

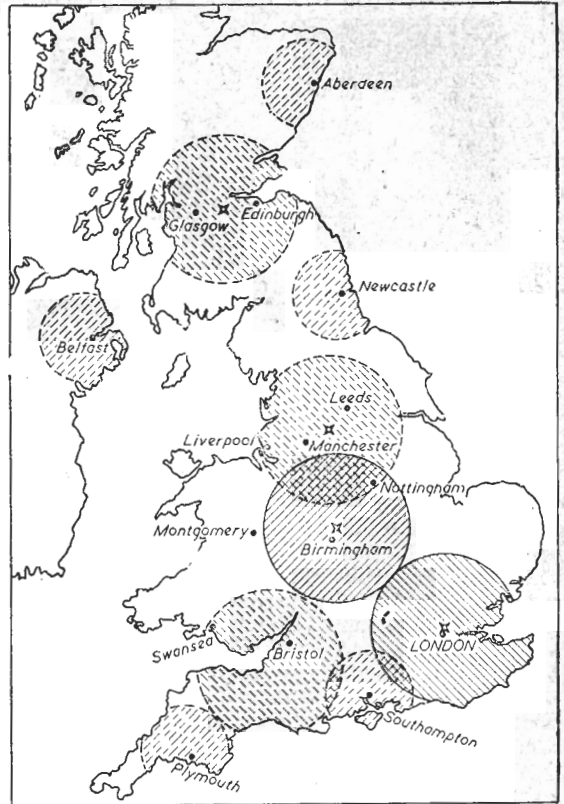
# Extending Television

## Second Link in Proposed Chain

**W**ITH the opening of the Midland television station at Sutton Coldfield, some 10 miles north of Birmingham, on December 17th, the second link in the proposed chain of transmitters in the United Kingdom was completed. Although data giving the service area of the Midland station has not yet been completed, Sir Noel Ashbridge has stated that while the average range will be about 50 miles—as shown on the accompanying map—it will be greater to the east than to the west, where the Welsh hills will constitute a formidable obstacle." During tests reception at two or three times the distance has been recorded.

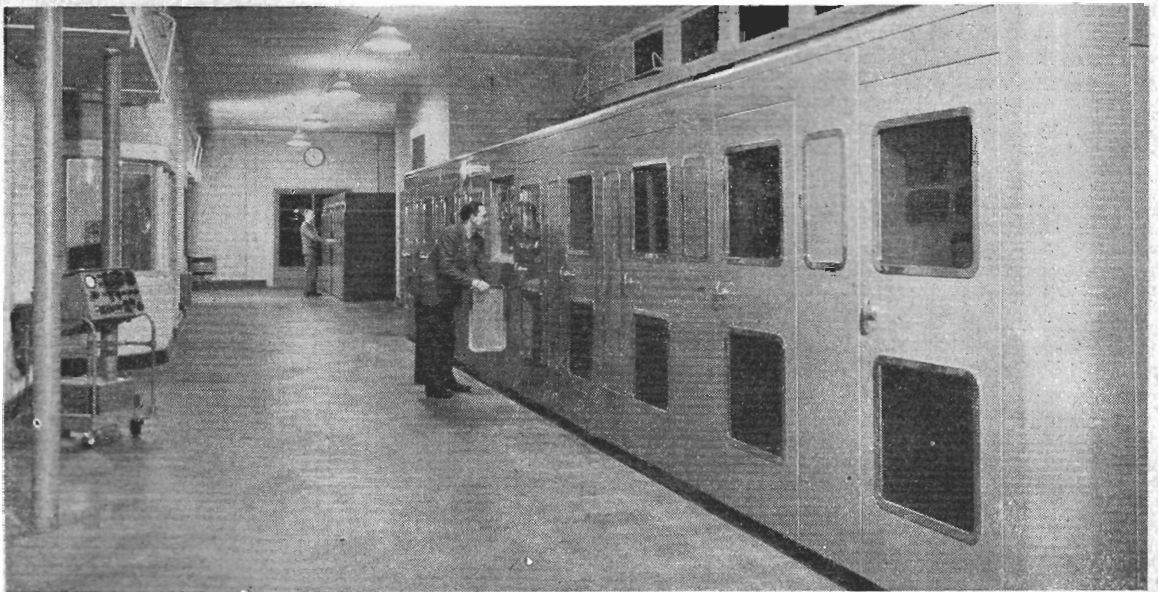
The vision transmitter, which, together with the control equipment, has been supplied by E.M.I., is operating on 61.75 Mc/s with a power of 35 kW—more than twice the power of Alexandra Palace. The crystal drives for both the vision and sound transmitters have been provided by Marconi's, whilst the vision r.f. amplifiers came from Metrovick. The Marconi 12-kW, Class "B," amplitude-modulated sound transmitter is operating on 58.25 Mc/s.

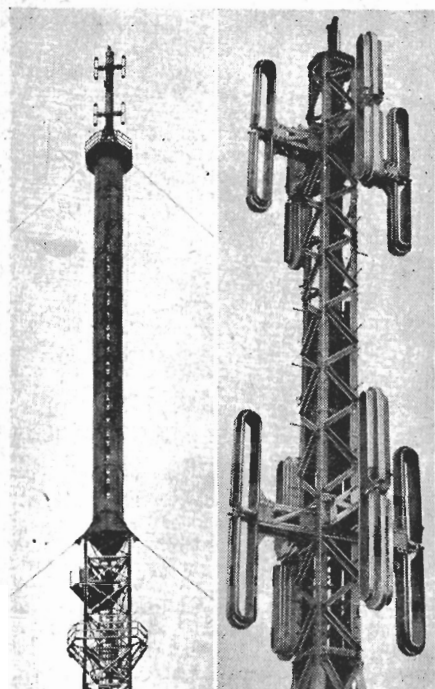
The single wide-band aerial, which will radiate both sound and vision and consists of two tiers of four vertical folded dipoles arranged in cruciform, was designed by the B.B.C. Research Department in



This map gives some idea of the anticipated coverage of the proposed chain of ten stations. Sites for the Bristol and low-power stations are not yet chosen.

The transmitter hall at Sutton Coldfield with the E.M.I. 35-kW vision transmitter in the foreground and, beyond, the Marconi 12-kW sound transmitter.





Combined sound and vision aerial array (centre) at the top of the 750-ft mast—constructed by B.I. Callender's Cables—is some 1,300 feet above sea level. The cylindrical structure below the television array (left) includes slot aerials for the proposed e.h.f. broadcasting experiments.

Control desk for the sound and vision transmitters is shown below.



collaboration with Marconi's, the manufacturers. Sound and vision signals are fed from the respective transmitters to a Marconi "Diplexer," or combining unit, from which the combined transmission is fed to the eight dipoles. We hope later to include a technical description of the station.

The plans for extending the television service to half the population of the United Kingdom within two years and to some 80 per cent by the end of 1954, provide for ten transmitters—five high-power and five low-power. The site for the third main

transmitter has already been chosen at Holme Moss in the West Riding of Yorkshire.

The site for the Scottish station has not yet been announced, although negotiations are said to be proceeding for the purchase of ground near Harthill, Lanarkshire, which is some 10 miles south of Falkirk and equi-distant from Edinburgh and Glasgow. The fifth main station is to be in the Bristol Channel area. The service area of the five low-power stations is of course still a matter of conjecture and they are shown on the map with a 30-mile radius.

Modulator stages of the Sutton Coldfield vision transmitter are on the left and the r.f. stages on the right.

