

GOR IPDP

# ENG INF

The Quarterly For BBC Engineering Staff

## BBC OPENS 1,000th TV TRANSMITTER

On Friday 7th November, the one-thousandth uhf colour television transmitter came into operation at Hedleyhope, in County Durham.

The opening was performed by Mike Neville, famous as the presenter of the magazine programme, 'Look North', from our Newcastle studios. He was accompanied by George MacKenzie, Chief Engineer, Transmission.

The Hedleyhope relay station was built to provide uhf colour television services for about 1,000 residents of Waterhouses, Esh Winning and East Hedleyhope in the Deerness valley, County Durham.

The engineers in Transmitter Capital Projects Department have been building transmitting stations for the colour services of BBC 1 and BBC 2 television for thirteen years. The first station which opened the 625-line service of BBC 2 back in 1964 was Crystal Palace. Other transmitting stations were added in the following years, and the first colour transmissions started on 625-lines in 1967. In 1969

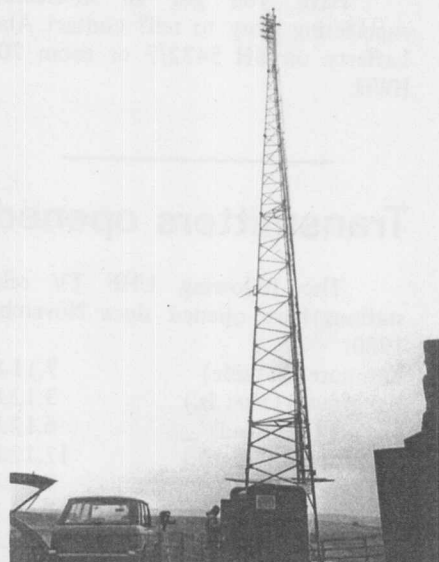


*Mike Neville connects the aerial to the transmitters at Hedleyhope, while George MacKenzie makes sure that it is not cross-threaded*

the BBC 1 service was duplicated on 625-lines and in colour.

During the '70's the pace of uhf television transmitter building increased. TCPD engineers adapted their techniques to build smaller and smaller stations to cover the small remaining areas not served by the original high-power stations. Many hundreds of stations were needed, and the engineers gradually moved from the individual construction of the big stations to the production-line techniques needed for the seventy relay stations which come on the air every year.

Gordon Bowhay, the engineer who installed the transmitters at the Hedleyhope station, says he is on the road for nearly 40 weeks in the year just installing transmitters. The other members of the teams are equally dedicated. Our rigging teams have built the steel towers and fitted the aerials at



*The Hedleyhope mast and transmitter cubicle being filmed as a possible TV news story*

## AWARD For CEEFAX PAPER

John Chambers, Head of Special Projects Section at Research Department, has won the American Institute of Electrical and Electronics Engineers (IEEE) "outstanding paper of 1980" award, for a paper entitled "ENHANCED UK TELETEXT MOVES TOWARDS STILL PICTURES".

John presented the paper at the IEEE Spring Conference held in Chicago earlier this year. The paper has been published as Research Report number 1980/4, and in "IEEE Transactions". The award from the IEEE comes in the form of a commemorative plaque and three hundred dollars cash.



stations throughout the length and breadth of the country. There are specialist aerial engineers, all keeping the relay programme going. To save time and expense at the sites of the new stations, much of the construction work is done at the TCPD base, at Brookmans Park in Hertfordshire. The transmitters are tested, the aerials assembled and the cubicles, which eventually house the equipment, are wired and fitted before being taken to site.

The total capital cost of a relay station to the broadcasters is about £50,500. This represents about £50 per person in the service area. The cost is shared between the BBC and the IBA - when the fourth channel transmitter has been installed by the IBA, the shares will be roughly 50-50.

Breakdown of costs (£000's):	
Steel Tower	6.0
Site (purchase & preparation)	4.8
Cubicle	1.9
Electricity supply	4.4
Aerial system	5.2
Transport	0.5
Wiring, ancillary etc.	1.1
BBC transmitters	7.4
IBA transmitter (estimated)	4.0
BBC staff effort	15.2
<b>Total</b>	<b>50.5</b>

The cost of the Hedleyhope station is typical for a straightforward relay where there were no particularly difficult problems. At stations serving fewer people or where long access tracks or expensive towers are needed the cost per person can rise to £100 or £150 or even more.

