Schiff, and four times now we've played on a Mediterranean cruise — we made good friends with artists like James Galway.'

They are lucky, too, that Decca wants to cover so much ground with them. The recording contract, which he describes as 'one of the biggest things in our lives — the other was the loan of the Amatis', continues with Haydn, Mozart, Dvořák, Brahms and Schubert. 'That'll take seven years. And then maybe Beethoven. The cycle we are playing at the Wigmore in 1991 is a big challenge to me. We have played his quartets before, but we don't have that much experience; I would like... firmly in my repertoire too. But we must be a little older.'

Concentration on a single composer is Takács-Nagy's preference. 'When we were working on Haydn, we were thinking only that he is one of the biggest geniuses, and there was no need to think of his place in relation to Mozart and Beethoven; and when we played all the Bartók quartets, we could think only how proud we were that he is Hungarian and the greatest composer of the 20th century. András Schiff knows how we feel, he was telling me how he played all the Mozart sonatas, and now he feels closer to Mozart — he cannot tell in what way especially, but he knows it is different. You can somehow look a little closer inside the mind when you are working on cycles. And maybe as a quartet we have our own special sound, our own character, but we are always thinking more about the composer. That's what is most important.'

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SEPTEMBER 1989
Barry Tuckwell continues his search for a wider horn repertoire: in July he undertook a programme of music by Charles Koechlin (rarely recorded in any form). For ASV he played the Horn Sonata, and a selection of Sonneties; Daniel Blumenthal was the pianist. Koechlin himself played the natural horn; a new biography by Robert Orledge is published this month, and a TV Koechlin documentary by Barry Garon will be screened in November. Dates in February are pencilled in for Tuckwell to make a new Decca recording, with Ashkenazy, of the R Strauss Horn Concertos.

The Royal Liverpool Philharmonic Society has introduced a Youthcard, enabling under-18s to attend Wednesday/Saturday concerts at half-price. Students, holders, and disabled patrons can now enjoy a 25% ticket discount on advance purchases.

Libor Pesek opens his third RLPO season with the first British performance of Schnittke's Concerto grosso 4 - Symphony 5 [available on CD from BIS: Gothenburg/Järvi]. Schnittke will attend, on Sept’ 20. He has also agreed to write a new orchestral work for the Society. Vernon Handley will conduct that to his first Principal Guest Conductor. A subsequent recording of Vaughan Williams's Sinfonia Antartica looks a possibility, next April.

In July, St John’s Smith Square was the venue for a new Philips Magic Flute by the ASO under Sir Neville Marriner. A starry cast included Kiri Te Kanawa, Francesco Araiza, Samuel Ramey, Eva Lind, Olaf Bär, and Jose van Dam.

London Musici is a new chamber orchestra, under contract to Conder. To follow their first CD, of concertos by Malcolm Arnold [see reviews], is a selection of Mendelssohn’s early String Symphonies - now increasing in popularity with the record companies. Founded by Music Director Mark Stephenson, London Musici included Richard Rodney Bennett’s cantata Ophelia, at their debut concert in April. Their first CD is planned over five years.

The new London Classical Orchestra made its Barbican debut in July; the first five LCO CDs on Virgin Classics were supported by a massive promotional campaign. Artistic Director Christopher Warren Green apparently believes his orchestra has found its ‘own goal’ to the survival of elitism in classical music, as distinct from the work of established chamber orchestras like the ASM or Orpheus... A few coloured drapes over the concert platform, and tepid admixes of pastiche Barber/TV jingles encouraged with amplified percussion seemed like an ‘own goal’ to me. But the age-30ish middle-class audience did give it a standing ovation!
LONDON
MUSICI
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A group of established London orchestral musicians has come together to form a brilliant new chamber orchestra which has been snapped up by the adventurous Conifer label with an exclusive long-term recording contract. London Musici's director, Mark Stephenson, combines enthusiastic vigour with musical authority to produce from his colleagues the kind of sparkling performances that are all too rare on the London scene nowadays. Conifer is proud to welcome this brilliant new chamber orchestra to its label.

London Musici is different because it is not just a pick-up band, but a dedicated team. Dedicated not only to superlative performance standards, but also to new music, musical education and the encouragement of fine London-based solo artists.

Their first Conifer recording encapsulates this vision, with recordings of four concertos by Malcolm Arnold revealing a more serious musical voice than we sometimes associate with this composer and featuring five first-class soloists. Mark Stephenson directs with great flair, and the commitment of the players shines out in their first recording. Made by Mark Brown (producer) and Antony Howell (engineer) in the glorious acoustic of Snape Maltings, the recording is of demonstration standard, allowing the atmosphere of vital music-making to speak for itself with quite exceptional clarity and finesse.

Their next recording of Mendelssohn String Symphonies, also made at Snape, will be available in the autumn.

ARNOLD: CONCERTO FOR TWO VIOLINS AND ORCHESTRA, OP. 77
CONCERTO FOR CLARINET AND STRINGS, OP. 20
CONCERTO FOR FLUTE AND STRINGS, OP. 45
CONCERTO NO. 2 FOR HORN AND STRINGS, OP. 58

Kenneth Sillito & Lyn Fletcher (violins), Michael Collins (clarinet), Karen Jones (flute), Richard Watkins (horn), London Musici / Mark Stephenson. CDCF 172 (CD) MCFC 172 (MC)

Malcolm Arnold . Martin in the Fields where they perform regularly.
HUI NEWS & RECORD REVIEW SEPTEMBER 1989

CLASSICAL REVIEWS

ARNOLD
- Piano Concerto No. 1

BARTOK
- Divertimento for Strings

BERLIOZ
- Symphonie Fantastique

BEETHOVEN
- Symphonies 2, 4, 8, 9

Britten
- Cello Symphony

BRUCKNER
- Symphony 7

BUDAPEST SYMPHONY ORCHESTRA
- Haydn: Mass in B-flat Major

HANDEL
- HWV 115

HAYDN
- String Quartet No. 5

JOHANN STRAUSS (FATHER)
- Die Fledermaus

JOHANN STRAUSS (SON)
- Der Zigeunerbaron

RACHMANINOFF
- Piano Concerto No. 2

SCHUMANN
- Symphonic Poem

WALTON
- Belshazzar's Feast

COLLECTIONS

ENGLISH MARCHARDS
- The Royal Armoury

MARCUS TIPPO
- Concerto for Violin

HARKEN HANSENBERG
- Symphony

ANDRE KATTs
- Cello Concerto

OSCHEA LYRE (Early music)

REFLECTIONS

J. S. BACH
- Brandenburg Concertos

HAYDN
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SCHUMANN
- Symphony No. 2

BRUCKNER
- Symphony No. 7

COLE
- Concerto for Strings

HAYDN
- Symphony No. 87

HAYDN (Fifteenth Symphony)
- Symphony No. 87

HANDEL
- Messiah

RACHMANINOFF
- Symphonic Dances

TCHAIKOVSKY
- Swan Lake

BRAHMS
- Symphony No. 1

SCHUMANN
- Symphony No. 1

STRAVINSKY
- The Rite of Spring

ROCK/POP/JAZZ

ANDERSON BROTHERS
- The Anderson Brothers

HILLIARD
- Madrigals

DOUGLAS CROCKETT
- Prince's Batman album

VARIETY
- Current Hit Parade

INFORMATION

CLASSICAL REVIEWS are based on the Compact Disc, unless indicated (LP). The catalogue number is followed by total playing time, and equivalent LP/MC (Musicalettes) numbers. ** indicates non-mono recording, ** indicates date of first UK release, as on LP. KP.MCN are based on the LP. POP/JAZZ are based on CD, unless stated otherwise. Equivalent MC number is given in brackets. (NB. Musicassettes are not reviewed in HFN/R.) RATINGS Recording and Performance are separately graded as a summary of each review. In Rock/Pop/Jazz the numerical rating also reflects musical content. An additional star — A* or 1* — denotes outstanding quality. © H-F News & Record Review
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BARBER: Cello Concerto/Britten: Cello Symphony
Yo-Yo Ma (cello), Baltimore SO/Leppard
CBS CD 44900 (62m 02s) (also MC)

These two works, one lushly romantic, the other heady with its outer debuts, make strange bedfellows, and both soloist and conductor seem more comfortable with the first than with the second. The Cello Concerto is admittedly not the greatest of Barber's three instrumental concertos – the first movement is a bit woolly, though

first than with the second. The Cello Concerto is undoubtedly the finest of Barber's three instrumental concertos – the first movement is a bit woolly, though compensated for by the eloquent lyricism of the Adagio, and a finale of genuine passion. It is plausibly orchestrated, however, and

appropriately perhaps, with Shostakovich's very fine and full-blooded one — is by

Barber's three instrumental concertos — the first movement is a bit woolly, though compensated for by the eloquent lyricism of the Adagio, and a finale of genuine passion. It is plausibly orchestrated, however, and

makes considerable demands on the cellist. It is plushly orchestrated, however, and

makes considerable demands on the cellist.

Yo-Yo Ma (cello), Baltimore SO/Leppard

In short, pithy, approachable modern works, inventive, essentially non-derivative in expression.

[April 1989]

RECORD OF THE MONTH

MALCOLM ARNOLD

Concertos for Two Violins and Orchestra
Concerto for Violin and Strings
Concerto for Flute and Strings

London Music Hall

London Music Hall

London Music Hall

London Music Hall

Malcolm Arnold conducted: Karen Jones flute
Richard Knipe recorder
Kenneth Sillito, Lyn Fletcher (vlns);
Michael Collins (clt)/Karen Jones (fl)/
Richard Watkins (hn)/London Music Hall

Conifer CDCF 172 (56m 25s) (also MC)

Anyone who has the Hyperion recordings of Malcolm Arnold's chamber music will be curious about this set of technically demanding three-movement concertos, written variously for Menuhin, Thurston, Adeney, Brain, and performed here by a new orchestra conducted by Mark Stephenson. Their young Music Director spent time discussing the scores in detail with the composer, before the Snape sessions for this Conifer debut – digital 2-track stereo recordings (Mark Brown/ Anthony Howell), free from subsequent mixing or dynamic compression, we are told. Certainly, the recordings are expansively staged – an image both deep and wide – and with the soloists given a

positive direction and Chandos's incisive recording tip the balance. With the

Britten Ma again comes into competition with Wallfisch in another excellent performance. More significantly perhaps, he comes into competition with the Rostropovich/Britten original. He and Zinman fail to match the incisiveness of Wallfisch BEDFORD, can nor can they equal the inspired improvisatory character of the original version. But for those desirous of having both works on one disc there is, of course, no alternative to this. [A1:2]

Kenneth Dommett

BARTOK: String Quartet 6 □ Piano Quintet
Chilingirian Q/Steven de Groot (pno)

Chandos CHAN 8660 (69m 12s) (also LP/PMC)

When reviewing the Chilingirian's recording of the 3rd, 4th and 5th Quartets recently wondered what they might choose to couple with the 6th (which completes the series). I had not reckoned on the early (1905) Piano Quintet but I must say that it is a welcome choice, and good to have a new recording of it done with such verve as De Groot and the quartet bring to it. (I am not aware that anyone has done it since it appeared in Hungaroton's Complete Edition many years ago.) It is a spacious work, full of intriguing touches, but quite unrepresentative of the familiar Bartok – in fact it sounds more like Dohnanyi, which is not surprising given that the old master exerted a considerable influence over the young composer at this time. The contrast between its confident Romanticism and the bleak melancholy of the Allegros have a restless, energetically bustling but far from empty-headed manner, with characteristic fingerprints like the little whirring slides for wind soloists (which perhaps make it advisable to ration listening to this CD). Slow movements are often haunting in their simplicity, eg the Andante grazioso in that for horn; whilst the first violin starts with a late-Beethoven fragrance (getting tougher in craggier tuttis). In short, pithy, approachable modern works, inventive, essentially non-derivative in expression.

[April 1990]

Max Harrison

BEETHOVEN: Symphonies 2 & 4
NDR Orch/Wand

RCA RD 60058 (68m 04s) (also MC)

These two recordings, made in Hamburg at the end of 1988, complete Günter Wand's Beethoven cycle. (Now that DHM recordings are distributed by BMG Classics, the complete set will reappear shortly.) It's a cycle which I would regard as the modern replacement for the Klemperer, sharing something of its harsh musical integrity, though often with allegros which have a whiff of Toscanini in their directness. An acoustic clouding mars this final pairing, which I think brings comparative disappointments: one is conscious of the lesser than 'Perfekionsorchester' at Wand's disposal, of ensemble lapses, and an occasional flagging. Possibly the hall used slurs the ends of phrases – but I suspect that, in any case, Wand was so scrupulous in this respect, Wand now does not always get that sort of articulation. The CD editing is very odd, in that the two slow movements are isolated with extended pauses: 2(1) 1:2s 5s; 4(1) 1:2s 12s. A 12s gap separates the two symphonies. In Four, there is little mystery in the slow introduction, nor does the Allegro flow in the Furtwängler manner, but rather briskly with war-like

character of the original version. But for those desirous of having both works on one disc there is, of course, no alternative to this. [A1:2]

Kenneth Dommett

BAX: Symphony 7 □ 4 Songs★
LPO/Thomson/Martyll Hill (ten)★
Chandos CHAN 8628 (70m 23s) (also LP/PMC)

This effectively replaces the fine lyrta performances by the same orchestra under Raymond Leppard, which has served us well since 1975. Leppard was particularly successful in the central Lento, which conductors seem to find hard to bring off, but I prefer Bryden Thomson in the outer movements. These sound more strongly motivated, and the new recording of course has much greater presence. In fact Symphony 7 is one of the composer's greatest works, and the Thomson reading, with seven variations, the last of which is an epilogue, and this has an emotional feeling of finality, at least in this performance. BAX had plenty more music to write when he finished this 1939-9 score, yet it was essentially his last major piece.

Leppard's Seventh filled its LP but here we also get four songs with orchestra – 'Glamour' and 'A Lyke-Wake' unpublished and unperformed in Bax's lifetime, and 'Eternity', for tenor, heard no before heard in its orchestral version. The first of these and 'Slumber Song' have words by the composer himself. 'Glamour' (a term used here in the sense of magic or enchantment) was recorded by Rodney Newton from manuscript indications in the piano score and he has made a very Baxian job of it. Hill sings admirably, too. [A1:1]

Kenneth Dommett

HOT NEWS & RECORD REVIEW
SEPTEMBER 1989

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BERLIOZ: Symphonie Fantastique □ Lélio, or the Return to Life

When Eliahu Inbal's Fantastic Symphony arrived for review there was no hint that it would also appear with Lélio; but here it is, so readers are referred to my July report for the symphony [A1*1/2]. Berlioz's sequel is a curious collection of odds-and-ends linked by a spoken narration, in which Lélio bemoans his fate, goes off into reveries, harangues the audience on Life and Art, and provides a quasi-rational for the six interspersed pieces of music. The Davis version omitted the narration altogether, while here we have the full French text, delivered by Daniel Mesguich in an intimately close coupling the approach is more unbuttoned, octave-leap motto, marcato, at (i)401 — just the right level. The recapitulation. The exposition repeat is not made. This new recording is interesting in its exploratory way, yet a feeling persists that the idiom is ultimately elusive. In the coupling the approach is more unbuttoned, and the bass drum literally shakes the room: a final sonic surprise from what is a rather vaguely focused Herukhata production. [B2/3/1]

BRUCKNER: Symphony 7 in E (Nowak Edition)

This is a very beautiful performance of Bruckner's score — not one page of it leaves one gasping for breath, and does not quite live up to Gilfini's conviction and the commitment of the Philharmoniker. It does seem to me, however, that one is reading of remarkable self-indulgence, with tempos in the first and last movements not only even slower than those of his Chicago reading for EMI in 1977, but absolutely the longest-playing of the 25-odd known to me. They are firmly sustained, but they do give this grand, masterpiece a quality that lessens its impact. He takes the Scherzo faster now, to its advantage; and there are wonderful passages which precisely catches the music's eb and flow. The warm, sonorous recording (Philharmoniker) makes them absolutely distinct. In the Variations is given top billing by Katsarais for Clara Schumann's benefit. Here again Katsarais uses a wide and unobtrusive range of dynamics, reaching the sonorous textures, and is a performance of vivid intensity and flowing beauty. The warm, sonorous recording allows counter-melodies and accompaniments to stand out, making the repeating of the idiom's underlying figures less imperative. Of CD versions I would rate this alongside the Haitink and Karajan performances. [A2]

BRUCKNER: Symphony 9 in d

This month Sir Colin broadens his recorded repertoire with a Bruckner Mass [Philips: to be reviewed] and his first Brahms symphony.

His spacious treatment of the D major you may recall from earlier broadcast concerts eg with the Boston SO; but this seems a less austere, more melllow account than before. One of the advantages of working with the Bavarian RSO, Sir Colin once declared, was its generous preparation time. Yet here there are minor lapses in the orchestral intonations, and the occasional awkward passage exposed — largely because, sacrificing dramatic effect somewhat, this is a reading which clarifies Brahms's inner textures, discretely articulating the layered implications of the music. The newly transferred Kubelik/Orfeo Brahms set (3CDs) allows the most direct comparisons and, frankly, Kubelik's Second is better played in a more convincing in its organic eb and flow. Both Bavarian RSO versions sound remarkably alike in the unusual prominence of their four horns' octave-apart motto, marzufa, at (i)401 — just before the opening of the movement's first phrase in the recapitulation. The exposition repeat is not made. This new recording is interesting in its exploratory way, yet a feeling persists that the idiom is ultimately elusive. In the coupling the approach is more unbuttoned, and the bass drum literally shakes the room: a final sonic surprise from what is a rather vaguely focused Herukhata production. [B2/3/1]

CYPRIEN KATSARIS (pno)

VPO/Giulini

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Max Harrison
I cannot imagine anyone feeling comfortable with this 'New World'. [If you want something better, that is the DG 'Privilege' CD], BPO/Kubahik, with Scherzo Capriccioso, on 427 386-2. [You may, for instance, want to switch off the machine after absorbing the largo: most conductors take from 12-13m over it, Bernstein's spans 18m 2s. Heaven knows what personal dedication lies behind this reading - still, with the flurry of animation, before the cor anglais is heard again, like a gash in a huge white canvas. To me, it sounds like a hymn, a threnody for the dispossessed. Distant homelands: people obliterated. But that's my subjective response.

To say that Bernstein slows, speeds, and then exaggerates, is unhelpful (and no more than one would expect). It is suggested that, by his talents, Bernstein uniquely has earned entitlement to recreate, to take over other composer's works. He clearly does so here in a performance (Salle Pleyel) which is un-Dvorakian, yet which highlights an undreamt amount of the inner scoring. It is rather like seeing a well-known painting, where someone has cut our details and mounted them three-dimensionally, in differing depth-planes, and trying to relate that experience to the original. That is, Bernstein distorts the time-scale of the music - yet I think no-one could find the Largo tedious (the solo cor anglais is most poetically played by Merrill Greenberg) - manipulating huge blocks of symphonic content. His scherzo is between 50-90s quicker than most conductors' - even faster than Toscanini's 1953 RCA.

The scherzo ends to silence but, wisely, the producer has left in applause after the three (Mann Auditorium) Slavonic Dances. The playing has some rough edges, but there was obviously some compensation required for the home listener deprived of seeing these climax. Again, Bernstein penetrates deep into the realms of possibility, although his are far from 'straight' readings. The Paris recording is thick-sounding, and possibly some post-production decay is added, but the image is solidly defined, with powerful timps from the back of the stage. As he did in his 1962 NY recording of the symphony, Bernstein takes the repeat in (1), DG's cover artwork is especially and unusually charming.

FAURE: Requiem (1893) □ Cantique de Jean Racine □ Messe Basse □ Tantum Ergo □ Ave Verum
Seems, Poulenard (sop)/George (bass)/Scott (org)/Corydon Singers (RPO)/Best Hyperion CD66292 (58m 14s)

Recordings of Faure's Requiem appear with unsurprising regularity, often coupled with the Cantique, Messe Basse and various motets. Three recent recordings of some or all of these works have been reviewed this year alone (February and two reviews in March). So what's new about this one for Hyperion?

The 1893 version of the Requiem is recorded here, to contend with John Rut- ter's recording (originally for Conifer, it is not turnd in the way that I found Dutot's with the Montreal Symphony Orchestra and Chorus for Decca. The Cantique is accompanied by John Scott on the organ, and not by lower strings and harp as usual. Dutot is better for his recording. Best obtains a broader, fuller performance of all of these works than is to be found on Meridian's recording of Clark College Cambridge Though they are), and the Corydon Singers' soloists in the Messe Basse are extremely good. John Scott's organ registrations are more supple than those obtained on the Von Beckerath organ at Clare College, and there is a greater dynamic range all round from the Corydon Singers.

The acoustic at St Jude-on-the-Hill, Hampstead is warm: this probably helps the broader, fuller performance from the Corydon Singers, and hence the choir sound well-rounded - yet still distinct - unlike the sound moulded in the drier acoustic locations at Clare College and Montreal. If I have a complaint about this Hyperion recording, it is that the organ's action is quite noisy, although this doesn't affect the recording. For me, however, this performance provides a welcome opportunity to hear one of the most welcome musical benefits of Soviet glasnost is the wider dissemination of music by Russian-born composers. Born in 1931, Sofia Gubaidulina is hardly a young-
This exhilarating trio of symphonies Haydn’s visiting-card to his new employer and orchestral colleagues at Schloss Esterházy in Eisenstadt – calls for playing of the greatest wit, skill and precision. There are admirable features in Cantilena’s performance of them – a desire not to force the music, some fine solo playing; yet the pulse lacks vitality at times, and the string attack is inclined to spread. The recording is goodish but over-resonant. Martin Roscoe responding to the unfulfillingly effective, keyboard textures with much superb playing – one cannot imagine better performances, nor ones better recorded. This is especially so in the biggest and most developed piece, An African Shrine, which lasts over 25 minutes and was composed in 1966 for John Ogdon. The remaining items are of varied inspiration, the Samarinda piece being prompted by 1960s hippies travelling east, the St Anthony one by a situation in Northern Ireland, and so forth.

Peter Branscombe

This third offering from Adam Fischer and the Austro-Hungarian Haydn Orchestra is more generous, and musically more pleasing, than its two predecessors. In the resonant Haydnssaal of the Esterházy Palace at Eisenstadt the winds make a cleaner impression than the strings, which are often rather muddy, and not quite precise in ensemble. The recordings are for the most part straightforward, unsuitable, with rather heavy emphases – eg 94 (iii) of The Concertante has good solo contributions (Küch and Werba, violin and bassoon, are also the soloists in Bernstein’s recording with the VPO), though tiny flaws and the rather aggressive sound quality and musical approach limit my enthusiasm. [B:2/3] Peter Branscombe

Christopher von Dohnanyi’s claim to an ‘objective’ Mahler, like it or loathe it, has fuelled the debate over Mahlerian mannerism and mannerism. Close on the heels of his Cleveland Festival’s recent version, from Berlin, which adds nearly 15 minutes to the symphony’s duration: several more even than Bernstein. The problem is compounded by the conductor – that same Haitink who in the ’90s and ’70s attended so much to the “real” Mahler. The Octet is emptily virtuosic, and all the more so. Haitink has something like the Midsummer Night’s Dream Overture of the following year, is among the greatest feats of teenage creativity and eternal freshness. Or should be. One hardly gets such an impression from this ill-focused and under-motivated performance, which is far from showing the Octet – or the symphonies – to full advantage. Nor is the recording well balanced. The Octet is, after all, a chamber work, and the requisite intimacy is quite lacking. [C:3]

Max Harrison

These soulless performances of early Mendelssohn, led by Thomas Furt, may typify Swedish precision so far as mechanical ensemble goes, but they are shallow in expression, and unsinging. An ultra-fast Presto finale in the Octet is emply virtuosic, and all the pieces (the symphonies from a series of an African Shrine) are messily recorded. Both St Martins’ recordings of the Octet are now on CD: see ‘Reflections’. Superior versions of Symphonies 9, 10, 12 are on Hyperion CDA 66196 (Lond Fest Orch/Pople). [B/C:3] Christoph Breuning

Christopher Breuning

Lloyd: The Road Through Samarkand
St Anthony and the Bogodes Beggar
Aggressive Fishes
Intercom Baby
An African Shrine
Martin Roscoe (pno)
Albany AR003 (56m 24s)

These five pieces are fluently written in an entirely traditional and Romantic language, in fact with impressive resource and invention in both musical and pianistic terms. Martin Roscoe responds to the unfailingly effective, keyboard textures with much superb playing – one cannot imagine better performances, nor ones better recorded. This is especially so in the biggest and most developed piece, An African Shrine, which lasts over 25 minutes and was composed in 1966 for John Ogdon. The remaining items are of varied inspiration, the Samarinda piece being prompted by 1960s hippies travelling east, the St Anthony one by a situation in Northern Ireland, and so forth.

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Mendelssohn: Octet

The symphonies date from respectively 1821 and 1823, and are from a series Mendelssohn did for his teacher, Zelter. They are highly accomplished yet, reasonably enough, show no individuality. A breakthrough came in 1825 with the Octet, which, like the Midsummer Night’s Dream Overture of the following year, is among the greatest feats of teenage creativity and eternal freshness. Or should be. One hardly gets such an impression from this ill-focused and under-motivated performance, which is far from showing the Octet – or the symphonies – to full advantage. Nor is the recording well balanced. The Octet is, after all, a chamber work, and the requisite intimacy is quite lacking. [C:3]

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Max Harrison
excellent Orpheus strings. In particular, Hephzibah Menuhin was more sensitive to the unassailable slow movement: romantic and touching, on a Mozarrian scale. (Listen to the needlessly dynamism of Argerich's second trill, in her opening bars.) The piano part here is essentially a textural support to the violin. In all three recordings the score is slightly different: dramatic, but Argerich and Kremer are almost explosive. They excel in the lively finale, with its Weber-ish brilliance. This more passionate realization of Baroque work becomes more persuasive as one gets used to it. A manuscript of the early Violin Concerto was purchased by Yehudi Menuhin from a private collection in 1951; two years later he recorded it with Boulć. This DG version uses a slightly different text, from a second autograph copy once given to Clara Schumann. Of earlier recordings, perhaps Accardo's was the finest. But, at a whirlwind speed, Kremer characteristically turns the Rondo finale into something far more imaginative. Here, violin and strings are more naturally balanced. It is very typical of Kremer should have given it precedence over the E-minor, at any rate in his Western recording career. [A/B:2/1]

Christopher Briefing

MESSALON: Piano Trios
goeb/Kaplincarr Trio

Arabesque Z 6599

After their complete recording (also for Arabesque) of the Schubert works for piano, violin and cello, this young and very gifted American trio turn to Mendelssohn. These two Trios, conveniently paired on one disc, are admirable material for players of such enviable assurance; what they occasionally miss in refinement or felicitous phrasing (try the altogether lighter touch of both the Beaux Arts and Itoson/Storm/Rose trios for comparison) they compensate for with fire and energy. Both trios have been much maligned, but their continuous fount of melody and urgently propitious virtuosity surely make academic vulnerability a marginal issue. Who else but Mendelssohn could open — in the D-major Trio — with a theme so ornate and expansive (or set his eflin land a quiver with such a scintillating play of light and shade in the two Scherzos?) Throughout, the trio are vivid and robust, and their expression of depth and affection pays rich dividends in music which can easily settle into complacency or comfortability. Bryce Morrison

MESSIAEN: Catalogue d'Oiseaux — Books 4-6

Peter Hjll (pno)

Unicorn-Kanchana DKP (CD) 9075 (70m)

Birds sing of course, and so do angels. And for all their naturalness, there is something of Messiaen's biographical nature here. Feathered they may be, but in many senses they are more like metaphors for the diversity and abundance of God's creation. Messiaen the ornithologist cannot easily be separated from the devout Catholic; and it takes an artist of the highest calibre to exploit fruitfully their unique symbiotic relationship.

Mid-way through his complete recording of Messiaen's piano works, Peter Hill comes to these pieces with a profound knowledge of their context in the composer's output and a considerable insight into their structural principles. He refuses to succumb to the temptation of treating them as a series of piecemeal mosaics and, instead, sets about convincing us that, beneath their episodic surface, there is a profoundly unifying musical logic. Hill has a technique that is little short of miraculous and a sense of line and phrasing which is in places genuinely revelatory; the results are a piano recording that would surely compare with anything that has appeared for a long time. Yes, the music is challenging at times, the time spans can be long. But doubters could do no better than to sample the magical opening of Book 5, 'L'Alouette Calandre' with its haunting stillness and exquisitely articulated birdsong descants. If one can be critical, Hill's choice of a riosendorfer is supremely recessive compared with the other recorders. Peter Hill has no such qualms. He plays it as if he believes in every note, and the result is an almost optimistic in its impetuous drive and lyricism. While no-one would doubt the appropriateness of the latter for Messiaen's 'preludes of the year 1929', the work is nowhere near the level of Messiaen's later, complex, almost abstract late work. The result is a recording which is rich in its own way but not as encompassing as Hill suggests. [A/1]

Simon Cargill

MOZART: Symphonies 31, 36 & 38

LMP/Glover

ASV DCA 647 (75m 12s) (also LP/MC)

This is the third recording by Jane Glover and the London Mozart players, each on a different label, to have gained me this month, and from the point of view of interpretation it is unquestionably the best. It is rather a marathon having to listen to three major Mozart symphonies all in one go, but not all the repeats have been observed, and the spirited performances help to keep one alert. The tempi chosen are generally more consistent than those of the New Zealand Festival, to which they are more well-matched, and the playing, though not as refined as that of the Divertimenti on EMI. There is plenty of sparkle about the strings, though the purist purist might still have preferred a little more control of tone and co-ordination at times, especially at the fastest speeds. The balances are generally good but the sound is somewhat recessed compared with the other recordings. An increase in volume helps bring things into better focus however. [A/B:1]

Kenneth Dommott

MOZART: Piano Concerto 6, K238 (1) Concerto for 3 Pianos, K242 (II) Concerto for 2 Pianos, K365

Malcolm Bilson, Robert Levin, Melvyn Tan (f/pno)/Eng Baroque Solo Gardiner

Archiv 427 317-2 (67m 32s)

My acquaintance with this series has been intermittent. I know it has won consistent praise for the quality of engineering, and of performance, by the orchestra, to say nothing of the virtuosity of the soloists whose fortepiano playing has set new standards for this still under-valued instrument. It is perhaps unlucky that two of the three concertos on the present record are among Mozart's least interesting. The B-flat for solo keyboard was written specifically to appeal to the uncritical taste of amateurs, while that for 3 pianos was actually intended as the fortspianoforte part of a larger work for 5 pianos. That magnificent work for 2 pianos, however, can hardly fail, and does not here. I tried to approach the performances with as fresh a mind as possible, eagerly anticipat-
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Mitsuko Uchida brings her usual composure to these works, and ECO winds sound out robustly under Tate — who sets a convincing tempo for K491(i). (Serkin/Abbado I had remembered as far slower, yet overall timing, cadenza subtracted, is within 50s. Serkin's heavier style, and the reverence of the larger 150 make for a less flexible, more 'modern', canonic approach to both concertos; Uchida supplies her own pertinently musical comments, in 491 less rigidly tied to the thematic material as Serkin's). In 503(i) I am even reminded of Beethoven's G major Concerto. At the two fermatas, near the beginning and end of 491(ii), there are appropriate brief extemporizations. In the slow movements Uchida contrasts her (discreet) embroider- ies to the written notes: 491 is treated very plainly, apart from the return of the opening theme, after the wind/piano exchanges. But in 503(ii) is more decoratively dotted, almost from the beginning. Malcolm Bilson (Archiv), of course, plays even before the solo part is given, and he embellishes very considerably — with Uchida, you would probably need a score to know whether she had added to Mozart's text.

In the notes, Erik Smith refers to the 'moment of repose' created by the melody in the 'truly complete performance' into a soloist, and modest instrumental forces play- ing period instruments in that peculiarly dead-pan fashion which excites great enthusi-iasm in certain quarters. Whether it is an authentic 18th-century sound is a matter for debate still. The edgy rasp of the violins in their upper register, noticeably slower in the first of the Vesper settings (K531), is more immediately appealing than the rophones which do similarly unattractive things to Lynn Dawson's pleasant higher notes. Add the extremely reverberant acous- tic of King's and what might have been a clean and very alert, if rather low-key performance becomes an intermittently dis- tressing experience. The later, more familiar settings (K539), seems less ambitious and it is decidedly more attractive. The three male soloists are rather unassertive it is true, but Dawson's full-bodied voice, not averse to a bit of controlled vibrato, imparts a welcome richness to the performance, and in the context she 'Laudate Dominum' is a joy. But by far the most consistently satisfying thing here is the Ave verum, a wonderfully con- trolled and well balanced performance to set beside Kuiken's recent version (May '89) also on EMI. [A/C:1] Kenneth Dommett

PIETROWSKI: Symphony in D □ WANSKI: Symphonies in D & G Poznan CPO/Satanowski Olympia OCD 315 (62m 21s) 1963, '69

Not much is made of the fact that these are period performances, with boys replacing women sopranos in the choir, a male alto soloist, and modest instrumental forces playing period instruments. In the first movement, Die Zauberflüte since its first movement is modelled on Mozart's overture. All three are evidence of the depth of sound. [A/B:1] Kenneth Dommett

PROKOFEIV: Piano Concerto □ Piano Sonata 5 Ravel quartets Concerto in the Left Hand □ Alborada del Gracioso Jorge Federico Osorio (pno)/RPO/Bátiz ASV CD DCA 555 (54m 08s) also (LP/MC)

A perfectly adequate play-through of the Ravel Left-hand Concerto, with some good...
orchestral work, is here coupled with fast, bold and vigorous performances of the other pieces. Osorio certainly plays the correct orchestral work, is here coupled with fast, percussive. The piano is recorded far too close in fact that action noise is clearly audible, which makes the sound extremely fatiguing and almost drowns the orchestra even when it should be barely audible. The orchestra sounds at once distant and over-bright, and very unclear in complex passages. Listening to the Prokofiev concerto is a trial, the Ravel concerto is not very inspiring, and the solo works are insensitive and thoroughly uninteresting. [CD/3/4]

Richard Black


Veltman's performances are as far from the sort of impetuous virtuosity that made the Moscow recording a hit for the Tchaikovsky Competition, and it is to his credit that he plays the original 1913 version, not the composer's heavily cut revision of 1931. Yet this is a very impulsive reading in by no means the best sense, and though Groove speaks of Cliburn's 'unpercussive tone', in those early years he produces some very disagreeable sounds here for which the Moscow recording should not take all of the blame.

The other Rachmaninov pieces, recorded in 1970 and '72 respectively, are somewhat better. In the Prelude the right hand's two voices are marvelously differentiated, even if the total effect is rather static. In this latter respect the Etude is superior, though Cliburn's tone is again not pleasant in loud passages. After all of which Prokofiev's Sonata, again recorded in 1970, fares remarkably well, being finely judged as an interpretation and beautifully executed. Compare, for instance, the many exaggerations in Rachmaninov's Sonata with the discreet way Cliburn keeps the Prokofiev Tempo di valzer moving forward even though taking it at a real lentissimo. [B:1/3]

Max Harrison

SAINT-SAENS: Le Carnival des animaux □ Piano Trio □ Septet

Virgin VC 790 7512 (67m 09s)

Like most menageries, the Nash's is a variable display, and not all the animals jump eagerly to their head-spinning parades. Most striking are Michael Collins's beasts (a raucous cockerel and perky parodistic specimens among the fossils; the engineer keeps his cuckoo hovering in a backstage room with uncanny realism) and the proud and noble elephant of Rodney Slatford — no lumbering pachyderm he, Stafford's clean lines are more shimmering than solid. Another elephant, the composer's 'Swan', another chance to realise Saint-Saens's restrained markings and anchor the tearaway humour of the carnival and anchor. Instead this is the usual romantic indulgence, the sort of thing that, without ever seeming heartless, does keep the music moving in a way that more leisurely interpretations do not. They are, however, fully responsive to Schubert's lightening changes of mood, his rhapsodic structures and his wide dynamic range. Every strand tells in a recording that carries total conviction. [A:1]

Peter Branscombe

SCUMANN: Carnaval □ Papillons □ Faschingsschwan aus Wien □ Gavrilov

EMI CDC 749 2532 (64m 50s)

Few pianists possess a wilder, more volatile temperament than Andrei Gavrilov and, after two years of a soft-centred interpretation,sWith the second of the two dates, his Schumann provides an exhilarating and robust. Yet in much of Carnaval many of his characters (notably 'Arlequin' and 'Estrella') seem more like rackets than graceful if athletic dancers at a ball. 'Florestan' is intimidatingly muscular; though it must be admitted that 'Papillons' are as delicate as they are phenomenally light and rapid. These, then, are possibilities fulfilled in Carnaval, Op.2. The inflection at the start comes at once like some heady and alluring scent, and the principal theme is spun off like silk, and then, again, against colossal virtuoso resources are refined into the purest poetry. However, it's very much a case of swings and roundabouts, for Gavrilov's Faschingsschwanck is much less glowingly mature than an already considerably recent Recita.
reviews

**CLASSICAL**

This exactly replicates the programme on Levine’s DG set with the VPO, and runs it neck and neck on quality of performance and engineering. There is a touch more dash about Levine’s reading, particularly of the Bartered Bride overture, but Inbal yields a little with her approach to the interpretation of the more dramatic aspects of the tone poems. Sarka’, Tabor’ and Blanik are powerfully done yet never ponderous, and the turbulent Bohemian landscapes are etched with firmer strokes and in bolder outlines, but with a similar ease and fluency. The recording is extremely well balanced, detailed, and very exciting. It is difficult to claim outright superiority for either performance, and technically they are much of a muchness. For those who have not invested in Levine this new version can just be as safely recommended. [A:*]

Kenneth Donnnett

**SHOSTAKOVICH: Symphony 5**  ■  The Bolt – Ballet Suite 5

SNO/Järvi

Chandos CHAN 8650 (70m 12s) (also LP/MC)

Humour is not something we tend to associate with Russian composers – at least as the world is understood in this country. Shostakovich is no exception. His jokes are of the ludge-hammer kind, and could better be described as sarcasm than wit; and it is worth bearing this in mind before listening to the Fifth Symphony. Järvi’s approach to the Fifth, serried ranks of strings in shining armour ready for a conflict which is ferociously over-ripe, is immediately clear. Certainly the music is unremitting in its intensity, the high top part ‘Gaude gloriae Dei Mater’, and the atmosphere Bohemian landscapes are etched with firmer strokes and in bolder outlines, but with a similar ease and fluency. The recording is extremely well balanced, detailed, and very exciting. It is difficult to claim outright superiority for either performance, and technically they are much of a muchness. For those who have not invested in Levine this new version can just be as safely recommended. [A:*]

David Nice

**TALLIS: Latin Church Music II – Gaude gloriosa Dei Mater D Lamentations I & II D Motets from Cantiones Sacrae (1575)**

Taverner Consort and Orchestra

EMI CDC 749 5632 (67m 31s)

The diversity of styles in which Tallis wrote, illustrated in this carefully chosen programme, reflects his reaction to contemporary religious/political upheavals. Such music demands flexibility and sensitivity from performers, and the Taverner Choir and Consort do not disappoint us.

Particularly noteworthy is the wonderful richness, low bass-line of ‘In jejuno et fletu’, and the tender beauty of the treble-like phrase of ‘Te lucis’ has pull here, as if in every note. Combined with a characteristically spectacular recording, it adds up to an exciting if occasionally numbing musical experience. But it is by the Fifth Symphony that most people will judge the disc, and here Järvi provides a splendidly straightforward, almost over-characterised reading which seems a little tame beside those of Bernstein and Rostropovich. Stylistically Järvi is more in the tradition of Haitink on Decca, though it becomes obvious at many points that he lacks the latter’s Concertgebouw orchestra.

The SNO’s sometimes slightly thin string-tone is not altogether inappropriate, however, and apart from a few slightly risky moments in the finale, the playing is generally good if a little raw.

Järvi’s avoidance of interpretational excesses proves effective in the long run. The slight rubatos during the second subject of the Adagio SACD, however, and apart from a few slightly risky moments in the finale, the playing is generally good if a little raw.

Järvi’s avoidance of interpretational excesses proves effective in the long run. The slow movement development, for example, or the textural clarity – bassoons in the first subject, the cool Chicago horn in the Andante cantabile adds an unexpected sob to his playing – are much of a muchness. For those who have not invested in Levine this new version can just be as safely recommended. [A:*]

David Nice

**TCHAIKOVSKY: Romeo and Juliet D Capriccio Italiano D Francesca da Rimini D Elegie for strings**

Ashkenazy

Decca 421 715-2 (65m 36s)

After the weighty reflections of Abbado’s DG set, this is a welcome change. Romeo and Juliet, Ashkenazy seems to have little worth saying here. Friar Lawrence’s cell has no dark and mysterious shadows in the open-air playing of the RPO, and the meeting of Montagues and Capulets is mere brick, light-footed horseplay, no more. A breathtaking final chord promises better things to come, which proves to be the case if you jump forward to the opening of Francesca da Rimini. Precise but unobtrusive diction and an elegant but forceful string-playing have the unique Brucknerian potential. The diversity of styles in which Tallis wrote, illustrated in this carefully chosen programme, reflects his reaction to contemporary religious/political upheavals. Such music demands flexibility and sensitivity from performers, and the Taverner Choir and Consort do not disappoint us.

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Helena Stoward

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David Nice

**VAUGHAN WILLIAMS: A Sea Symphony**

Joan Rodgers (sop)/William Shimnell (bar)/RPO & Ch/Andley

EMI CD-EMX 2142 (69m 41s) (also LP/MC)

The opening of Vaughan William’s Sea Symphony is one of the most dramatic of any work in the choral repertoire. Apparently the composer asked Tovey’s advice about...
the opening words ‘Behold the sea’ and documents that advise as follows: ‘In my original score, which is still preserved in the pianoforte score, I started the full orchestra on the first beat of the bar. I then realized that this was the word “sea” sung by the chorus. On the other hand I did not wish to have nothing for the orchestra and asked Tovey's advice: he suggested the plan I have carried out—only the tympani [sic] and the organ on first beat!

Completed in 1909 and performed the following year, the four-movement symphony, with chorus and two soloists, calls upon the work of Walt Whitman. And yet the text of the symphony is not reproduced in the four-page liner notes, which do not contain information about the performers or conductor either. It does, however, have an advertisement for Davis Campbell, the solicitors who kindly sponsored this recording. The R.P.C. Chorus make an excellent noise, although the sopranos do sound a little tired in the final movement. Inevitably, some of the words are audible when the orchestra is playing, so the exclusion of the poetry from the liner notes is a great disappointment.

The quality of the performance and the recording is very high indeed and the Scherzo ‘The Waves’ is exciting listening. The ambitious half-hour final movement ‘The Explorers’ (the text of which is longer than the three previous movements combined) is considered to be a weak movement yet is saved by good performances from everyone. [A+]

William McVicker

WALTON: The Sacred Choral Music
Jackson, Pearce (org)/Trinity College Cambridge CB/Martindale
Conifer CDCF 164 (53m +4s)

The liner notes describe how this CD came to be made; Lady Walton suggested to Dr Marlow that a recording of all of Sir William Walton's church music for choir would fill a gap in his recorded work. (I do wish that Decca would re-release Preston's recording with Christ Church Cathedral Choir in Oxford.)

This corpus of music covers the whole of Walton's output, from A Litanys — composed when he was fifteen — via the so-called 'Chichester Magnificat' and Anticlimactic (composed to celebrate the 900th anniversary of that cathedral's foundation in 1796), to King Herod and the Cock, composed in 1978.

The larger unaccompanied pieces include the virtuosic Cantico del Sole, sung in Italian with wonderful, free and open vowel sounds, and a setting of Masefield's poem 'Where does all the uttered music go?' with a marvelously-controlled crescendo in the final bars.

The pieces accompanied by the organ include Antiphon, the 'Gloria' from the Missa Brevis, the Jubilate and The Twelfth. The clarity of the Smith-Metzler organ is quite refreshing, although the instrument is very loud and the registration too thick for my taste in the Jubilate.

There are three Christmas carols: All this Time, King Herod and the Cock and Make we joy now in this Fest, and one New Year carol: A Litanys. All of these are unaccompanied, and it is here, where the texture is predominantly homophonic, that the precision of Trinity College Choir's singing is most apparent. The clarity and coherence of the consonants and control of the dynamics.

There are some very long phrases which Marlow asks the choir to sing without a breath, such as the final phrase in Let me as a seal 'in your deep floods' from A Litanys. In every case the control of tone is exemplary, the sense of 'line' is truly musical, the legato phrases being seamless and the intonation spot on. [A+]

William McVicker

HUMMEL: Grand Concerto for Bassoon in F
MOZART: Bassoon Concerto in B/ WOLF-SERRAII: Suite-concertino in F
Kim Walker (bss)/LMP/Glover

Gallo CD-499 (67m 2s)

This is more than just an attractive vehicle for the artistry of the young British-American bassoon-player Kim Walker. The Mozart work is of course a favourite, well represented in the CD catalogue; it is given here with warmth, great skill and documentary (the brief cadenzas are just what is wanted). The Hummel Grand Concerto is not overnamed: a full-scale piece probably dating from early in his Esterházy appointment, melodic, well constructed, and well played. The real surprise, for me at least, is the lovely Suite-concertino by Ernanno Wolf-Ferrari of 1933, an atmospheric charmer in four mainly slow movements. I am delighted to have the chance of getting to know it, in what seems to be as idiomatic a performance as it is persuasive. Neither it nor the Hummel figures in the current catalogue. As the recording is faithful and unostentatiously detailed, this latest offering from Jane Glover and the LMP can be warmly recommended—especially for lovers of fine bassoon playing. [A+]

Peter Branscombe
Flight Of The Bumble Bee: He clearly feels it a loss, however, and substitutes The Bee's Wedding which at least has the merit of only being 2m long. The playing and recording on this disc are faultless, and the only real criticism which can be made is that the results are so very deadpan. This is one of the few parts of the repertoire that benefits from a willingness to ham things up occasionally, and to play to the gallery. Both Hardenberger and Pintin seem convinced that this is music that deserves more than tomfoolery, and the results are an occasional earnestness which seems curiously at odds with the character of the actual material. It would be wrong to give the impression that all is maudlin and tearful, however. Bernstein's short Rondo for Life is bright and breezy, and Marcel Bitsch's Quatre Variations are witty. But perhaps most interesting of all is Pintin's atmospheric The Girl From Brazil which provides Hardenberger with opportunities for a Miles Davis impersonation, complete with harmon mute. This is really Wynton Marsalis's territory, and it has to be said that Hardenberger lacks the American's rhythmic flexibility. But his is a good disc, if one that will tend to interest only trumpet buffs.

ANDRÉ WATTS AT CARNegie HALL


André Watts (pno)

EMI CDC 749 0942 (71m)

André Watts has achieved an unbounded celebrity in his native America, and his 25th-anniversary Carnegie Hall recital was indeed a memorable occasion. This is unquestionably Andre Watts 'live': the charismnic smash everywhere, the brilliance of the sort to make others pale with envy. I doubt whether many pianists have opened a recital with a more telling balance between Haydn's flashing virtuosity and reflective beauty, and the way in which the grot of the concluding Presto are, quite simply, inevitable. The opening Allegro of the Mozart is perhaps more mercurial than illuminating in the Haydn, and the finale is the brilliance of the sort to make others pale with envy. I doubt whether many pianists have opened a recital with a more telling balance between Haydn's flashing virtuosity and reflective beauty, and the way in which the grot of the concluding Presto are, quite simply, inevitable. The opening Allegro of the Mozart is perhaps more mercurial than illuminating in the Haydn, and the finale is as droll as the opening could be. Watts is more attuned to Haydn's exuberant whimsy than to Mozart's 'contained' genius. Yet his impishness in the Allegro and magical dexterity in the finale all but silence criticism. His Schubert is less successful: almost as if he is suddenly daunted by the austerity and boldness of the composer's vision. The serene second subject's final and decorated appearance emerges in a suitably other-worldly light, but elsewhere there are some unsettling touches, bouts of rhythmically intense playing, and, in the final page, sudden confusion. For Brahms Watts finds his finest and, indeed, greatest form, confiding Op.119:1 with rare intimacy, each note dropping as if from silence to achieve a drowning, pain and eloquence. Page after page of this miraculous score is lit, as it were, from within; and the final Rhapsody is both as subtle and heaven-storming as the most ardent Brahmsian could wish. What a recital! Clearly, André Watts must be caught again - on the wing - as soon as possible. [A1:]

HAKAN HÄRDENBERGER: Trumpet and Cornet encores

Håkan Hardenberger (tp)/Roland Pintin (pno)

Philips 422 334+2 (57m 24s)

At 57 minutes this is not a disc for the faint-hearted. There is something vaguely masochistic about sitting down to listen to almost an hour of old-time cornet sonatas, hornpipes and among the playing. And while I like William Weide's My Love Is like a Red, Red Rose as much as the next man, eleven-and-a-half minutes of it seems to be a little bit too much of a good thing. That said, Hardenberger avoids some of the more obvious temptation, and we are spared the inevitable
JS BACH: Brandenburg Concertos 1-3 etc

CLASSICAL

BEETHOVEN: Violin Concerto \( \square \) 2 Romantic \( \square \) Bouzoukis \( \square \) Sinfonietta

Ronald Thomas (vln) DORIAN CDR 3353 (60m 28s) \( \# 1969 \)
I always liked the intimate scale of accompaniment and recording. The song is that the Sinfonietta's then soloist/director sounds cautious rather than properly authoritative, and he is uncomfortably exposed by the recasting of Beethoven's better in the two (musically slight) Romances. Track 3 (Romantic ...) starts at the tutti 3 before the end of the Larghetto. Good, clean sound, but...

[AB/B:3/S]

BEETHOVEN: Piano Trios \( \square \) 2 'Ghost' & \( \square \) Arcadu
e Sterelitz/Levin/Rose CBS MKP 44839 (60m 09s) (also MC) \( \# 1970 \)
America's premier piano trio shouldn't sound as nasty as this, I thought... The 'Arcadu' is more listenable, but both recordings from CBS's masculine and durable complete cycle suffer from constricted, close-miked strings; the very opening of the 'Ghost' and its Presto are scratchy indeed. However, reference to the LPs confirms that there is 1's more keener and youthful; theresulting blend of some of the extreme channel separation of the LP. The performances are alive, confident, and in both slow movements the listener can savour the rapport between music and interpreters. Recommended strongly on musical grounds.

[CD:1/1]*

BRAHMS: Violin Concerto \( \square \) 2 Hungarian Dances \( \square \) Yehudi Menuhin (vln) BPO/ Kempe/REMAKETH 258 6082 (61m 20s) \( \# 1958, \# 51 \)
Yet another fine Kempe/Beethoven resuscit at budget price. But even if the centenary year bring the Menuhin/BBC SO Brahms, in this recording he is better than this. It's a noble outpouring, with Menuhin - who plays the Kreisler first-movt cadenza - in inspired, if not infallible form. It's good to have the long-defunct Bellkiot Five Orchestras. Dvorak, two Schnellings, two by Brahms himself. Springy rhythms, convincingly idiomatic, with good attack from the RPO - a more valuable filler than you might think.

[B/C:1/1]*

CHOPIN: 6 Waltzes Peter Katin (pno) Decca 417 645-2 (54m 45s) \( \# 1972 \)
This recital starts promisingly with the Op. posth. E major, but Katin's tendency to repeat precisely his phrasing rubati and contours has the effect of sounding both contrived and mechanical. The neatness is admirable in its way, and the sound (some tape background excepted) is good.

[B:2/3]

CHOPIN: 14 Waltzes Barcarolle \( \square \) Nocturne in D \( \square \) Op.70 No Mazurka in c.f. \( \square \) Dinu Lipatti (pno) EMI CDH 760 022 (54m 45s) \( \# 1947-1950 \)
Where Ashkenazy's (nineteen) Waltzes are presented in opus number sequence, those of Katin and Lipatti. Lipatti's recordings were made in a Radio Geneva studio in 1950 - the Barcarolle and Nocturne are earlier, from Abbey Road - two months before his last London Festival (incident complete, but a similar sequence). These studio performances have been long unavailable here. Astonishingly cleanly mastered, they sparkle with the brilliance of pianism that is always elegant, fastidious, but warm and human; virtuosic but not without humour. Essential.

[H:1]*

COPLAND: Symphony \( \square \) 3 Billy the Kid

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HAYDN: Symphony 88 in G. SCHUMANN: Symphony 4 in D. MANFRED OVERTURE
BPO/Furtwängler DG 427 404-2 (65m 46s) [ ] recordings from 1949-53
Furtwängler apologists point to his evident humanness in the tragedies. This may be his most characterizing trait — I hear, rather, a nervy searching manner — though I must say the phrasing and playing are gloriously rewarding. 

SHOSTAKOVICH: Symphony 5. STRAVINSKY: Firebird. SIBELIUS: Symphony 1 in E. BRAHMS: Symphony 3 in F. SCHUMANN: Symphony 4 in d. PHILHARMONIA/Cانتelli EMI CDH 763 0852 (59m 15s) recordings from '1953.  

SCHUMANN & MARIA SACHS RECORDINGS: Decca 421 637-2 (51m 25s) 1968

I have always slightly preferred the earlier, Maguire-led St Martin's. Mendelssohn's Overture to a far greater extent in the Brahms of depth. [H:2/1*]


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Mozart: Symphony 3 in G. K53 in B. K99 Collegium Musicum Zürich/Sacher Jecklin J 404-2 (41m 0s) (Pinnacle)

better known as musical patron and dedicatee of 200th-century pieces, Paul Sacher directs attractive, neat performances.

Saint-Saëns: Symphony 3 'Organ Symphony' — Carnival of the Animals. J. Op357.1, 1846. BPO/CBSO Pre- mastered EMI CDM 708 8422 (57m 35s) 1973. '78

This Studio Two' recording (prod. Mortley/Elton) is a real attraction — the CD rather disappoints. The strings sound thin and wimmy in the 'Great Hall' — in fact, just as evident on the LP, and digital manipulation of sound can sound much less convincing. But 'pass' on this one, and try CBSO's later, really much more attractive account of this landmark piece. The CBSO have come a long way since this 'Carnival', which hardly warrants much enthusiasm now, although John Ogdon is a thoughtful interpreter. [B:2/3]

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Hi-Fi News & Record Review SEPTEMBER 1989

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Cross is interesting in that it
Sabbath lost that certain curios-
ity factor when Ozzy Osbourne
CD
IRS EIRSACD 1002 ( 40m 30s)
HEADLESS CROSS
BLACK SABBATH:
selection covers five years of a
full-toned trumpet heard here,
frustrated playing the sort of
have been fulfilled rather than
a big band anyway; but he must
was so rare for jazz 78s. It's a
classic now, but why do critics
life, dead at 33? Maybe he never
more hummable tunes. Perhaps
it's all in preparation for Murray,

MIRROR MAKESVA: WELELA
Philips 838 208-1
Philips 838 208-1 ( 45m 23s)
CD
KING SUNNY ADE AND HIS
AFRICAN BEATS:
LIVE LIVE JIJI
Provoque PRD 70032 (56m
49s) CD
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23s) CD (distributed by PRT)
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DRUMS OF PASSION – THE
BEAT
Provoque PRD 70022 (40m
10s) CD
KANDA BONGO MAN:
KWASSA KWASSA
Hannibal HNBL 1343
YOUSOU N'DOUR:
THE CALL
Virgin CDV 2584 ( 48m 21s)
CD
VARIOS: PORTRAIT OF
BUNNY BERIGAN
ASV CDJAJA 5060 ( 68m 59s) CD
I found myself repeatedly play-
the 1932 opener — not so
much for the trumpet, muted
this time, as for the glorious
singing of Connie Boswell, a
stylist who still does not sound
dated today. The song is 'Me
Minus You', a jolly swinger by
Webster and Loeb good enough
to be mistaken for early Arlen
and Mercer. As well as Berigan,
the accompanying octet
includes Martha Boswell on
piano and the Dorsey.

But the CD has to end with
the song that Berigan made his
own. The recording of 'I Can't
Get Blamed' always heard nowa-
days, and used here, is the
orchestral version issued by
HMV in the 12in format which
was so rare for jazz '78s. It's a
classic now, but why do critics
in later years make the title of
the song a summation of Bunny's
life, dead at 33? Maybe he never
really got to be the leader of
A big band anyway, but he must
have been fulfilled rather than
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BRIGHTON ROCK: TAKE A DEEP BREATH
WEA WX 272

Not especially pretty-boy rockers who try so hard. They're desperate to get their audience clapping feet and hanging heads. They try to imitate the power that Kiss use over their masses, but don't move me. They often get it right, with the double guitar breaks and powerful, danceable melodies of 'Hangin' High N' Dry' and 'Outlaw', but sometimes get it wrong with simplistic and predictable guitar solos and by leaving the singer to scrape his way through the quiet intro to 'Love Slips Away'. [B:3]

Karen Donruthwalle

CHARLIE BYRD TRIO WITH SCOTT HAMILTON:
IT'S A WONDERFUL WORLD
Concord CCD 4374 (46m 59s) CD
from New Note Distribution

I have often enough praised Scott Hamilton as today's champion of mainstream tenor playing, but to mistake him for Prez is an even better accolade but I admit that in the matter of subtleties and sheer harmonicism, Hamilton still falls short of the great man's genius. My favourite standard he elegantly played and interest is kept fresh by changes from the familiar tempo: 'My Shining Hour' is taken fast, 'Devil and the Deep' is very slow, and 'Mood Indigo' follows the original halfway and then becomes a tenor showpiece far more widely imaginative than anything Barney Bigard is likely to have envisaged. Charlie Byrd's technique is less wizardly than some of the modern guitarists but the whole CD is a melodious delight [A:*1] Denis Argent

MILES DAVIS: AMANDLA
Warner Bros 925 873-2 (4m 26s) CD

Like the Tutu album, this is really Marcus Miller's record. Miller is the current state of the art record producer. As well as being a stunning bass guitarist, Miller produces much of the other instruments, writes the pieces, and produces and arranges the whole show. The tunes are catchy, jumpier pieces over bubbling jigsaw rhythms. The electronic sounds are well-considered, and placed just-so in the mix. On top of this delicious confection, Miles provides the unique brand of that trumpet sound. But is it enough? Not for me I'm afraid. That extra spark of vitality and tension is missing. Recent playing with his own band has had that kind of impetus, but studio jobs like this don't. Pity. [A:*2] Ken Hyler

THOMAS BECKMANN (cello) and JOHANNES CERNOTA (piano):
OH! THAT CELLO; MUSIC BY CHARLIE CHAPLIN
Jaro J4125 (46m 48s) CD

BARAVIAN SYMPHONY ORCHESTRA:
THE MUSIC OF CHARLES CHAPLIN
Trax TRXCD 156 (53m 16s) CD

Chaplin was a serious musician at heart and always insisted on control of music for his comedies. Oh! That Cello dates from 1916 when Chaplin even purchased his own publishing business. Tin Pan Alley's loss was comedy's gain. However, the 'cello/piano CD does rather show up the shallowness of his interest for compositions. The opening track is that maudlin 'Eternally' from Limelight, and the 'mood' music from other films which follow are not enhanced by the thin instrumentation. [B:2] The symphonic CD is quite another matter, and fluidity. The music is lush and involving and not an acquired taste. For those needing the vocal element, Ana Caram is a breezily vocalist of the Astrud Gilberto school but her delivery is animated rather than comatose. She oozes sex appeal, whether she's uptempo or down, and boasts festival-style. For those sadly more concerned with sound than music, relax: these sound even better than the others. [A:*1] for both Ken Kessler

CHARMED BY CHESKY

LUIZ BONFA: NON-STOP TO BRAZIL
Chesky JD29 (46m 57s) CD
ANA CARAM: FOLTER DARK
Chesky JD28 (58m 50s) CD (Dist. by Trim Records)

Discs four and five in the new Chesky jazz catalogue: Bonfa is a legendary guitarist, regarded by some as Brazilian's best, and he performs with delicate touch and fluidity. [A:*2] The same can be said of Ana Caram, but for the music. [B:3] Ken Kessler

EXCEL: THE JOKE'S ON YOU
Caroline Records CARLP 7

Excel's press release assured me that this Californian band 'play a unique brand of skate-core', a type of five-performance energy: but I suspected something pretty basic. The band's vocalist, Dan Clements, is described as a skateboard king, but it's difficult to imagine what kind of music the young louts outside the tube station are listening to... Ken Hyler

Bill Frisell:
BEFORE WE WERE BORN
Elektra Music 960843-2 (46m 48s) CD

John Zorn is the man of the moment at the quirkiest end of the jazz scene. Having made an impact with his alto and clarinet and his formulae (or compositions, if you prefer) for group improvisation, Zorn moved into the kind of pastiche playing which moves music from one genre to another very quickly. Then, naturally, came production duties. Thus Zorn - who uses Frisell in some of his own work - comes to produce the set's longest piece,'Hard Plains Drifter'. This clever, cut-up trickery is not to my taste, but choice moments like 'Five More' are worth savouring. [A:*2]

AL GREEN: I GET JOY
A&M 395228-1

No Willie Mitchell. Hmm. Would the Reverend Al be able to do any better in the production genre? It ain't easy to wrap a gospel message in soulful funk: you either do soul or you do gospel, and only Green has been able to marry the two with no cracks showing. But that's with Willie... I worry needlessly. Al Green is (until

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Howard Kessler

CAROL GRIMES: EYES WIDE OPEN
Line/TM INCD 9.00329 (60m 53s) CD

This singer is just too damned good for the marketplace. Grimes' latest, Why Don't They Dance?, is a showcase of virtuoso singing, the woman embracing a number of styles and providing us with a true soul singer. But leaving aside the fact that the UK has been ignoring this performer, Line is also issuing on CD her 1986 release, Eyes Wide Open. [A:1] If only the public had its ears wide open...

Ken Kessler

DANA GILLESPIE: SWEET MEAT
Blue Horizon/Ace BLUH 007 CD

Gillespie keeps bouncing back every couple of years or so, reaffirming her role as Great Britain's finest white female blues singer. But leaving aside the traditional jibes about 'Great lungs -- what do you expect?' Gillespie seems to have resigned herself to caricature status. Sweet Meat suggests that Gillespie's happy to carry on as a latter-day bawdy house chanteuse making with the double entendres. The entire theme of this set is carnivorous sex, with song titles like 'Fat Meat Is Good Meat' and 'Meat Balls' telling you the score. It rocks hard, it's a lot of good, unclean fun, but I'd love to see Gillespie enjoying a change in fortunes similar to that of Bonnie Raitt. But she'll have to be a bit more serious -- and she may not want to be. Weighing with the sas factor, though, Sweet Meat still earns. [A:1]

Pete Clark

PHIL GUY: TINA NU
Jazz Records CD 226 (+m 15s) CD

A mean man with a Fender he can play old and new Chicago blues with flair and has twenty years of club experience to draw on. His hand are much younger but while this album lacks the range of old blues, they still know what makes blues kick. Guy's guitar is smooth and fluid while his voice is rough and there. Venturing beyond the twelve bar genre piano and jazz give the album variety and depth although the recording itself is nothing to crow about. [B:2]

Neville Farmer

HARIPRASAD CHAURASIA: THE MYSTICAL FLUTE OF HARIPRASAD CHAURASIA
Oriental Records BGRP 1025 (distributed by Impetus)

Thankfully, more Westcoasters are now aware of Hariprasad Chaurasia. On this record he is in the company of one of the most accomplished tenor players, Zakir Hussain. If you have been tempted by the liquid Eastern-sounding flute which New Age music relies on so much, get this album. The music is light, dreamy and soulful. Absolute magic. [A:1]

Ken Hyder

THE INDIGO GIRLS: INDIGO GIRLS
Epic EPC 463491

The Girls in question are Emily Saliers (delicate voice and acoustic fiddleplayer) and Amy Ray (raunchier voice and passionate strummer), both of whom hail from Atlanta, Georgia. This means of course that REM are involved somewhere: look no further than Side One, Track 3 for a vocal from Michael Stipe. But this duo is no platitude protege of the titans from Athens -- Emily and Amy have conjured up a beguiling mixture of light and shade within a strictly acoustic format that is never short of electricity. The opening 'Closer To Fire' shows that the girls can cut a pretty powerful rug as does its counterpart on the second side, ' Tried To Be True' but the meat of the matter is in building ballads like 'Kid Tears' where the contrasting voices do shivery stuff. [B:2]

Pete Clark

ROCK/POP/JAZZ

LEOTIS: ON A MISSION
Motown WX 270 CD

Leotis is a singer with the new American black music mainstream who has a fine range. And though most of the songs on this, his debut album, are no more workmanlike, the keyboard oriented backdrops are fashioned by the likes of Gordon Dukes, Robin Brookins and others into chart possibilities. The arrangement on the jolting Slam is particularly memorable and the only real kick in the ribs is an up-tempo welcome-to-the-party interpretation of O-o-h Child that sent me in search of the Five Stairsteps heart-rending 1970 hit version. [A:2] Le DeBarge, for his part, has shrugged off his recent problems and emerged with what is possibly Motown's most commercial album since Lionel Richie's 'Can't Slow Down'. A fact which will make Warner Bros a happy label, for his next effort will be for them. A release that has all the multi-voice appeal of the best DeBarge family recordings, allied to some superb arrangements...

Eddie Lang: A HANDFUL OF RIFFS
Collecting Era CD AJA 5061 (64m 28s) CD

Most of the 21 tracks, which come from 1927-29, are either guitar or guitar duets with Lonnie Johnson, and it is easy to see why he was sometimes regarded as a 'parlour jazz' expert, playing the sort of harmo us flute music that even one's parents could tolerate. As well as the elegant solos and duets, the CD also includes a welcome revival of a favourite pre-war record buyers since it was on the back of Armstrong's West End Blues'. It's a super swinging tune by Jimmy McHugh, and has great solos by the Dorsey's, but it earns its inclusion here by a masterly twelve bar near the end which are perfect proof that Lang was not just an Italian inventor of pretty tunes but a true jazzman -- and, in the key word of his time, hot. [H]

Denis Argent

MARIA MCKEE: MARIA MCKEE
Geffen WX 270

Good though they were, I'm glad Lone Justice took a nosedive. If they hadn't, then presumably singer Maria McKee and keyboardist Bruce Brody would still have been aboard the band bus and we wouldn't have been graced with this superb album. Imagine The Band with, maybe, a cross between Emmylou Harris and Laura Nyro as the outfront singer, and you have some idea of the treat that Lone Justice's demise has provided. There are other influences too 'Panick Beach' sees McKee playing the Rickie Lee game of wading into Waitsian territory and pulling it all off with little degree of aplomb. She got a sky blue swan-down powder puff and a corset to keep her spirits up! She don't swear, she sours and melts like ice cream in the sun. McKee picture-paints while you grin appreciably. On This Property Is Condemned' she's Emmylou playing a tubercular Natalie Wood emerging with lines like 'if you should see me coughin' round the corner Won't you mix a little sugar with my tonic tonight', which Tennesse Williams might easily have tossed in. Had he co-written the music, then some of those sublime back-vu vocals. A genius! On the evidence of this album he probably is. [A:1]

Fred Dollar

Reviewed by: Fred Dollar
The return of a cad, bounder and wealthy bohemian upbringing, while before trying something seems to have enjoyed the same ties rock and blues. Her band all musical atmosphere where bodily perversion to appreciate don't need to know jack about straight to the dancefloor. You the mountain? Yeah, well who the problem/saving grace of Green duality: the passion of his preaching, is that he has an Al no doubting that Van is aiming 'Whenever God Shines', there is that band's newest fracture was not a futon of dreams and dashed promises, somehow add up to a stubborn optimism born of catharsis. Every now and then, Mould's trade-mark guitar boils sulphurously out of the mix, but the predominant flavour is acoustic/electric guitar/bass/drums in unison, spiced liberally by Jane Scarpantoni's yearning cello. It took 17 years for the Dirt Band to produce this double-album sequel to their landmark triple LP and, yes, it was worth the wait. But the times have changed and the barrier-breaking aspect of the original — showing that 'real' country musicians and country-rockers could co-exist — is no longer necessary. Just about every artist here has performed with what was once the opposition, so Vol 2 should be regarded more as a family gathering. If anything, the Dirt Band is working it from the other side, as they've been a pure country act for most of this decade. Still, they're the catalyst between guests like a couple of ex-Byrds, Levon Helm, John Hiatt and Bernie Leadon and traditionalists like Johnny Cash, Roy Acuff, Chet Atkins and a handful of New Country artists. This won't have the impact of Vol 1, but it does offer excep-
tional music from all manner of country genres. Especially enjoyable is hearing McGuinn and Hillman singing 'You Ain't Goin' Nowhere' over 20 years on, truly proving that the circle is unbroken. [A:*1] Ken Kessler

OSCAR PETTIFORD:
OSCAR RIDES AGAIN
Affinity AFF160

Pettiford was a superb bassist with composing and handleing ambitions, and is here featured on 1954 quintet and nonet dates. The former has Charlie Rouse (tenor), Julius Watkins (french horn), and therefore sounds like a trial run for 'Les Jazz Modes, but the elegance and lucidity of Duke Jordan's piano work are the chief rewards. The leader plays cello (strictly pizzicato) besides bass, and even seems, in pieces like 'Golden Touch', to prefer it as a solo instrument. But Pettiford is perfectly agile on base, as in items such as his own 'Trictatism'. The six nonet tracks were originally issued as a 10-inch LP called 'Basically Duke and are intriguing in that they at once sound very much like and very much unlike Ellington's classic versions. Ducal bandsmen such as Clark Terry and Jimmy Hamilton are present, and Pettiford himself was of course in Ellington's outfit at one time. Further pieces such as Pettiford's 'Tamalpais' are quite individual, and something of this may derive from his status as a full-blooded Red Indian. Certainly this is a worthwhile and fairly unusual release. [A:*2] Max Harrison

BOBBY PREVITE:
WILL THE CIRCLE BE UNBROKEN VOL.2
MCA Records MCFD 9001

It it's true that the music is pretty far from the usual kind of bubbling jazz you'd expect from the likes of Previte, drums, and Ray Anderson, trombone. But Previte has constructed this 'modern music' artfully and with passion. The guitarist they either love or hate, Bill Frisell makes an appearance here — he seems to be on everybody's album. As usual, what he does is distinctive and engaging. Ultimately Pre-

Not so much a movie soundtrack as an intro to some sleazy, in-crowd frequented danceeteria, Prince's musical encounter with the Cape Crusader is a minor triumph that can be listed among his best albums. 'Partyman', in which Prince places himself in the role of The Joker, is a massive slab of pure funk, while 'Electric Chair', another would-be Joker-oriented cut, actually sounds more like a tribute to Hendrix. 'Batdance', the soundtrack sandwich of a single (snatches of sampled film dialogue placed between Batman theme quotes and slices of house and what-have-you), comes in full cinematic glory here. And if 'Arms Of Orion', on which Prince and Sheena Easton enact the roles of Bruce Wayne and Vicki Vale, is a mite mushy, then 'Scandalous' is hardly a surprise that finds Minneapolis' most talented microbe in ultra-dirty mode ('Come close, feel what I've been doing for' and 'I can't wait I wrap my legs around you girl') fully compensates, being Prince at his most emotive, a Mayfield for the '80s. [A:*1] Fred Dellar

Van Morrison:
AVALON SUNSET
Polydor 8392621
Van slips on to a new label for his latest excursion in spirituality, the most overtly religious of his outings so far. From the opening duet with Cliff Richard, 'Whenever God Shines', there is no doubting that Van is aiming this one squarely at the heavens. The problem/saving grace of Morrison, depending on how you regard this type of preaching, is that he has an Al Green duality: the passion of his singing and the beauty of some of the arrangements has a distinct secular (to put it mildly) appeal, alongside its spiritual intent. Say what you like about Van Morrison, and given his reputation, you'd be wise to choose your words carefully, the man's heart-felt musicality is surely unsurpassed. [A:*1] Pete Clark

KEN MANTLER:
MY CAT ARNOLD
ECM/XTRAWAIT3 839 093-1
Karen Mantler is the rebellious daughter of Carla Bley and Michael Mantler. Brought up in a musical atmosphere where improvised jazz met early seventies rock and blues. Her band all seem to have enjoyed the same wellbeing bohemian upbringing, both Mingus and Sanborn Juniors show their inherited musical wealth. One gets the feeling that people must have found young Karen to be a spotty little brat, picking up an instrument and studying it for a short while before trying something else. On her mother's suggestion she founded her own band and recorded this slightly silly but entertaining album. Beautifully recorded she shows her prowess on the harmonica, piano, organ and voice with excellent back-
ing from the jazz answer to the bratpack. A fine, if uncommer-
cial, first try. [A:*2] Neville Farmer

BOB MOULD: WORKBOOK
Virgin VULSP2
A solo LP of quite staggering intensity, suggesting that whatever happened since that band's messy fracture was not a futon of roses. The opening track, 'Sunspots', gives no indication of what's to come, doffing its pretty little instrumental hat in the direction of Mason Williams' 'Classical Gas': but after that, the deluge. 'Wishing Well' follows and sets the pattern for what's in store. Mould's passionate vocals of despair, frustration, of broken dreams and dashed promises, somehow add up to a stubborn optimism born of catharsis. Every now and then, Mould's trade-mark guitar boils sulphurously out of the mix, but the predominant flavour is acoustic/electric guitar/bass/drums in unison, spaced liberally by Jane Scarpantoni's yearning cello. [A:*1] Pete Clark

Prince:
BATMAN - MOTION PICTURE SOUNDTRACK
Warner Bros 925 936-2 (42m 34s) CD
Not so much a movie soundtrack as an intro to some sleazy, in-crowd frequented danceeteria, Prince's musical encounter with the Cape Crusader is a minor triumph that can be listed among his best albums. 'Partyman', in which Prince places himself in the role of The Joker, is a massive slab of pure funk, while 'Electric Chair', another would-be Joker-oriented cut, actually sounds more like a tribute to Hendrix. 'Batdance', the soundtrack sandwich of a single (snatches of sampled film dialogue placed between Batman theme quotes and slices of house and what-have-you), comes in full cinematic glory here. And if 'Arms Of Orion', on which Prince and Sheena Easton enact the roles of Bruce Wayne and Vicki Vale, is a mite mushy, then 'Scandalous' is hardly a surprise that finds Minneapolis' most talented microbe in ultra-dirty mode ('Come close, feel what I've been doing for' and 'I can't wait I wrap my legs around you girl') fully compensates, being Prince at his most emotive, a Mayfield for the '80s. [A:*1] Fred Dellar
A bit like Eurythmics, I thought, but with the sensibilities of Throwing Muses. I checked with the press handout, 'lacing the order of Eurythmics or Pretenders with the idiosyncratic transcendence of Throwing Muses or The Sugarcubes' it read. It's nice to have a second opinion. Rainbirds are a funny old lot though. Funny but good. Funny, because though they're German, they sound most un-Teutonic. Singer Katharina Franck sounds so British that she might easily slot in alongside Fairport come next reunion. Sometimes they're the most teeny bit heavy. But often they leave plenty of space. Sometimes they move electronically. Next moment they're as acoustic as a folkie without a socket to plug into. They sound like an indie band — but fit neatly enough on Mercury. Whatever, they've made all the right moves, right down to the cover shots by Anton Corbijn. [A:2] Fred Delollar

DIANE SCHUHR:
COLLECTION
GRP 9951 from New Note
Distribution

Diane is a singer discovered by Stan Getz, who hailed her as having the most passion and pathos of any singer since Ella and Sarah. A star in US concerts and festivals, she is still not getting the exposure on records that she deserves — perhaps a bit too strong for the David Jacobs public? But this LP is full of good songs (Gershwin, Porter, Ray Noble). The accompaniments are of Morton and Don Grusin, Getz, Abraham Laboriel, and on one track the whole Basie Band. What makes the record worth buying as an introduction to an important singer is the additional merit of the way it bridges the gap between 1930s ballad style and the modern age of Funk, Rhodes and Yamats DX-7 to give us the best of both worlds in popular music. [A:1] Dennis Argent

THE STONE ROSES:
THE STONE ROSES
Silvertone ORG CD 502 (48m 50s) CD

The soundtrack to Easy Rider II or The Return Of The Graduate? Could be. Certainly each guitar riff and drum beat is an old and familiar friend from the days when Nicholson rode pillion and every car headed down the highway to the sound of The Byrds or Simon and Garfunkel. The Roses, a Manchester four-piece, have dragged the whole genre through the garage and parked in it the '80s but have done so without alienating any previous owners. Their songs are indendifable, they handle tunes you can hum while pinning up posters for Cow Palace. If you can't remember the main theme and the backing riff to 'Waterfall' after 30 seconds of listening then your acid trip is worse than you can remember (and several of them). Psychedelia? Of course, Stone Roses haven't forgotten that aspect. They've gone 15 miles high via 'Don't Stop' returning to earth momentarily to offer 'Elizabeth My Dear', which is purely 'Scarborough Fair'. The finale comes with 'I Am The Resurrection' on which Ian Brown sings 'Turn, Turn — there is a time and place', a phrase bears some familiarity. You've heard it all before. And you enjoyed it. [G:1] Fred Delollar

TIME BETWEEN:
A TRIBUTE TO THE BYRDS
Imaginary Records Illusion
004

The aim of this tribute is not to slavishly recreate the sound of the originals, but to indicate the variety of their influence on a mixed bag of devotes. Thus we get sounds ranging from 'Here Without You' by Richard Thompson, Clive Gregson and Christine Collister, to the likes of The Cateran, Dinosaur Jr. and The Moffs trying their hands at 'She Don't Care About Time', 'Feel A Whole Lot Better' and 'Eight Miles High' respectively (if not with respect). The devotes of the originals will do well to leave this one alone. Others may enjoy without prejudice. [B:2] Pete Clark

PETE TOWNSHEND:
THE IRON MAN
Virgin V2592
Vinyl CDV 2592 (47m 28s) CD

Townshend as Andrew Lloyd Webber? Well, sorta, though Pete, even his most portentous could never be THAT borrowing. He's definitely heading for Broadway however, and The Iron Man, a musical interpretation of Ted Hughes' fable about a metal-munching iron robot, his relationship with a farm boy and an ultimate battle to save the world from an all-devouring Space Dragon, could be just the rock opera to help Pete grab a Tony. Not that The Iron Man is completely successful in terms of music. There are patches and the idiosyncratic transgression of years back, suggested that they were in danger of turning a bit heavy on the guitar peddling, but the new LP sees off that tendency. The bouncing wordplay of the single, 'The Second Summer Of Love', should have put most fears at rest and the rest of this album will do the rest. Songs like the ballad 'Loneliness' reaffirm the group's affection for musical/soundtrack breastbeaters, while 'If Everything You Said Was True' sees them mining the Steely Dan songbook that never was with unequalling accuracy. [B:2] Pete Clark
The Perfect Pitch

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JACKSON BROWNE: maybe that was just Brix... [A:1]

Beggars Banquet SITU 23CD (55m 48s) CD

Described perfectly as '60s psycho-punk revivalists', the Buzzcocks live up to their name by producing trac-to-the-core garage band music which makes a high-end system sound like AM radio. The purest pop/rock for then people. [A:B] [1]

TED HAKINS, I LOVE YOU TOO PT Records PTL1008

Hawkins continues to amaze with some of the most emotional music being produced today. Despite the blues connections, Hawkins has moved on by lightening up and adding reggae inflections and band interplay to make the experiences a bit less painful. It still tugs, though, so don't expect to use this as background music. [A:1] [1]

TUCK AND PATTI: LOVE WARRIORS Indigo Recordings 0602-747-016-2 (46m 41s) CD

Some of you may remember this twirled outfit's technoid version of the TV chestnut 'Rawhide', which says it all: tape loops and sampling and machinery gone mad. It's clever and inventive, but hard to take as a staple diet... [A:A] [2]

JACKSON BROWNE: WORLD IN MOTION Elektra EKT 51

This is the kind of formula music you either love or hate: cracker musicians backing a still-political singer-songwriter. Browne's less of an anachronism now that the world's going green, so reserve any snickers. It's still immaculate West Coast rock. [A:1] [1]

ANDY DAVIS: CLEVE DON Pier MMC 1019

It would be too easy to crib from our own Neville Farmer's liner notes, which don't tell us that this soothing package from the multi-talented Davis is also a sonic delight. Try to imagine a stew of jazz, folk and pop and you're almost there. [A:A] [1]

RICHARD ELLIOT: TAKE TO THE SKIES Intima/Virgin ENVLP 527

We're willing to forgive Elliot this shameless display of San- bornism only because he used to be the lead singer for Tower Of Power. One for Jacuzzi users. [A:1] [1]

THE FALL: SEMINAL LIVE Beggars Banquet BBL 102CD (60m 02s) CD

Part-live and part-studio, the latest of Mark E's excessive, relentless exploitation of indie freedom. The problem is that the band does such a terrific version of the Kinks 'Victoria', now rendered as a political shout, but maybe that was just Brix... [A:1] [1]

OST: DREAM A LITTLE DREAM Cypress YL 0125

Soundtrack for another teen flick, this time employing Otis Redding, Lone Justice, Van Morrison, REM and other performers with more weight than, say, Foreigner. The Mama Cass title track is sung by ex-Elvin Bishop Band, ex-Starship ace Mickey Thomas. It's reprised with some... [A:1]

OST: ROADHOUSE Arista 259 948 (41m 37s) CD

The soundtrack for a film about a bouncer's life at a juke joint. The Jeff Healey Band, who play the band in the movie, feature prominently with four tracks including a fine 'Hoochie Coochie Man', while the rest of the package include Little Feat, Bob Seger, Otis Redding and leading man Patrick Swayze. [A:1] [1]

PUSSY GALORE: DIAL 'M' Caroline CAROL CD 1369

The 'M' you dial is for an Oedipal insult, this setting the tone for a deliberately offensive indie-style trash exercise just right for coprolatrics. Strangely enough, there are some dandy songs buried under the mire. [B:1/2] [1]


The 'Good News' is that the band's third is a cracker. Cere- dence-like, yet, but the Rainmak- ers deserve more than to be in the shadow of REM; they 'choogle' according to Fogerty's Law. The 'Bad News' is that this isn't a double LP/CD. [A:1] [1]

SOULED AMERICAN: FLUBBER Rough Trade Rough 141

Sequel to last year's amazing FE, souled American sounding even more like a marriage between Little Feat and The Band, with the wedding fuelled by home- brew. But instead of drifting into indolent malaise or aural DTF, the music carries the listener along its woozy path, like walking a straight line after failing the breathalyzer. A little masterpiece. [A:1] [1]

TUCK AND PATTI: LOVE WARRIORS Virgin CVX2591 (55m 34s) CD

Rapid follow-up for the Womack and Womack-like duo. Superior jazzy vocalizing and immaculate, tasteful arrangements render appropriate even such unlikely covers as the Beatles' 'Honey Pie' and (honestly) a Hendrix medley. [A:1] [1]

TWO NICE GIRLS: 2 NICE GIRLS Rough Trade ROUGH 135 LP

Great name for a trio, eh? This Texan crew sounds just like what you'd expect of the genera- tion following the Roches and Suzanne Vega. Musically gorgeous, an acoustic delight, but it smacks too much of the dorm room. The Tanita Syn- drome spreads... [A:1] [2]

TIM WEISBERG: OUTRAGEOUS TEMPTATIONS Cypress YL 0123

Or an audiophile record of the old 'precursor to New Age' sort. Weisberg is, depending on your attention span, either the flute- playing equivalent of David San- born or James Galway for the under-50s. Sweet? Yes. Interest- ing. Not really. [A:2]

ANDY DAVIS: CLEVE DON Pier

Taking world music a stage further by avoiding slavish adherence to roots purism, WIC blend Indian music with dance/ synth/pop, not surprising when you realise that a key player is also half of Blancmange. What the Beatles and the Byrds started when they flirted with sitar has turned out to be something as tasty as the curry it will probably make you crave. A joy. [A:1] [1]

THE WYGALS: HONEYCOCKS IN THE WHITHERSOWER Rough Trade Rough 134 LP

Described as 'guitar-based, melo- dic rock music' but the influences are too Velvet-y by half. Fortunately, American indie bands haven't forgotten how to smile, so Sugarcubes/Wedding Present casualties will find this far too merry to die by. [A:1] [1]

Also received:

OST: DO THE RIGHT THING Motown/EMI Z72665 (55m 3is) CD

Funk for an inner-city tale: Jar- reau, Public Enemy, etc. [A:1] [1]

VARIOUS: CRITICS CHOICE II Cypress YL 0122

Second sampler from Cypress, prime West Coast pop/rock. [A:1] [2]

VARIOUS: PARADISE REGAINED Republic Records LIC 20 LP

(Dist. by Rough Trade) Fine intro to a more soulful house genre. [A:1] [2]

VARIOUS: GREENPEACE – RAINBOW WARRIORS RCA PD74065(2) (74m 47s; 59m 54s) CD

31 tracks, with profits for ecol- ogy. U2, REM, INXS, Sting, Sim- ple Minds, Peter Gabriel, Sade, Eurythmics, etc. [A:1] [1]
Chandos

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Margaret Fingerhut
CHAN 8765 • CD, ABRD/ABTO 1403 • LP & Cassette

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CHAN 8766 • CD, ABRD/ABTO 1404 • LP & Cassette

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THE BEACH BOYS: SURFER GIRLS/SURF'N'USA Mobile Fidelity UDCC 521 (49m 57s) CD
Two LPs on one gold CD, the Beach Boys' earliest recordings and specific proof that LPs sure were bad value back in '63. Surf'n'and'n'cars'n'gurfs, but by the end of 'In My Room' you knew that Brian Wilson was a genius. Not the best place to start, even though it's the beginning, but historically a must. [A/B:1]

BETTY CARTER: THE BEBOP GIRL Official/Charly 83 023 (40m 05s) CD
A jazz-vocals fest, the late 1940s and early- to- mid 1950s nightclub band captured perfectly by a vocalist of no mean talent. Stuck backing for part of the collection courtesy of the Lionel Hampton orchestra. [A/B:1/1]

COUNTRY JOE & THE FISH: ELECTRIC MUSIC FOR THE MIND AND BODY Vanguard/START VMP 5301 (42m 08s) CD
The first listed is a hit- laden country legend. Walnut, also from Charly, is now up to Vol 10 on LP and Vol 6 on CD.

SANDRA WRIGHT: WOUNDED WOMAN Demon Fiend 138
This month's Great Lost Artist, a soul singer so easily of the First Rank. Even if you rate Aretha as the Queen, Wright is at least the Princess Royal. This set from 1974 begs only one question: what'll it take to get her back in the studio? [A1]

ALSO RECEIVED:

SHEENA EASTON: FOR YOUR EYES ONLY THE BEST OF EMI CDEM 3556 (65m 32s) CD
18 songs, from naive novice to Prince protegé. [A1/2]

BB KING: INTRODUCING MCA Records DMCB 8001 (42m 08s) CD
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VARIOUS: PAVO AND TIGRES Stylus SMR 976
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Hi-Fi News & Record Review
September 1999
BACK DOOR

PETE CLARK

If the Grateful Dead hadn’t come along of their own accord, it would have been necessary to hallucinate them. Their influence on popular music over the last quarter century has been incalculable: an avalanche of legendary live performances, a maddeningly erratic slew of albums, but most of all an attitude. The group have remained utterly non-aligned from the outset: scarcely a decision has been made in their career which has had the taint of commerce or compromise. Their first appearances are bathed in myth and this is how it should be. As house band to Ken Kesey’s merry troupe of acid pranksters, their earliest performances are recorded for posterity in Tom Wolf’s Electric Kool-Aid Acid Test. They moved straight from that to the wider stage afforded by The Summer Of Love: forget straight from that to the wider stage afforded by The Summer Of Love: forget Big Brother — the soundtrack for Haight Ashbury was provided by the Grateful Dead. Originally formed in 1965 and initially called The Warlocks, the Dead recorded their first LP, appropriately enough, in 1966. The members of the group were Jerry Garcia, guitarist and artist; a veteran of many a jug band, Bob Weir (guitar), Ron ‘Pigpen’ McKernan (blowing, banging and imbibing) and Bill Kreutzmann (drums), all of whom had been in rock bands in the San Francisco area, and Phil Lesh (bass extraordinary), who had been a composer of electronic music. Their self-titled debut effort, recorded in three days and mixed in one, was spattered with cover versions as was common at the time — ‘Good Morning Little Schoolgirl’, ‘Morning Dew’ — but also contained enough original material to apprise the uninhibited of where the Dead’s collective head was at. The Golden Road (To Unlimited Devotion) and the ten-minute guitar workout ‘Viola Lee Blues’. The band’s trademarks were already on place: fragile union was pitched somewhere between the melody and that place called flat, twin guitars by turns ethereal and passionate, loping bass figures and busy percussion, plus Pigpen steaming into every gap with anything that came to hand.

The Dead saw out the sixties with another pair of albums, Anthem Of The Sun (’67) and Anochexoxoxica (’69), which saw the group moving towards all-original compositions (who else could write tunes with titles like ‘Cryptical Envelopment’ and ‘Quadlibet For Tenderness’?), usually composed with the aid of non-playing lyricist Robert Hunter and ornamented by sleeves of baroque psychedelia designed by the likes of Rick Griffin and Kelley/ Mouse.

But the records were a pale imitation of the group live. They quickly established a reputation for sets which could see the audience through the best part of an eight-hour trip, improvising to a degree which made Cream seem as concise as Buddy Holly. A Grateful Dead concert was an experience in which the audience was bound together by a profusion of hair, LSD and lurid tie-dye. Marriages were made and dissolved in the time it took the Dead to tune up for ‘Dark Star’. Their next recording step was therefore obvious: it had to be a live one.

Live Dead (’69) was the answer. For the first time (not including some dodgy bits off must have choked on their chilum when American Beauty appeared later the same year, offering more of the same.

The burst of creativity next manifested itself on a deluge of solo recordings by members of the band. Solo is a bit of a misnomer because most of the group popped up on most of the records. Not all of the LPs were unqualified successes, to put it mildly, but three are still worth serious consideration and have just been reissued by Ace in conjunction with Grateful Dead Records. Garcia’s debut solo shot, The Wheel, appeared in 1971 to a favourable response from critics and dophedheads alike but, listening again to tracks like ‘Sugarare’ and ‘Loser’, it’s worth a lot more than that. Another which has lasted is Bob Weir’s Ace, a straightforward rock ‘n’ roll effort which nevertheless finds room for the great ballad ‘Cassady’. The third honorable survivor is the strangest: Mickey Hart’s Rolling Thunder ’74 could conjure up neither the improvising glee of the group live, nor the fetching tunesmanship of the golden burst of 1970. Worse still, the group suffered the loss of Pigpen through the almost inevitable cirrhosis, and while he was not central to the Dead play musically, he embodied much of their reason for existing.

The Dead contrived a return to form in 1975 with Blues For Allah, which at its best achieved an unexpectedly funky quality, almost as if someone in the group had been listening to Little Feat. But the rest of the decade saw the Dead’s recorded output in decline: their last set of new material for a new decade were the bereft in the main of both tunes and virt: In The Wake Of The Flood (’79) and Turn The Mule Hotel (’74) could conjure up neither the improvising glee of the group live, nor the fetching tunesmanship of the golden burst of 1970. Worse still, the group suffered the loss of Pigpen through the almost inevitable cirrhosis, and while he was not central to the Dead play musically, he embodied much of their reason for existing.

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In 1988 Grateful Dead had a top ten single in the US charts, a new generation of Deadheads emerged... on ‘Anthem Of The Sun’, the Dead were revealed in all their true glory on vinyl. The aforementioned ‘Dark Star’ was a must listening experience for anyone considering a career in drugs, ‘St Stephen’ was an object lesson in purposeful hesitancy, while ‘Turn On Your Love Light’ bristled with the kind of guitar and double drum urgency that gave the lie to the school of thought that tagged the band a gutless wonder. Although the Dead would go on to record several more live shots throughout their career, notably the pair of live sets released during 1971 and 1972, this first was the true encapsulation of the Grateful Dead’s concert persona. 1970 was probably the Dead’s most productive year. They followed up their blistering live double with a pair of albums that could scarcely have been in greater contrast. Workingman’s Dead came as a severe shock to those that thought they had the measure of the Dead. Anyone who thought that was a
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