



A Marconi 3-tube image Orthicon camera.

Mobile Colour TV Unit

FIRST OF ITS KIND TO BE MANUFACTURED
IN BRITAIN

functions. It will be used, for example, to televise in full colour, clinical procedures and intricate operations being carried out by specialist surgeons in order to demonstrate their methods to a large body of surgeons or students in a nearby hall. The system provides not only the facility of catering for a large audience, but also the benefits of an enlarged image.

During each programme there is two-way communication between members of the audience and the doctor or surgeon. A moderator in the audience relays questions to the demonstrator who, by means of a small pendant microphone is able to make any observations to be heard by all in the auditorium.

In surgical demonstrations the compact colour camera is mounted on a mobile pedestal a few feet from the operating field and shoots horizontally at a tilted mirror suspended immediately above the operating field. The image is, of course, a mirror image but is corrected electronically in the camera. In medical demonstrations the camera normally shoots direct and no correction is required. A surgical or medical procedure in an area of about 1 sq. ft. can be magnified on the video screen to about 48 sq. ft. with all details of techniques, no matter how fine or intricate, clearly visible to the audience.

The vehicle itself weighs 8 tons gross, 2 tons of which is accounted for by the colour TV apparatus. It is divided into three sections, as explained overleaf:

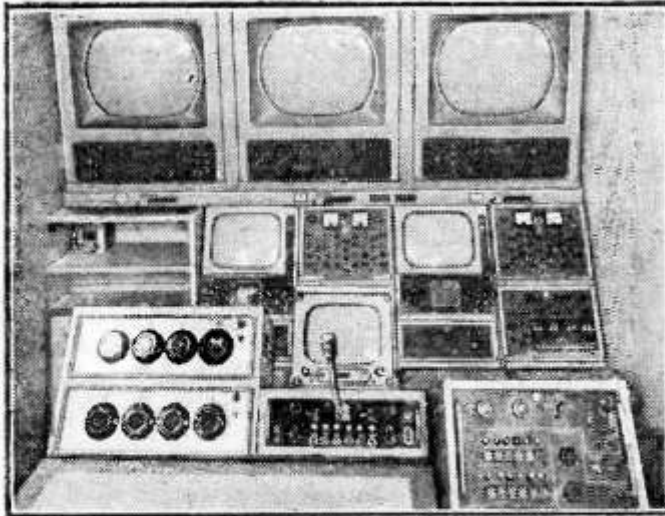
ON Wednesday, 4th June, 1958, the official handing-over of the first Mobile Medical Colour Television Unit of its kind to be designed and manufactured in Great Britain took place at Marconi House, London.

On behalf of the manufacturers, Marconi's Wireless Telegraph Co. Ltd., Mr. F. N. Sutherland, C.B.E., General Manager of the company, presented a special key to Mr. R. Pfitzenmaier, Managing Director of Smith Kline & French Laboratories Ltd., who commissioned the manufacture of the vehicle. Mr. Pfitzenmaier then formally inspected the vehicle, accompanied by other senior officials of both organisations.

It is the intention of Smith Kline & French to place this mobile colour television unit at the free disposal of medical authorities in this country for use at conventions or similar



A general view of the Mobile Medical Colour Television Unit.



General view of the monitor sets and control equipment in the vehicle.

Rear Compartment

This houses the apparatus racks, including the encoding equipment which combines the "red," "green" and "blue" signals from the camera into a composite signal of a type which can be carried, if required, over long distances via landline or microwave link. N.T.S.C.-type coding modified to British 405-line requirements is employed for use in this country; but the equipment is suitable for use with other line standards. The apparatus room compartment is normally staffed by one maintenance engineer.

Centre Compartment

This is the control room area, the nerve centre of the system. In it sit the technical director and vision mixer, two camera control operators and the sound mixer, a team working under the personal direction of the producer. In this room the respective outputs from the two colour cameras and the microphones are checked and integrated into the "programme" as seen and heard by the audience.

Three colour monitors, type BD.875, each employing a 21in. three-gun shadow mask type of colour tube, are in use in the control room—one for each camera channel and one acting as a line monitor. The black-and-white preview monitor uses an 8½in. picture tube, while the two picture and wave-form monitors each employ 14in. picture tubes and 5in. wave-form tubes. One particularly interesting feature is the arrangement whereby the colour monitors are underslung on a mono-rail system which enables them to be withdrawn into the control room proper for minor adjustments, to the forward compartment for major servicing or to be withdrawn completely if occasion demands.

Forward Compartment

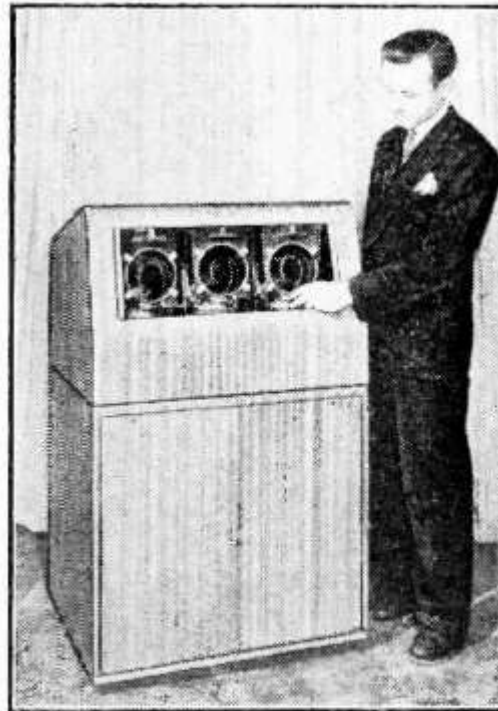
This, in addition to containing the driver's seat and controls (right-hand drive), provides access to the back of the camera control equipment and is also designed to give a useful servicing area.

The Colour Cameras

These are Marconi 3-tube image Orthicon cameras, type BD.848, the fundamental design of which is similar to that of the colour cameras supplied by Marconi's to the BBC for their experimental transmissions in colour, but incorporating various improvements in the light of subsequent research. The cameras are designed to operate via a single 88-way camera cable, two 100ft. lengths of which are carried on drums in the forward compartment of the vehicle, one end of each being permanently connected to the equipment. Two additional drums of 88-way cable, each carrying 250ft. lengths are also carried for use when the camera has to be used even further away from the vehicle.

Display Unit

The main display unit is a Marconi colour television projection unit, type BD.876. This provides a picture 8ft. × 6ft., viewed comfortably by approximately 300 people. A 21in. colour television receiver manufactured by Murphy Radio Ltd. is also provided as a second display unit, for use, if required, in an additional viewing-room.



The Marconi colour television projection unit.