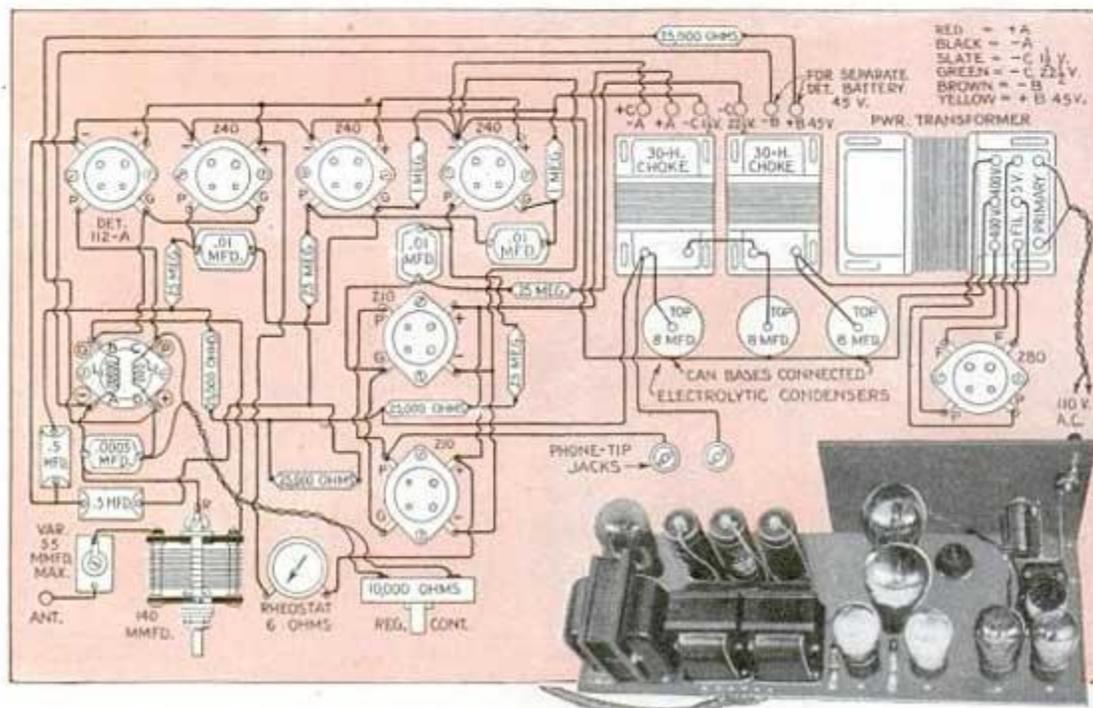


# Home Made TELEVISION Advanced

By C. A. BRIGGS



**T**O SEE the artist you are hearing on the broadcast program is now quite common in several metropolitan localities. This does not necessarily mean that television has arrived in its complete and final form, but experimenters, living in or near these cities, are obtaining some very good results. Some are making their own scanning devices but the average experimenter is confining his efforts to the design and construction of a suitable short-wave receiver for television signals. Such a receiver is quite different from the usual short-wave type, and the one to be described contains



Above, Portable Television Transmitting Scanner for Picking Up Living Subjects; Below, Simplified Wiring Diagram and Photo of the Completed Receiver

# RECEIVER of Design

several new and interesting features.

Two tubes divide the action of the ordinary detector, and it will be noted that the grids of these two tubes are tied together. The plate supply from the separate B-battery does not pass through any transformer circuit in reaching the tickler coil or plate of the first tube. The second tube has its plate supply connected through the resistance element for the audio or television output. This power supply is built into the receiver and consists of the usual full-wave rectifier and an efficient filter system employing electrolytic condensers. The audio tubes in the first and second stages are of the "high-mu" type best suited for resistance-coupling, and the last stage consists of two type-10 tubes in parallel.

The filament supply is obtained from a 6-volt storage battery, the full voltage being applied to the filaments of the last two tubes. The filament supply for the other tubes in the set is regulated by means of the 6-ohm rheostat. The switch for the 6-volt battery and the 110-volt a.c. supply are mounted directly on the experimenter's bench.

The simplified wiring diagram is given on page 824, each instrument being shown in its relative position as viewed from the front. All of the wiring, with the exception of the leads to the tuning condenser and regeneration control, are under the subpanel. The photo at the lower right gives



a rear view of the completed instrument with the tubes in position.

This typical experimenter's layout is not intended for a cabinet installation, although the panel arrangement may be altered as desired.

The bakelite subpanel is  $\frac{3}{16}$  by 7 by 19 in. and is supported by means of three subpanel brackets, as shown in the un-



Above, Studio Group for Sight and Sound Program; Below, Receiving the Television Signals in the Home



and also requires but one adjustment. All fixed resistors are of the 2-watt type and should be of the best quality obtainable. The optional .5-mfd. by-pass condenser should be used if motor-boating is encountered, and the .001-mfd. will be found very helpful in many cases.

The plug-in coils covering the television and amateur phone bands are detailed on this page. These coils are wound on the usual tube base forms,  $1\frac{3}{8}$  in. in diameter and  $1\frac{3}{8}$  in. long. After completing the winding  $L_1$ , on the television coil, a narrow strip of adhesive tape is placed on the section over which coil  $L_2$  is to be wound. These coils are plugged into an ordinary 4-prong wafer-type socket, and the terminal positions are clearly indicated by the letters B, C, A and D, as shown in the sketch and simplified dia-

