

Fig. 9. Outside broadcast vehicle fitted with new equipment.

To obtain effective optical focusing of the image under the conditions of rapid changes of the distance of the object, it was found necessary to retain the identical number of revolutions of focusing control when objectives with different focal lengths are set in the operating position on the turret. Moreover, it is desirable to have the optical image on the television camera tube photo-cathode kept in focus with the objectives with different focal lengths, that is, to have automatic focus adjustment. In the cameras which were formerly produced for studios, this problem was solved by a system of mechanical pushers and eccentrics. However, owing to the increasing number of objectives included in the complete television camera set and the great range of focal lengths, an electro-mechanical drive with a selsyn follow-up system is used for optical focusing in new cameras. In these focusing is effected by rotating a potentiometer control brought out to the side wall of the camera casing.

The cameras also have additional controls for camera mount adjustment and for optical focusing adjustment; these controls may be used at the operator's will when the cameras are installed on portable or automotive camera mounts. Additional controls are placed on the bottom and on the rear end of the camera. Thus a better manoeuvrability of mounted television cameras may be obtained. To save time in replacing an operating objective and to reduce camera weight a manual drive for the objective replacing gear is provided.

The adjustment of camera illuminating conditions is accomplished remotely from the

camera channel control board. This is achieved by means of a disc placed between the photo-cathode and the objective which enables a continuous variation of the light transmission coefficient. This method has an advantage over the previously used method of diaphragming the objective in which the operator could not stress the most important detail in a transmitted field (image) by means of defocusing the background.

To provide high quality checking of the transmitted image a video-signal from the i.f. amplifier output is applied to the camera viewfinders. For example, the operator may observe the mixer output signal on the camera viewfinder when transmissions are made with mixing video signals from two or more sources and use is made of the electric effect unit. This is necessary to enable the operator to secure and maintain the correct matching of mixed images.

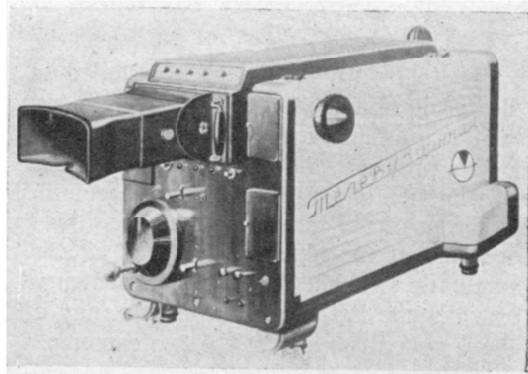


Fig. 10. A new image orthicon camera designed for use in outside broadcasts and studios. A supericonoscope camera with additional photo-cathode designed for transmissions from studios is produced in the same constructional form.

An electronic scaling device is used in the image orthicon camera which allows the operator to make instant changes in the transmitted image scale in proportion of 1.4 : 1 and 1.8 : 1 by pressing a button. The scaling is effected by changing the image transition ratio from the photo-cathode to the image orthicon target, i.e. by switching in an additional coil and corresponding change of voltages on the camera tube electrodes.