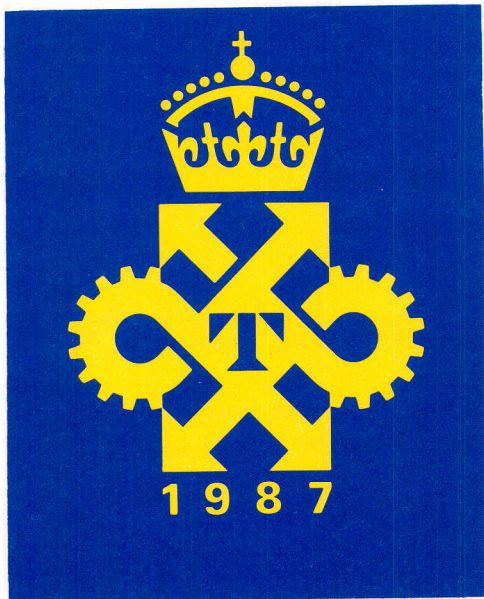


# ENGINEERING

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## BBC Engineering awarded fourth Queen's Award



BBC Engineering and the Electricity Council have been jointly awarded the Queen's Award for Technological Achievement for Radio Teleswitching. This, the fourth award to BBC Engineering, is for pioneering work with the BBC's low-frequency transmitters which send coded signals to electricity time-switches. By adding data signals to the BBC's low frequency broadcasts, without affecting the audible signals, load switches and meters on electricity consumers' premises can be remotely controlled. This enables off-peak storage systems to operate without the disadvantages of electro-mechanical time-switches and flexible tariff rates to be developed. Consumers benefit from the opportunity to take advantage of favourable tariffs, while savings of up to £80 million a year are expected in the cost of electricity generation.

Using low-frequency transmitters at Droitwich, Burghead and Westerglen, the system superimposes a data signal by phase-modulating the rf carrier. Because

of the narrow-band nature of the data-signals, the Radio Teleswitching system can be used in the areas such as basements or steel framed buildings where the field strength from the transmitters is too low for normal reception. Thus the low-frequency transmitters are ideal for this type of service.

The data signals are received and decoded by Radio Teleswitching receivers installed in consumers' premises, where they initiate the switching of tariff controlled appliances such as storage or water heaters as required. This allows the Electricity Supply Industry more flexibility to smooth peak demands and hence helps avoid the need for excess generating capacity.

The data signals originate from a message assembler located at Broadcasting House in London. Information from the Central Electricity Generating Board (CEGB) is used to key data onto one channel of the message assembler, and the resultant waveform is sent to the transmitters. The data waveform is a 25 bits/s bi-phase signal that phase-modulates the 200 KHz transmitter carrier by  $\pm 22.50$ . The absence of de in the modulating waveform maintains the overall accuracy of the transmitter frequency, which is derived from a rubidium frequency-standard. The remaining data channels on the message assembler are currently not used.

The Radio Teleswitching system was developed by engineers from Research Department, in co-operation with the Electricity Council. It has been fully available to Area Electricity Boards since 1985. Earlier evaluation tests confirm that the system does not cause interference to the Radio 4 (OK) or World Service programmes normally carried by the low-frequency transmitters.

# Edit Suite for TV News

PID Tel Recording Section have recently completed a three machine vt editing suite to provide the extra material for Daytime News summaries.

The ergonomic wrap-around desk which houses all the technical equipment was the result of much discussion. It was constructed by the Building Maintenance Workshop at Woodlands and the result was much praised by the users.

Two Sony U-Matic machines, one with slow motion ability, play into a third machine via a Grass Valley vision mixer and an Audio Developments 6-channel sound mixer. The operation is time-code controlled, with match-frame accuracy, by the new Sony 900 editor, a keyboard and VDU arrangement which can memorise up to 128 edits including wipes and mixes.

The suite also contains a time-code synchronised twin-track Studer audio recorder for lay offs and effects.

Although the project was done 'in-house' with one E.D wireman and one PID Tel Engineer - Rod Smith, no custom control panels were employed, the necessary loudspeaker selection being taken care of by the manufacturers upgrade to the audio mixer.

The capital cost for the project including acoustic treatment was under £12,000 and the suite was handed over 4~ months after approval.

# Licence Agreement

SVT Video Systems Ltd have been given a licence to manufacture the VHF Stereo Modulator MD1/7.

This modulator accepts left and right audio signals at standard level and produces a pre-tuned Band II frequency-modulated output suitable for feeding into wired distribution systems.

A multiplex output at standard level and a data input for the modulation of 'radio data' type signals is also available.

The unit is intended to be used with termination panel PA20/28.

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# Transmitter News

The following transmitters have opened or changed since January.

## UHF TELEVISION

Caergybi	Gwynedd
Chilfrome	Dorset
Clennon Valley	Devon
Eastbourne	E. Sussex
Halesowen	W. Midlands
South Brent	Devon
Wenvoe	S. Glamorgan

## VHF RADIO

Campbeltown	Strathclyde
Ilchester Crescent	Bristol
Limavady	Ulster
Les Platons	Channel Islands

## LOCAL RADIO

Bath	R. Bristol
Ilchester Crescent	R. Bristol
Woolmoor	R. York
North Hessary Tor	R. Devon
Okehampton	R. Devon
Exeter	R. Devon
Redruth	R. Cornwall
Isles of Scilly	R. Cornwall

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