

ENGINE

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The quarterly for BBC engineering, technical and operational staff

AUTUMN 1992 No. 50

R. D. DEMONSTRATIONS



Research Department recently opened its doors to visitors from both inside and outside the BBC, to demonstrate some of the key projects currently undertaken by the department. The event was judged to be a great success, with some 620 people from industry, government and the media visiting Kingswood Warren during the four days.

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John Barrett, RD

Comparative off-screen photos of (top) the experimental analogue 625-line PAL transmission from Crystal Palace, showing multipath and other propagation distortions, and (below) the superior picture quality of the experimental 30 Mbit/s digital 625-line transmission (see page 2)

ENGINEERING

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As *Eng Inf* is an internal BBC magazine, it would be appreciated if no reference was made to it in articles, magazines, etc, published outside the BBC.

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Stories for the Spring 1993 edition should be forwarded to the editor by Friday 12th February, 1993.

As we now have PC facilities, your word-processed text may be sent in on a 3Y2-inch diskette.

DO Practice Handbook

A new edition of the *Drawing Office Practice Handbook* is now available from Engineering Training Department at Wood Norton.

Last revised in 1975, the handbook has been prepared by a working party of the Drawing Office Liaison Group, and is provided primarily to give guidance to engineering drawing offices within the BBC. It is also available to other areas that have the need to prepare engineering drawings on an infrequent basis. This revised edition contains updated sections plus new information relating to the generation of drawings using CAD techniques.

Copies may be obtained from:
the Distribution Unit
at Wood Norton (ext 318)
at a cost of £20

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The demonstrations were chosen to illustrate the wide range of work that is done at Kingswood, covering television and radio both in the studio and at the transmitter.

Six areas of work were on display:-

- . Low bit-rate digital HDTV
- . Digital Audio Broadcasting (DAB)
- . Enhanced studio PAL
- . Cordless OB cameras
- . Optical routing of digital television signals
- . Control room acoustics

The digital HDTV demonstration proved to be very topical, as it included the results of some very recent BBC tests of a high bit-rate modem produced by Thomson-CSF/LEROF France. The system successfully transmitted 60Mbit/s of data within a standard uhf 8MHz television channel. When

used in combination with techniques presently being developed for video compression, the system would in principle be able to transmit two HDTV programmes.

For the tests, a 30Mbit/s digital 625-line vision signal was combined with a similar rate of pseudo random data and transmitted at 50W ERP from the Crystal Palace mast. The signal was successfully received at Kingswood and at a number of other test sites in south London and Surrey. During the HDTV demonstration, visitors were shown a video tape recording which compared the superior picture quality of the digital signal to a conventional analogue PAL signal, transmitted over the same uhf link (see photos on page 1).

Henry Price
H.E.I.D.

Transmitter News

The following services have opened, changed or closed since our last issue:

New TV relays

Borve	Outer Hebrides
Clovenfords	Borders
Elland	West Yorkshire
Honiton	Devon
Lees	Gtr Manchester
Maentwrog	Gwynedd
Preston	Dorset
Queslett	West Midlands
Trebanog	Mid Glamorgan

In addition, the Seagry Court relay at Swindon has had its antenna modified, to improve coverage.

Addition of Nicam Stereo
Durrus (BBC2) Aberdeenshire

New FM Stations

Combe Martin	Devon
Ness of Lewis	Outer Hebrides

Radio 1 on FM

Keighley	West Yorkshire
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Radios 1 and 4 on FM

Penifiler	Isle of Skye
Skriaig	Isle of Skye

Frequency changes affecting Radios 2, 3 and/ or Scotland have also taken place at these stations.

Local Radio MW Closures
Shrewsbury (756 kHz) R. Shropshire

DEVELOPMENT GROUP

New Title, New Roles

Following the reorganisation of Design & Equipment Department announced in March '92, Development Group assumed its new title from 1st November. Three broadly-based sections will cover work on *control systems, studios* - principally digital audio and video - and all aspects of *transmission* including ancillary services.

Apart from offering design and consultancy services, the Group includes prototype services, outside

contracts and test staff to support small-batch manufacture and repeat orders for existing designs, with full warranty and repair cover. Development Group will remain at Avenue House until the new accommodation at Kingswood Warren is ready at the end of 1993.

Reporting to Phil Laven, CER&D, the Group is headed by John Astle, together with Section Heads - David Bradshaw, David King and John Sykes - and Business & Quality Manager, Peter Gregory.

NETWORK RADIO

Drama Studio MV 6

Mike Taylor and Simon Cooke describe Maida Vale's new drama studio: Suite 6.

Maida Vale - a former skating rink dating back to approximately 1910 - was acquired by the BBC and converted into rehearsal and recording studios during the 1930s. Today, it houses seven production studios, The Radiophonic Workshop and accommodation for support staff.

For some while, MV6 had been an under-utilised music studio and it was decided to refurbish it completely as a new drama studio to complement MV7 - London's principal Radio drama studio.

Architecture

The production and operational principles which had already been established for the White City drama suites - by consultant architects, Renton Howard Wood Levin - were adopted for MV6 as far as possible, within the limitation and restrictions of the existing space. The ideas collected by the BBC Drama Studio Study Group, during their tour of comparable facilities at the time of the Langham Project, have also been incorporated.

Effective communication between the cast and the director was considered

General view of the new cubicle

to be very important, as was good visibility into as many of the acoustic spaces as possible.

Studio 6 therefore provides a range of interlinked acoustic environments, including a dead room with an anechoic

acoustic trap for outdoor and distance perspectives. A substantial live area with a curtain partition provides the main acting area with a kitchen and telephone booth. Effects stairs to a new studio balcony lead to a new green room. A number of variable acoustic panels are incorporated, while various types of openable doors allow great flexibility when planning studio sets. This arrangement also provides good communications between the different environments in which the action proceeds physically as well as acoustically.

A new cubicle has been cut into the rear corner of the studio, utilising existing available corridor space. It provides three-window visual communication with the main part of the studio. The loudspeaker and vision monitoring have been incorporated into the architecture of the observation windows and the plan form of the cubicle has been designed to suit the preferred 'front-to-back' arrangement of operator, production area and sound effects sub-mixer area. Lack of coloration, and stable and accurate stereo imaging, were prime objectives for the monitoring. This has led to an irregular octagonal-shaped control room with near parallel sides and a symmetrical plan.



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The upstairs green room