

## INSTRUCTIONS FOR ASSEMBLING AND OPERATING THE UTILISCOPE

The following is intended to assist the serviceman in assembling and operating the Utiliscope.

The Utiliscope is composed of a Monitor, Camera and Power Unit which are connected by a series of cables. The Power and Monitor units are shipped complete and need only to be connected. The Camera tube, which is shipped separately because of possible breakage, must be installed in the Camera by the serviceman. The diagram is included to aid in assembling the Camera.

The cables are supplied with the equipment and are marked Video, H. Sync., V. Sync., and Remote Control. These are to be connected to corresponding chassis connectors on the three units. The ten conductor cable which connects from the Power unit to the Camera unit is also supplied. After connecting the cables between units, the twist lock A.C. cables should be plugged into the Monitor and Power unit receptacles and connected to 110V. 60 cycle A.C. outlet. A block diagram, to further simplify the cable connections, is included with these instructions. The equipment can then be operated by throwing the toggle switches on the Monitor and Power units.

The serviceman should find the operation and controls on the Monitor quite similar to those found on the average television receiver. The Power unit should not be adjusted as the controls are for height and V. linearity which have been adjusted at the factory to insure the proper V. linearity. The Camera controls are composed of an optical focus on the lens, width control on the Camera, and remote electrical focus and video overload controls on the Monitor.

The width control is already adjusted for the proper scan and need not be readjusted. The optical focus of the lens is the only adjustment made at the Camera. The video overload control for the Camera is found under remote Camera heading on Monitor control panel. The video overload control should be operated near the counter-clockwise position even though more light will be required on the subject. The reason for this setting of the video overload control is that the more light used, up to the overload point, the less noise and more detail obtained from the equipment. The electrical focus control, located on the Monitor control panel under remote Camera, focuses the Camera tube and should be adjusted, as should all the other Camera controls, while watching the Monitor screen. The serviceman will probably find that two 300-watt flood-type lamps will be sufficient lighting for an object at close range, (5' to 15').

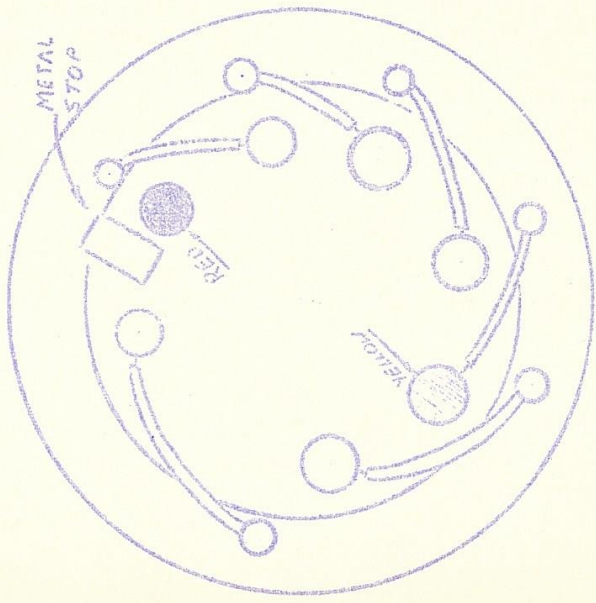
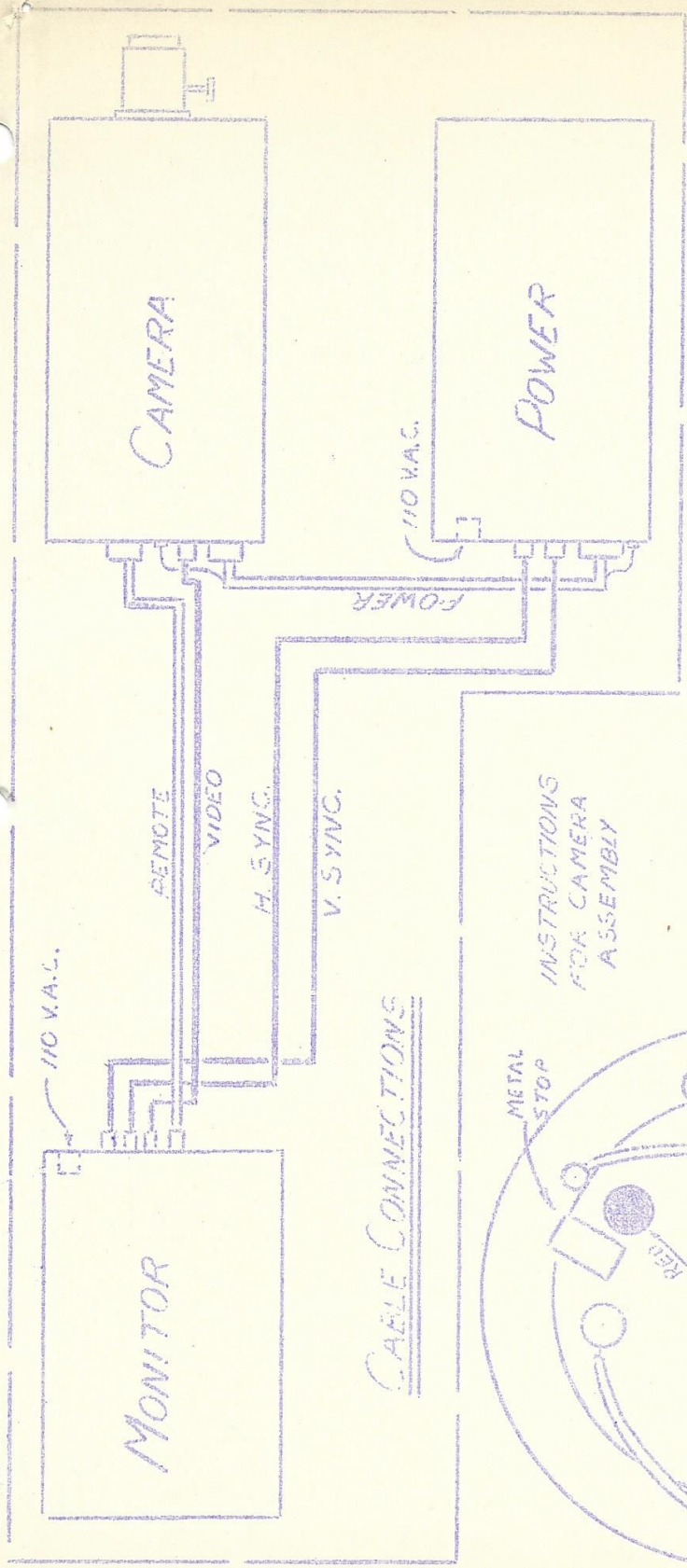
The serviceman or person assembling or operating the Utiliscope should carefully read the following:

- 1) The Utiliscope was designed especially for industrial applications and, though having 300-line definition, should not be expected to perform or give the detail of a television receiver. This should be brought to the attention of those viewing the equipment and also the fact that it is a simplified industrial television equipment composed of 15 tubes, not including cathode ray and camera pick-up tubes.
- 2) The Utiliscope has not been designed to operate with a television receiver and there should be no attempt to revise the equipment as it would be too

complicated a procedure and should only be attempted in an engineering laboratory by engineers familiar with the equipment.

The following are instructions for packing the Utiliscope equipment:

- 1) The Monitor, after all cables have been removed, as well as the power supply should be packed similar to the packing used on console-type radios, with "fragile" and "glass" labels applied to carton to insure careful handling in shipment. The Camera tube must be removed from the camera before shipment. The Camera may be packed in the same manner as the Monitor and Power units.
- 2) The Camera tube should be packed very carefully because of the many chances of breakage in shipment. The tube should be centered in a box filled with Kimpak or similar packing material which will give cushion effect to tube in case of rough handling. The carton should be large enough to give a minimum of 3" to 4" of Kimpak around the entire surface of tube. This carton should then be centered in a larger carton with a minimum of 4" of excelsior surrounding the smaller carton.



INSTRUCTIONS  
FOR CAMERA  
ASSEMBLY

INSTALLING CAMERA TUBE

1. Remove Camera from case by removing three screws on each side and top of front of case.
2. Remove front Panel by removing five screws at bottom of panel and two screws near top of panel.
3. Remove six screws on rear of tube housing.
4. Insert tube carefully and connect to caps on tube front as shown.
5. Replace rear panel and connect socket to rear of tube. (The pins are fragile and socket should be connected with extreme care.)
6. Reassemble Camera and Case.