Popular Mechanics Magazine

REGISTERED IN U. S. PATENT OFFICE AND CANADA

WRITTEN SO YOU CAN UNDERSTAND IT

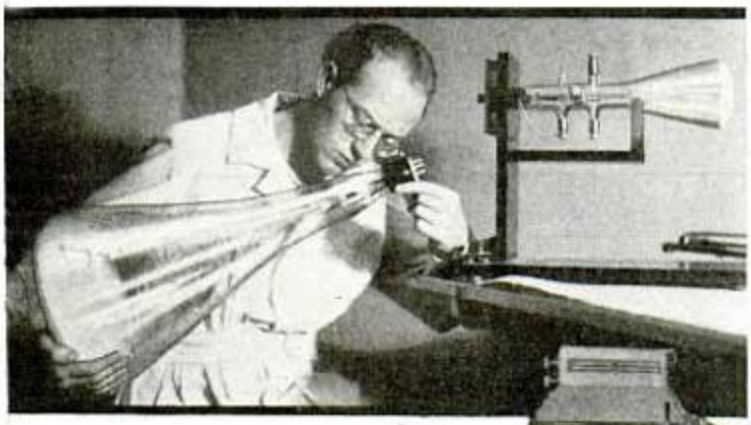
Vol. 62 NOVEMBER, 1934 No. 5

The LATEST in TELEVISION

TELEVISION is becoming a practical reality in Germany where a method of transmission has been developed which utilizes both radio and motion-picture film. The mobile unit which broadcasts the pictures is a truck equipped to make sound movies.

After the sound pictures of an event have been taken, the film is developed aboard the truck, a process requiring only a few minutes. The film is then submitted to a scanner and the beams of light are changed into radio waves with the aid of a photo-electric cell. These waves are then broadcast, the method making it possible to take sound movies of an event like a baseball or football game and transmit the pictures

Television Image on Cathode-Ray Tube; Below, Truck Which Makes Sound Movies and Transmits Film by Radio Thus Making Possible the Televising of Sports Events



Above, Large Cathode-Ray Tube Used for Receiving Television Images

only a few minutes after the action has occurred.

Sound and vision programs are transmitted on neighboring wave lengths but on the receiver these two carriers are picked up by a common aerial circuit, amplified by the common high-frequency stage and then detected and filtered separately. Thus only one tuning control is necessary to get the sound and vision program simultaneously and there is no chance of receiving a picture with the wrong sound accompaniment. By turning the tuning control a little to one side, sound can be received without the picture, and by turning to the other side a silent picture can be received.

A German radio engineer has developed an exceptionally large cathode-ray tube which receives images about seven by nine and one-half inches. The system for synchronizing sound and action is operated entirely by wireless with the aid of special impulses which are transmitted by the Berlin broadcasting system. The tube in which the images are viewed and the loud speaker bringing in the sound are contained in a cabinet no larger than an ordinary radio receiver and such sets are being made to retail for about $200. Due to the fact that the cathode-ray tube which shows the image also acts as a rectifier, the loss of energy is not as high as usual with this form of apparatus and pictures are much clearer as a result.

The television trucks broadcast on a seven-meter wave and have a working radius of forty miles although broadcasts often are received within a radius of 120 miles. It is believed that this radius can be greatly increased or that relay stations can be set up to enable distant points to pick up such broadcasts.

In using cathode-ray tubes as receivers, it is claimed extra tubes can be fitted by extension leads to the main set, just as extension loud speakers are added to the radio.

Above, Scanner and Television Apparatus Which Utilizes Movie Film in Transmission; Left, German Television Receiver