How to Make Your Own Radiovisor

Radiovision

Following is the first of a series of articles prepared by C. Francis Jenkins, motion picture and television pioneer, telling how to build a radiovisor to see the television programs now being broadcast from a number of stations. Though the best television pictures or radiomovies are still very crude, there is a fascination in receiving them that equals that of the first crystal set days of broadcasting when the best was very poor according to modern standards.

By C. Francis Jenkins

The telescope enables us to see to great distances, but only along straight lines. As our only long straight lines lead away off into space, telescopes are necessarily pointed skyward.

But with radiovision, we can see along curved lines; we can see around obstructions, and over mountain ranges. One day we shall even see around the earth! What a stimulus to peace between nations!

Then folks in California and in Maine, and all the way between, will be able to see the inaugural ceremonies of their President in Washington; great football games, and the struggle for supremacy in our national sport, baseball.

Radiovision as a pantomime storyteller is ready to come to our firesides. It will be a fascinating teacher and entertainer, without language, literacy, or age limitation. It will soon be a visitor to the old homestead bringing photoplays, the opera, and a direct vision of world activities.

Only a few months ago such an attainment was pronounced impossible of realization within this generation. But the promise of radiovision entertainment by Christmas, made from several sources under the stimulus of competitive development, now seems certain of realization.

The first public demonstration which proved conclusively that this could be done, was made three years ago, on June 13, 1925, when readily recognizable moving objects in the Naval radio shack, NOF, at Anacostia, were seen in my laboratory in Washington, by Secretary of the Navy Wilbur, admirals of the Navy; Acting Secretary Judge Davis and Wm. D. Terrell, of the Department of Commerce; and by Dr. George K. Burgess, director, and Secretary H. D. Hubbard, secretary of the Bureau of Standards, and many others.

Radiovision is not visionary, or even a very difficult thing to do; speech and music are carried by radio, and sight can be so carried just as easily. For radio is not a noise, it is a carrier, comparable to copper wires extending in every conceivable direction from the broadcast station.

Simple subjects are being broadcast just now; more elaborate pictures will follow; i. e., action scenes, subjects, and ultimately picture stories in pantomime.

Doubtless the story of motion picture entertaiment in the theatre will be repeated in radiomovies in the home.

Silhouettes only at present are being sent from the Jenkins Laboratory station, 3XK at Washington; later, halftone pictures will be broadcast. Picture subjects and picture stories, in silhouette, are easier for the beginner to pick up; and obviously the width of the picture-frequency band is very much less.

But it has been discovered, in repeated broadcasts of radiomovies, that stories in silhouette by radio are just as entertaining as movie cartoons in the theatre.

Such broadcasts, combining the pantomime fascination of motion pictures with the intriguing mystery of radio, will build up a demand never before equalled in the history of human entertainment.

Nor has any invention ever had so much anticipating publicity; a publicity which antedated the actual completion of its successful attainment by fifty years.

For that reason, now that it is done, there probably exists a latent interest in visual radio which will unexpectedly burst into a torrential demand for receivers.

Because such sets are not available, it is expected that amateurs all over the country will be building their own motion picture receiving sets.

This series of articles will show the simplicity of this mysterious thing, radiovision and television. It will tell how you can make an inexpensive receiver, if you are clever in the use of common tools. It will allow you to anticipate the day when radiovisors will be as common in the home as audio-receivers are now.

Science News-Letter, September 15, 1928

WHAT TO SEE BY RADIO

WGY, Schenectady, N. Y.; General Electric Company; 380 meters, 790 kilocycles. 24 lines per picture. 20 pictures per second. Tuesday, Thursday and Friday, 12:30 to 1:00 p. m., E. S. T.; Tuesday, 10:30 to 11:00 p. m., E. S. T.; Sunday, 9:15 to 9:30 p. m., E. S. T.

Sunday and Friday transmission is simultaneously on 21.96 meters or 13,660 kilocycles; Tuesday and Thursday transmission simultaneously on 31.4 meters or 9550 kilocycles, through 2 XAF, 2 XAD or 2 XO.

WRNY, New York City; Experimenter Publishing Co.; 326 meters or 919 kilocycles. 44 lines per picture. 10 pictures per second. Daily, every hour on the hour for 5 or 10 minutes.

1 XAY, Lexington, Mass.; Donald R. Laffin; 51 to 62 meters or 4900 to 4700 kilocycles. 48 lines per picture. 15 pictures per second. No regular schedule at present as new apparatus is being installed.

2 XAL, New York City; Experimenter Publishing Co.; 3091 meters or 9700 kilocycles. Transmits simultaneously with WRNY.

3 XK, Washington, D. C.; Jenkins Laboratories; 46.7 meters or 6420 kilocycles and 186 meters or 1605 kilocycles. 48 lines per picture. 15 pictures per second. Monday, Wednesday and Friday, 8 to 9 p. m., Eastern Standard Time, Radiomovies. Transmission is done simultaneously on both frequencies.

4 XA, Memphis, Tenn.; WREC, Inc.; 120 to 125 meters or 2500 to 2400 kilocycles. 5000 watts. 24 lines per picture. 15 pictures per second. Irregular experimental schedule.

6 XC, Los Angeles, Calif.; Pacific Engineering Laboratories Co.; 65.22 to 66.67 meters or 4600 to 4500 kilocycles. 500 watts. 36 lines per picture. 18 pictures per second. Will start about middle of September; daily, 10:30 to 11:30 p. m., Pacific Standard Time.

8 XAV, Pittsburgh, Pa.; Westinghouse Electric and Manufacturing Co.; 62.5 meters or 4798 kilocycles. 60 lines per picture. 16 pictures per second. Radiomovies. Irregular transmission at present for experimental purposes.

9 XAA, Chicago, Ill.; Chicago Federation of Labor; 62.5 meters or 4798 kilocycles. 48 lines per picture. 15 pictures per second. Monday, Wednesday, Thursday and Friday, 9:00 to 10:00 a. m., Central Standard Time. Broadcasting only frequency chart at present, but radiomovie equipment is being installed and will be in operation shortly. Owners also operate WCFL, 483.6 meters or 620 kilocycles.