

Marconi's Broadcasting Division is by far the largest manufacturer and exporter of capital television and sound broadcasting equipment in the United Kingdom. More than fifty per cent of its production goes overseas, and during the last five years it has supplied 102 countries.

Sound Broadcasting

Broadcasting Division has maintained the Company's position as international leader which it established when it broadcast the world's first advertised radio programme from the Chelmsford Works in 1920. Over 300 transmitting stations have been supplied to other countries, and well over half the BBC's sound transmitters are Marconi made, including thirteen of the nineteen stations forming the first phase of the BBC v.h.f network, which opened in 1955 after a lengthy period of experimental broadcasting from the station at Wrotham, Kent, equipped by the Division. Similar v.h.f equipment has also been supplied to a large number of countries overseas, notably Scandinavia.

Broadcasting Division's range of m.f broadcasting transmitters covers all power requirements from 500/750kW, which can be paralleled for even higher powers, down to the 1kW transmitter which contains a

Left: PRODUCTION of the Mark VII colour camera taking place at the Chelmsford Works

Right: AERIAL TESTING A u.h.f wide-band television aerial during test



solid-state drive and single-valve amplifier. High power h.f requirements are met by the 250kW transmitter.

Television Studio Equipment

Broadcasting Division's three solid-state television cameras, the Mark V, Mark VI and Mark VII, and telecine equipment fulfil every major need in the modern television broadcasting studio.

The Mark V is the latest version of the 4½-in. image orthicon camera—a type which was pioneered by the Company and for which it received one of the U.S.A.'s leading technical awards. Marconi 4½-in. image orthicons are world leaders. Over 1,300 have been sold throughout the world—a quarter of them to the U.S.A. The Mark V is the smallest and lightest 4½-in. image orthicon in production anywhere in the world. It is also the simplest to operate.

The Mark VI provides the ultimate in performance from a photoconductive black-and-white tube. The camera channel is designed for telecine, studio and outside broadcast operation. In its telecine application a vidicon photoconductive tube is used, while for studio and outside broadcast purposes either Plum-bicons or vidicons can be used. The Mark VI is a



Above: **TRAINING** The Colour Television Laboratory at Marconi College, where customers' personnel are seen studying a camera designed for closed-circuit applications

Left: **MARCONI TELEVISION STUDIO AND CONTROL ROOM** at Waterhouse Lane, where equipment tests and customer demonstrations take place. Marconi Mark V, Mark VI and Mark VII cameras are seen in the picture

Right: **DEVELOPMENT** The Telecine Development Laboratory at Waterhouse Lane



lightweight camera, its overall weight being under half that of the Mark V.

The Marconi Mark VII, four-tube, separate luminance colour camera is without doubt the most advanced in the world, producing pictures in light levels acceptable in any black-and-white studio. In a matter of months after its introduction, the Mark VII attracted 200 orders. In 1967 it was cited for outstanding technological innovation in the Queen's Award to Industry and in 1968 it was given an award by the Council of Industrial Design.

Motion-picture film continues to be a major source of television programme material. The demand for high-quality, reliable telecine equipment that is easy to operate has led to the introduction of two new systems—the B 3402 Marconi Full Facilities Telecine, an automatic equipment suitable for black-and-white and colour films, and the less sophisticated Marconi B 3400 16-mm telecine channel, which provides adequate facilities for the reproduction of black-and-white film and slides. The B 3402 is the only colour telecine equipment in the world specifically designed to handle negative colour film.

Broadcasting Division supplies a full range of other television studio equipment, including signal and pattern generators and a range of sound and vision mixing units.

Outside Broadcast Units

Marconi Broadcasting Division has contributed more to the development of the outside broadcast unit than has any other organization. Twenty years' experience lies behind the design and production of the current fully equipped television outside broadcast vehicles of which Marconi is a major manufacturer and supplier. One such vehicle is maintained by Broadcasting Division's Television Demonstration Unit. It is used for the worldwide demonstration of Marconi television equipment and is also available for hire.

Television Transmitting Equipment

Marconi was closely associated with the development of television in the early 1930s and supplied the transmitters and aerial system for the world's first public television service, inaugurated in 1936 by the BBC. Since then it has supplied transmission systems to thirty countries. The u.h.f band will be used increasingly in the future and already Broadcasting

Division has sold u.h.f transmitters to Sweden, Denmark, Switzerland, the U.S.A and Britain.

Service Area Prediction

Optimum siting of the aerial and transmitter of a sound or a television broadcasting station is essential if the widest coverage is to be provided at the lowest cost.

Marconi's unique prediction service is based on detailed consideration of topography, meteorological conditions, the effects of other services, etc., and is backed by the experience and detailed records of many years. The predictions have been proved by subsequent surveys to be remarkably accurate and the service is in demand by broadcasting authorities throughout the world.

System Capability

Broadcasting Division is not only a major supplier of equipments, it is also a major supplier of complete systems. It specializes in the design, installation, building, civil engineering and commissioning of complete systems of all sizes—the £3,000,000 comprehensive sound and television system for the Ghana



Broadcasting Corporation being an excellent example of one of the Division's large 'turnkey' undertakings.

Equipment Training and Maintenance

The Company's training facilities are described in the introduction to the catalogue. Should customers not wish to use the College, Broadcasting Division will, if required to do so, arrange on-site equipment and maintenance training.

After Sales Service

The Division operates an after sales service with skilled engineers who are available to assist and advise customers in all aspects of the operation of Marconi broadcasting equipment. The supply of technical documentation and equipment spares is the responsibility of the Company's Central Division, whose considerable stocks and rapid delivery ensure that loss of operating time due to equipment failure is kept to a minimum.

Marconi Broadcasting Journal

The Company publishes a journal, *Sound and Vision broadcasting*, three times a year. It contains articles, with summaries in French, Spanish and German, on matters of interest to those engaged in broadcasting engineering, production and administration. It is distributed to customers throughout the world.

Far left: **DEVELOPMENT** Loading a 5-cavity klystron into the circuit assembly during development testing of a 40/55kW u.h.f television transmitter

Left: **PRODUCTION** of Marconi outside broadcast vehicles

Below: **DEVELOPMENT LABORATORIES** of Broadcasting Division in Waterhouse Lane, Chelmsford

