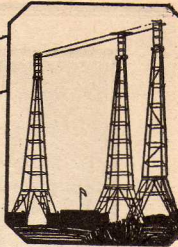


# NATIONAL

# RADIO

# NEWS

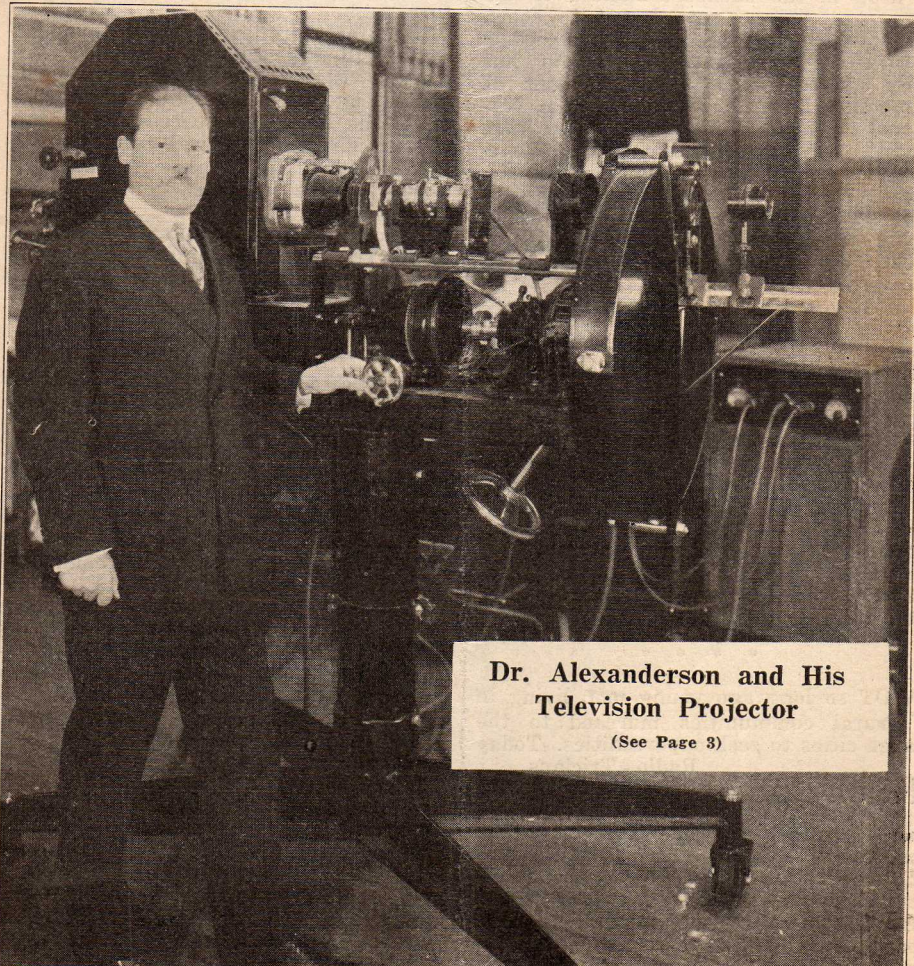


**FROM N.R.I. TRAINING HEADQUARTERS**

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**Dr. Alexanderson and His  
Television Projector**

(See Page 3)





J. E. SMITH

## The PRESIDENT'S PAGE

THE rapid growth of the Radio Industry up to the present time is but a drop in the bucket compared to the growth yet to come.

**63% Unsold** As an \$800,000,000.00 industry, Radio has only entered about forty per-cent of American homes. Figures of the National Chamber of Commerce show that out of every one hundred families, fifteen are supplied with up-to-date electric sets, twenty-two with battery operated sets—but sixty-three are getting along without receivers. Just think of it! Out of every one hundred homes, sixty-three are prospects for Radio.

It has been estimated that the average family contains four and one-half persons. What does this mean? Simply that Radio-Tricians living in even small towns of 1,000 population have one hundred and forty Radio prospects (1,000 population  $\div$  by  $4\frac{1}{2}$  = 223 families, 63% of these families, or 140 families, do not have Radios.)

This big market opens up many profitable opportunities for the trained Radio-Trician. N. R. I. men are going to crash this sixty-three per-cent unscratched market heavily during the next few months.

\* \* \* \*

NOT so long ago young men living in rural communities marched to the large cities to seek opportunities. Today

**Farm Radio** Radio-Tricians in farming centers are sticking close to home because of the vast, untouched market at their doorsteps. Already 2,512,000 Radios are in use on American farms—more receivers than in any European Country. The American farm people are quick to realize the importance of Radio, not only from the standpoint of entertainment, but for the

vitaly important market, weather reports and farm educational features put out by the U. S. Department of Agriculture.

Manufacturers are turning their attention to this scarcely scratched farm market. Elaborate research is being conducted by dry battery manufacturers along the lines of a successful dry battery receiver. Improved battery operated sets will be welcome to the rural homes where electric power is not available.

Keep your eyes on the farming centers. Radio-Tricians are finding rich profits in these communities and will even increase their earnings with the advent of improved battery sets.

\* \* \* \*

A SHORT time ago one of my students wrote—"It affords me pleasure to send you another Examination Sheet. I

**Courage** am sitting in a wheel chair, which has been my sole means of locomotion since September 27, 1929, and probably will be for four or five months more. I hope to pursue my studies in my wheel chair, and to send in lessons promptly."

There is a man who has suffered great pain as the result of an injury—who has been laid up eleven months with prospects of another four or five months to spend in a wheel chair. Yet has he become down-hearted? Not for a minute. He is going ahead with his Radio studies, come what may.

There's real courage for you! He made up his mind to be a Radio success when he enrolled. He was going strong until an accident knocked him out. No! not knocked him out—simply made him more determined than ever to go ahead. He would reach the "top"—walk, if he could; crawl if he could not walk; but get there if he had to use a wheel chair.

My hat is off to that student.

## Now—Life Size Television Images

By J. A. DOWIE, Chief Instructor

Recently life-size Television images transmitted by Radio were publicly demonstrated by Dr. E. F. W. Alexander in a theatre at Schenectady, N. Y. The front cover of this issue shows Dr. Alexander and the projector used.

Heretofore Television reception has been on a minute scale and every effort to enlarge the pictures has more or less failed. Three years ago the pictures shown were in a frame three inches square. Last Fall at the Radio Show in New York an image fourteen inches square was exhibited. The images witnessed at this demonstration were a distinct advance over any previously shown.

The images shown at the theatre at Schenectady were life-size and were not simply black and white, on the order of a silhouette. All the gray shades between black and white were reproduced on the screen registering every shadow and shade of the features, giving depth and detail to the image which demonstrated the possibilities clearly of the new art as a medium of entertainment. Through a loud-speaker system the voices of the performers also transmitted by Radio were heard by the audience. The active images of the performers were reproduced on the screen six feet square making them visible by those seated at the back rows of the theatre.

The secret of the great advance over previous demonstrations was made possible by using a permanent high intensity light source such as a motion picture arc, a new light valve, called the Karolus cell

(named after its inventor, a German scientist) and general improvements to existing apparatus. The light valve is really the heart of the system as it changes the plane of polarization of the light beam going through it by means of an electro-static field producing a clear, well defined picture.

### Transmitting Equipment

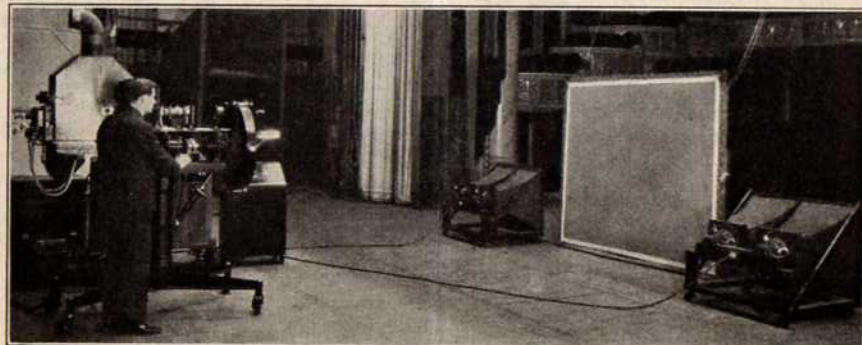
In Radio Broadcasting the frequencies of speech and music modulate the current sent out from the antenna. In Television the antenna radiation is modulated by a succession of light impulses.

In the Television Studio the equipment was similar to that used on previous demonstrations. The performers to be televised appear before the television camera which is shaped like a shallow box around the sides of which are placed

(Please turn to page 14)



Matilda Biglow Russ, Radio soprano, before Television Camera. Circular openings in camera frame contain photo-electric tubes which convert light into electrical impulses.



How the picture is projected back stage. Alongside the screen are loud-speakers for reproducing the Radio voice which accompanies the picture.



