

Digital TV Sound Looks Good

On 24 May Research Department engineers carried out what is believed to be the first 'all-digital' transmission of stereo television sound, using the Crystal Palace transmitter after closedown. They are now confident that a digital system will best fulfil the requirement for stereo with television from terrestrial transmitters.

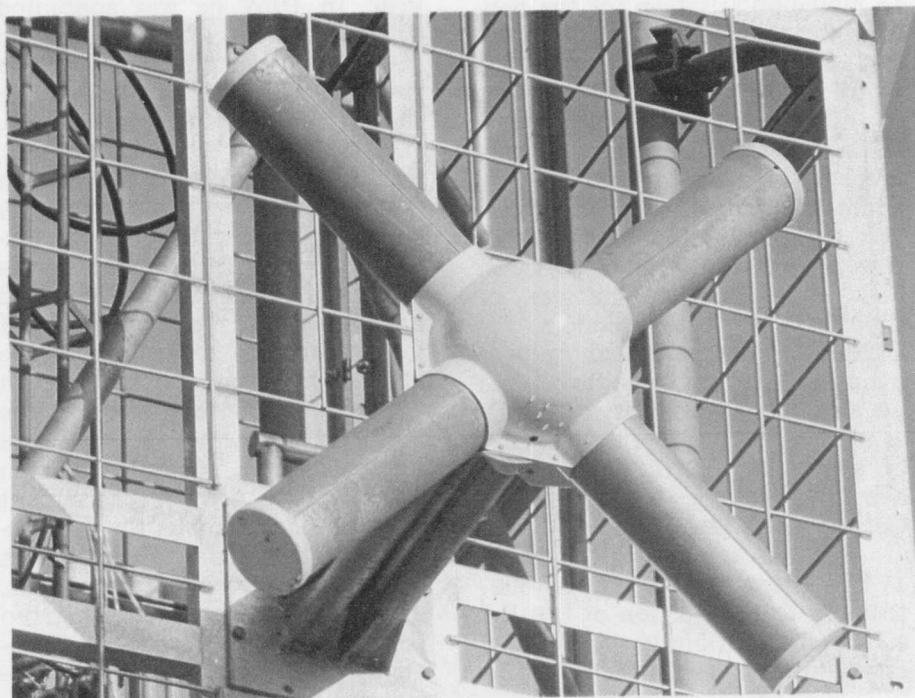
The programme consisted of a conventional (analogue) video recording of a pop concert recently featured as a simultaneous stereo broadcast on BBC television and BBC radio. The associated digital recording of the sound signals was replayed into the digital stereo transmission system without conversion to analogue form.

The equipment included a sampling-rate changer provided by Studer for converting from 44.1 to 32 kHz and a software-controlled processor for altering the pre-emphasis characteristic from that used in the recorder to the one required for transmission.

These tests are the latest in a series which began at Wenvoe (see Eng Inf No 15). That test confirmed the ruggedness of digital stereo tv sound in areas of difficult reception. Compatibility trials from Crystal Palace in March this year then confirmed that no significant interference would be caused to sound or vision reception on existing receivers.

In consultation with the Home Office, discussions with the IBA and industry are well under way with a view to the early establishment of an agreed UK specification. It is hoped that further tests can be arranged.

TCPD Special Feature



A typical mixed (circular) polarised vhf aerial under test

VHF Radio Re-Engineered

The BBC's VHF Radio Services were planned in the late 1940's/early 1950's and assumed the use of mains-powered mono receivers connected to aerials mounted 10 m above ground level. The horizontally polarised mode of transmission was chosen, because horizontally mounted domestic receiving aerials would reduce the risk of ignition interference, and minimise multipath distortion. By 1966 a network of eighty-two

transmitting stations was providing three monophonic networks to an estimated 99.3% of the population.

The introduction of stereo in 1966 meant that, for a given signal-to-noise ratio in the listeners mono receiver, it would be necessary to increase the field strength from the transmitters to achieve the same ratio in a stereo receiver. Clearly this was impractical, so the effective service area covered by the transmitters was re-defined, (from 48 dB to 54 dB relative to 1 μ V/m) leaving a requirement for low power relay transmitters to fill in the gaps thus created.

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