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Commercial TV in Britain

Britain's first independent commercial television station began transmitting on September 22 from Croydon, near London, where equipment provided by Marconi has been installed and put into operation. The station has, in fact, been hand-built and the 10-kw vision transmitter and the 2½-kw sound transmitter are both "laboratory prototypes." Two more transmitters of approximately the same power outputs will be installed in the near future. These will be standard production versions. The three transmitters together will reach almost 60% of the English population. Stations will continue to be opened at the rate of one a year, until the total of 14 or 15 needed gives complete coverage.

The new station is owned and operated by the Independent Television Authority, or ITA, set up in August 1954 by Parliament, with a statutory life of 10 years. Programs are produced by private companies called "program contractors." These companies must get ITA's approval regarding taste and subject matter, in order to maintain a balance in the types of programs presented.

A private specialist organization, the Independent Television News Ltd., will produce all news shows and supply them to the private companies. ITA will pass on the accuracy and impartiality of the news.

To finance ITA, the Government is lending the organization up to £2,000,000 (\$5,600,000) within the next five years, with arrangements made for additional, special government grants if necessary. The bulk of its finances, however, will come from selling time on its stations to private production companies.

The companies that produce the programs will sell advertising time within the shows but advertisers will not be permitted to "sponsor" shows. ITA controls the amount of time allotted to advertising and prescribes that commercials can come only at the beginning or end of programs, or in natural breaks in the script or program. There must not be more than six periods of advertising in an hour and none in programs of religion, royalty or national ceremonies.

BBC will continue its present program and may begin a second channel when allotted a wavelength but it will not become a commercial television service.

The Director-General of ITA, Sir Robert Fraser, has stated that there are likely to be 40 or 50 stations when commercial television is fully developed, all operating independently of each other.

10-kw Transmitter

The production version of the Marconi Band III 7½/10-kw vision transmitter will consist of a 2-kw transmitter together with a Band III Amplifier. The transmitter is housed in four standard cubicles, and the amplifier in three, all of which may be bolted together to form a continuous front.

The complete transmitter is designed to give a peak output power of approximately 10 kw under vestigial sideband conditions, at any chosen channel in the upper frequency band of 170 to 216 mc. using the British standard 405-line system. Other editions give similar facilities on 525- and 625-line systems.

Air cooling is used throughout for normal operation, and the transmitter incorporates the most advanced constructional techniques, the general design being based on the policy of generously under-running all components and valves so as to secure long life and high reliability. All units are readily accessible for maintenance.

Pushbuttons are provided on a Transmitter Control Panel for normal day-to-operation of the transmitter, which may thus be brought up on power from the control desk. The voltage and feed of the final amplifier are metered; a black level control and calibrated input attenuator are also provided on the control panel.

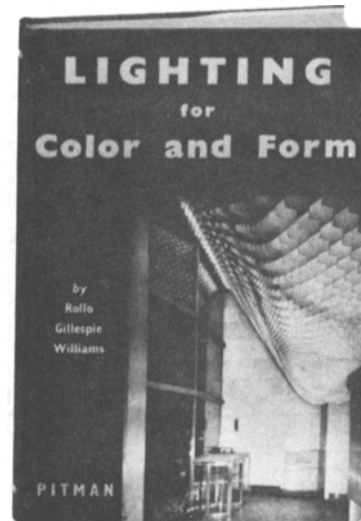
2-kw Transmitter

Drive Circuits: Crystal controlled. The crystal itself is oven-controlled and operates at a submultiple of the output frequency. Long-term stability better than 0.0002%, which permits offset carrier operation of two adjacent transmitters on the same channel. The crystal oscillator, together with associated frequency multipliers and stabilized HT supply, form a complete unit with an output of approximately 15 w at the operational frequency.

RF Circuits: The first and second RF amplifiers consist of triode valves working in single-ended grounded grid circuits, using coaxial lines as circuit elements. The final (modulated) amplifier employs an air cooled tetrode in a single-ended coaxial line circuit.

Modulator: The output signal from the control desk is bridged across the input of

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two units, namely a clamp pulse generator and a correction unit.

Clamp Pulse Generator: This produces a clamping pulse of 2-v amplitude, which will remain correctly timed in presence of noise pulses on the incoming signal, positive or negative, up to $1\frac{1}{2}$ - μ sec duration.

Correction Unit: In this unit the sync pulses are stretched, clipped to standard level, and pre-correction applied to compensate for transmitter nonlinearity. A fine gain control is provided on this unit. Signals are clamped by pulses from the clamp pulse generator, and the output is approximately 1.5 v double amplitude peak to the next stage, the preamplifier.

Preamplifier: Here the signal can be increased to approximately 50-v DAP.

Since the input is correctly clamped, the black level is maintained in the succeeding stages by d-c restoration. Coarse, and fine preset gain controls are provided on this unit.

Final clamping and Black-Level Feedback Unit: A signal is obtained via a probe in the aerial feeder rectified, and fed to this unit. The amplitude of the sync pulse in the signal thus derived is used to maintain the black level constant. The signals are also clamped by pulses from the clamp pulse generator. Should a fault occur in the feedback path, the feedback control may be switched out of operation.

Final Amplifier and Modulator: The unit is fed from the final clamping stage through an input cathode follower, the whole cir-

cuit being directly coupled to maintain the constancy of black level. A cathode follower feeds a normal shunt regulated amplifier, followed by a shunt regulated cathode follower stage, in order to supply the large reactive current demanded by the stray capacitance appearing at the modulation terminals of the amplifier. A peak modulation limiter is incorporated in this unit.

Band III Amplifier

The modulated output of the 2-kw transmitter is fed to the input of this amplifier, which consists of a single-ended air-cooled triode operating in a coaxial line circuit to raise the output level to approximately 10 kw peak.

Wide-Screen Motion Pictures

The Society has just produced a brief booklet on wide-screen motion pictures. It is a comprehensive outline of the several new methods of motion-picture production and exhibition that came into use during and after 1952, and an indication of the ways in which they differ from the techniques that became "standard" during the late nineteen twenties.

The booklet, which was prepared at the suggestion of Ralph Hetzel, Vice-President of the Motion Picture Export Association, covers 35mm sound pictures, Cinerama, CinemaScope, VistaVision, Superscope and Todd-AO. Details of camera aperture, projection aperture, aspect ratio, direction and rate of film travel, number and type of soundtracks and loudspeakers, and type of screen are included in each section.

Copies are available at no charge to Society members upon request until present supply is exhausted—S.G.

Education, Industry News

The National Association of Educational Broadcasters has made a survey of the television in the U.S. and reports much activity in this field. During the past summer TV workshops were offered with an increasing emphasis on the technical side of the medium.


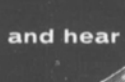
In addition to the writing, directing and program planning courses which are given by a great many institutions, the University of Miami, Coral Gables, Fla., offered a series of courses including: Studio Operations, Control Room Operations, Performance Skills, Set Construction and Graphics. Michigan State University at East Lansing, Mich., offered workshops in Production Methods, and Production Laboratory; and the University of Southern California, which recently installed a good deal of modern, up-to-date projection equipment, offered a comprehensive course in Control Room Operation, Television Laboratory and Telecommunications Workshop.

Membership Certificates (Active and Associate members only). Attractive hand-engrossed certificates, suitable for framing for display in offices or homes, may be obtained by writing to Society headquarters, at 55 West 42d St., New York 36, Price: \$2.50.

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