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The London Marathon

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It has always been considered that the most demanding programme from a Communications point of view is the Universities Boat Race from Putney to Mortlake. In recent years, however, coverage of the London Marathon has provided an even greater test of Radio Links resources. This year it came only two weeks after the Boat Race! The live Marathon programme covered the 26 miles 385 yards from Blackheath, past the Cutty Sark, Jamaica Road, Tower Bridge, The Isle of Dogs, The Tower of London, up The Mall and the finish at Westminster Bridge with continuous uninterrupted coverage.

From a television point of view the event is divided into two distinct parts. There is the race at the front, which has to be shown in the same professional way as any other athletics event. Then there is the spectacle of the thousands of fun runners and celebrities as they pass the well known landmarks, egged on by the crowds; the street parties; and the festivities along the route. The first requires continuous coverage of the leaders, using mobile cameras, and the second, a large n}lmber of static cameras distributed at places of interest.

This year, there were twenty-three cameras in twenty-eight positions along the route with OB units located at Blackheath (four cameras), Charlton Park Road (one), Woolwich Barracks (one), Cutty Sark (three), The Jamaica Road Street Party (one), The Tower (three), The Mall (five) and finally Westminster Bridge (four). There were also two portable single camera units (psc's) dropping

Heletele in action, with remote camera in ball - Photo Helicopter Hire

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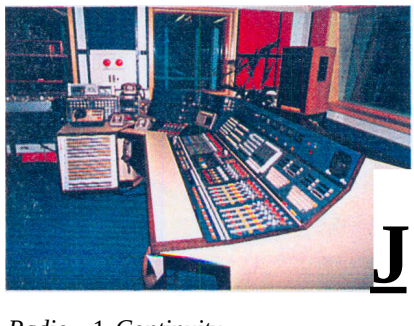
Radio 1 Moves to Egton

Two new Radio I continuity suites, K and L, came into service in April. They have been included in a new complex that has been built from a suite of offices in Egton House near BH. Each suite consists of a control cubicle with its associated studio in which a disc-jockey can take over the running of the network.

A special feature is a fibre-optic link via the Egton House apparatus room to the main switching frame in BH. By means of a solid-state logic system a large number of outside sources can be switched through the fibre-optic link into programmes. Each suite has also access to fifteen cartridge mathines, three EMT 950 gram decks and two compact disc players. It is the first time compact disc players have been included as an integral part of the desk itself.

The cubicle desk is a BBC-



Radio 1 Continuity

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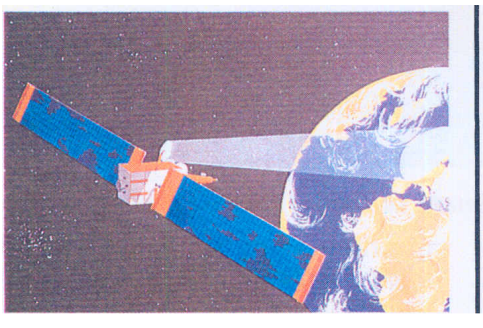
DBS Project Abandoned

The recent collapse of the DBS consortium must be disappointing news to many engineers. Despite the technical attractions of satellite broadcasting, the UK DBS project has been abandoned in its present form because of dollbts about its financial viability.

During the first few years of a subscription-based DBS service, the operating costs, such as the costs of programming, satellites, billing and administration, will exceed the revenue from subscriptions. Assuming reasonable growth in the number of DBS subscribers, the income from subscriptions might cover the costs during the fourth year of the service, and lead to profits in subsequent years. With luck, these profits should be ample compensation for the losses incurred at the beginning of the service.



If the growth in the DBS audience did not meet expectations, the service might not break even until, say, the sixth year. As the guaranteed life of the satellite might be only 10 years, profits in years 7 - 10 would be unlikely to offset the accumulated deficits in previous years.

Even worse. it may become obvious after a few years that the DBS project is doomed to failure and hence the project would need to be aborted having incurred massive losses.

In summary, DBS is an expensive. high risk project which is unlikely to yield a high rate of return on investment. One intrigi.ting thought is that it might be possible to squeeze a high definition television signal into a DBS channel. Ilcnce it might be sensible to delay the DBS projcct until the early 1990's when suitable large screen displays will probably become available for domcstic use.

Radio 1 at Egton
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designed and built Maxicon DK2/25. It contains control panels for the microphone, the studio repro, the cubicle repro and outside source channels. There are six microphones; five for guest speakers coming up on a single sub-mixer and a separate microphone for the presenter, who can control all the microphones from the studio desk. The studio repro panel gives control of six zero-level sources located in the studio. They can be in any combination of gram decks, cartridge players, tape decks or compact disc players. The cubicle repro panel duplicates the controls, which it can either override or delegate to the studio. The outside source panel provides access to ten stereo outside sources.

Four telephone balance units, UN 19/47, have inputs from two direct-exchange lines and two EBX lines. These are fed into the continuity.

The selection of outside sources is made by a Qwerty keyboard. A visual display shows whether the correct source is to line. Errors made when entering the source or destination information is corrected by logic in the system itself.

The apparatus room is unique in the large number of facilities it handles. It provides power supplies and technical services to bot11 the Egton House and Langham Street premises. These include the programme presentation suite in which 'jingles' and trailers are produced, the gram library suite, the quality monitoring area, the rf broadband equipment and the continuity reception desk, with its video security cameras and monitors.

Radio 1 Cubicle

The project took two and a half years to complete. The continuities were built into an. area which had previously been a suite of offices. Geoff Bottom of SCPD the project leader for the London Control Room and Continuities, had the overall responsibility for the area. Although John Clarke of SCPD as project leader for the continuitics K and L had day-to-day responsibility for them; he retired at Easter with their completion. He was assisted by SCPD engineers John Tidy and Kevin Wise. T ony Robinson of ACED was the architect principally concerned in designing and supervising the building work.

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Transmitters Opened

The following uhf transmitters have opened since April:

Felixstowe	Suffolk
Horn Street	Kent
Gravesend	Kent
Pwll-glas	Clwyd
Woodcombe	Somerset
Boddam	Grampian
Glespin	Strathclyde
Lamberhurst	Kent
Mickleham	Surrey
Glenelly Valley	Co. Tyrone
Wattsville	Gwent
Eardiston	Worcester
Sedlescombe	East Sussex
Skirmett	axon
Mochdre	Clwyd

The following vhf transmitters have opened or changed:

Llanrhaedr-ym -Mochnan t	Clwyd
Llanfyllin	Powys
Ballycastle	Co. Antrium
Llanddona	Gwynedd

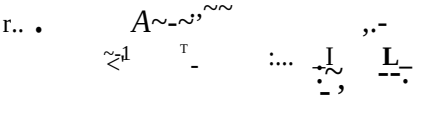
The following local radio transmitters have opened or changed:

The Wrekin	R. Shropshire
Shrewsbury	
Ludlow	
Woofferton	
Sandy Heath	R. Bedfordshire
Luton	
Bedford	
High Hunsley	R. Humberside

"Copies of the 1985 Transmitter Pocket Booklet are now available by ringing LUll 5040."

As-Iarge-as-life with Macro-Glide

Engineers and the Film Unit Manager in NPC Bristol were posed quite a problem when the Natural History Unit asked for a macro-television facility that could move in any direction. The success of the macro-bench, (see Eng Inf No 11) showed that it was possible to use a fixed camera and moving subject to produce exceptional television pictures. However, John Downer, a producer with the NHU, wanted the same sort of camera magnification, for the "Intergalactic Garden" programme but the camera needed to move to follow the subject around a miniature set, and still maintain the magnification.



The Macro-glide facility

Denis Valitis, Engineering Services Manager at -Bristol said, 'We had to translate the production requirements into an engineering specification. Furthermore, the timescale was very short; we were only given the problem in January, and the facility had to be completed by the end of April".

A room in the basement of 19 Tyndalls Park Road was set aside for the project, which became known as the "Macro-Glide". A team was put together which combined the talents of builders, mechanical engineers and electronic engineers. Building Services Manager Gerald Porter was set the main tasks of converting two basements into the new studio and providing two RSJ support beams that would carry the weight of the Macro-Glide. Arthur Mockford (since retired), the Mechanical Maintenance Supervisor, had the difficult task of building a metal support cradle for the macro-camera that would allow it to move in any direction. Paul Townsend from Special Facilities had the problem of controlling the glide and putting the pictures onto the screen.

The specification called for the glide to move 2.5 metres along the length of the studio, 1 m across the studio and have a vertical movement of 0.5 m. The camera would be able to rotate through a full 360 degrees, limited only by the control cables. All this to happen at speeds of up to 0.25 metres per.second.

The macro-glide would be suspended from the ceiling via the two parallel RSJ's. These needed to be erected to within a millimetre tolerance because the tracking rails had limited adjustments for alignment over the 2.5 metre movement called for in the specification. Underneath, an aluminium alloy support structure would carry the four main stepping motors, counter balance weights, and Ikegami HL 79D or film camera.

The glide was designed and built section by section in the mechanical workshops. No drawings were available so each piece had to be machined to fit as the project progressed. The pre-fabricated parts were then dismantled and re-erected in the basement room when the builders had finished the support beams.

Meanwhile the control of the camera was causing a few problems. A simple joystick would provide comparitively coarse control in only two dimensions. Therefore a pressure sensitive joystick control was obtained from the American aerospace industry. This enabled the velocity of movement to be controlled by simple pressure; the 'harder the pressure the faster the movement. Up to six movements are possible from this joystick, though only four are actually used. The "thumb" button may eventually be used for future developments such as banking and tilting, thus achieving an "in flight" effect.

In the basement, the clearance between the floor and ceiling was insufficient for the elevation range. Some thought was given to reducing the size of the mounting frame, but various mechanical constraints prevented this. The only viable solution was, therefore, to lower the basement floor by 0.25 m, and then re-lay the concrete. Pressure on the time-scale meant that this had to be done over the Easter weekend, the additional work was completed in record time. Luckily there was only one "unknown hazard", a drainage pipe that had long since been dis-used.

A three-phase electricity supply was installed to reinforce the building's power supply so that the scenes could be lit to tv production levels. HMI discharge lamps were purchased because these provide a high intensity light source, while not being so hot that the specimens die.

The building work finished, the glide and associated electronics came together, and within forty-eight hours the system was working. The problems were not over however, the slight judder caused by the stepper motors was apparent under high magnifications and at slow speeds. The pendulum effect of the glide caused a small back-lash effect which was partially corrected by extra strengthening of the frame.

The glide met 90% of the producers requirements a remarkable achievement in view of the different engineering disciplines involved and the short timescale of the project.

The NHU were delighted with the new unique facility and have already asked if the speed and elevation range can be increased. Having discovered the potential of the glide, they 'would like more and more facilities. Plans are being made to interface the individual movements onto a small personal

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