

# NATIONAL



# RADIO NEWS



**FROM N. R. I. TRAINING HEADQUARTERS**

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## BANNER RADIO YEAR AHEAD



**F**ROM all indications 1930 will be Radio's Banner Year. It will offer more in Radio opportunity than at any time in the past. Here are some of the reasons why N. R. I. men can count on a big year right ahead—

First, there is Television. Some have felt that Television would be in the homes by this time, but the more conservative of us have always believed that the Radio public wants Television to be just about perfect before taking it on. Television has been in the laboratory for some time—the kinks

are being taken out of it. Around 20 stations are broadcasting television, several firms are manufacturing kits, and even Televisors, and it is practically a certainty that it will be introduced to the public on a commercial scale very shortly. Doubtless, 1930 will see marked development in that field.

Then, the sound engineering field will continue to make increased demands for men with a knowledge of Radio's basic principles. The country is going "talkie." Public address systems and sound projection apparatus will be installed in thousands of theatres, auditoriums, amusement centers and other places through the year. N. R. I. men should get their share of this work.

Here is another factor that will make 1930 a big year in Radio. The public has been pursuing a policy of watchful waiting—delaying their buying of Radio apparatus until they are satisfied that receivers have been standardized and that their new set will not become obsolete over the week-end. That stage has been reached in Radio today. Set design is fast becoming standardized. The new sets equipped with remote control and other features should appeal to the buyer. There are over 14,000,000 wired homes that today are without adequate socket power operated sets. Improved types of battery receivers are available for the unwired home. So it looks like a big year in sales, service, and repairs.

International broadcasting will be on a broader scale than ever this year. Arrangements have been made between the American chains and the broadcast companies in England, France, Germany and other continental countries for more frequent interchange of programs, and American audiences will very shortly have the privilege of listening often to the best productions rendered by European Symphony orchestras.

The use of Radio in Aviation will expand in 1930. Government plans call for an enlargement of the Radiobeacon system to make safe our trans-continental passenger and mail lines. Hundreds of point-to-point stations are being constructed to provide weather information and other data to planes in flight. Point-to-point land Radio communication will be advanced. So it's clear that this is going to be one of the biggest years yet for the man who knows Radio, and when next Christmas rolls around I'm sure that N. R. I. men will have reaped a full measure of Radio's prosperity.

J. E. SMITH.

## Synchronism — One of Television's Problems

By S. H. ANDERSON

Radio Engineer

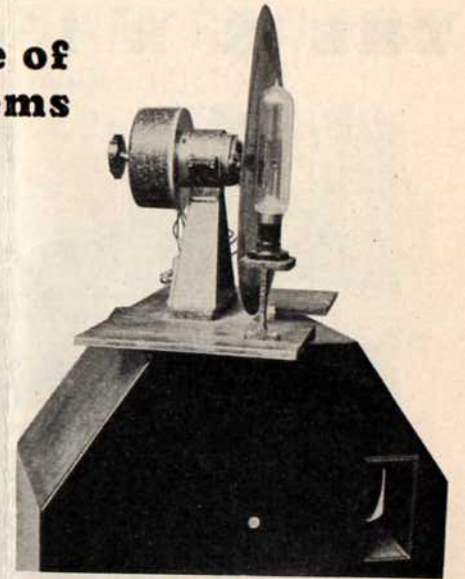
Clarostat Manufacturing Company



**T**HERE appears to be little difficulty in picking up television signals in almost any part of the country, because of the dozen or so television broadcasting stations. However, many experimenters complain about the difficulty of unscrambling the whirling dots so as to obtain satisfactory images. The trouble is, therefore, one of synchronization, or matching the speed of the receiving disk with that of the transmitting disk.

Certain television workers recommend synchronous motors. This practice is ideal in certain areas served by the same alternating current power system. The same alternating current supply insures absolute regulation of both transmitting and receiving disks operating on the common power supply. However, when the transmitter and receiver are located in different power supply areas, the synchronous motor is no longer such a happy solution. The use of a synchronous motor with friction drive, as recommended by Jenkins in particular, does not prove so effective in most cases, because of the slippage between driving and driven disk.

The leading television workers have found the variable resistance method of controlling speed the most satisfactory. Here the problem is to have a variable resistance that is stepless, so as to obtain precise speed adjustment, together with a steady resistance value at any setting. The problem of developing a suitable micrometric resistance has been far from simple, for most variable resistors are not intended for handling the considerable current called for in a motor control application. Nevertheless, by certain detail changes in our power clarostat, we have succeeded in evolving a device that provides the necessary stepless resistance range, together with a current handling capacity of 80 watts, or more than ample to control the usual motor of  $\frac{1}{8}$ th horsepower or less.



The first picture of the Baird televisor which is in use in the British Isles. Steady, sure progress is being made in Television and it will pay every wide-awake Radio man to keep his eyes on that field. Nothing can stop it—television is right ahead of us.—J. E. S.

With the power clarostat, it is relatively simple to bring the scanning disk into step. By studying the pattern of whirling dots, and regulating the speed up and down, one soon becomes aware of whether the speed is too fast or too slow. The shifting of the pattern to one side or to the other indicates the speed of the receiving disk with relation to the transmitting disk. The speed is gradually adjusted until the dot patterns become solid masses and these masses evolve into animated subjects. The speed is readily held by means of the accelerating button which simply short circuits the power clarostat.

The handiest form is the speed control clarostat, mounted in a metal case complete with accelerating button. However, where the disk is mounted in a wooden cabinet, the power clarostat can be suitably mounted with just the knob and the accelerating button exposed.

Aside from the problem of synchronization, there is nothing very complicated about television reception, particularly the simple radio movies of black-and-white silhouettes broadcast by C. Francis Jenkins from W3XK in Washington, D. C. Television signals, when handled on short waves, can be received at distances of several hundred miles with any short-wave set and suitable amplifier. While the pictures themselves are of little intrinsic interest, the novelty of receiving pictures through space makes such experimental work quite thrilling.

