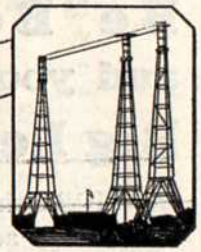
NATIONAL RADIO NEWS



FROM N.R.I. TRAINING HEADQUARTERS

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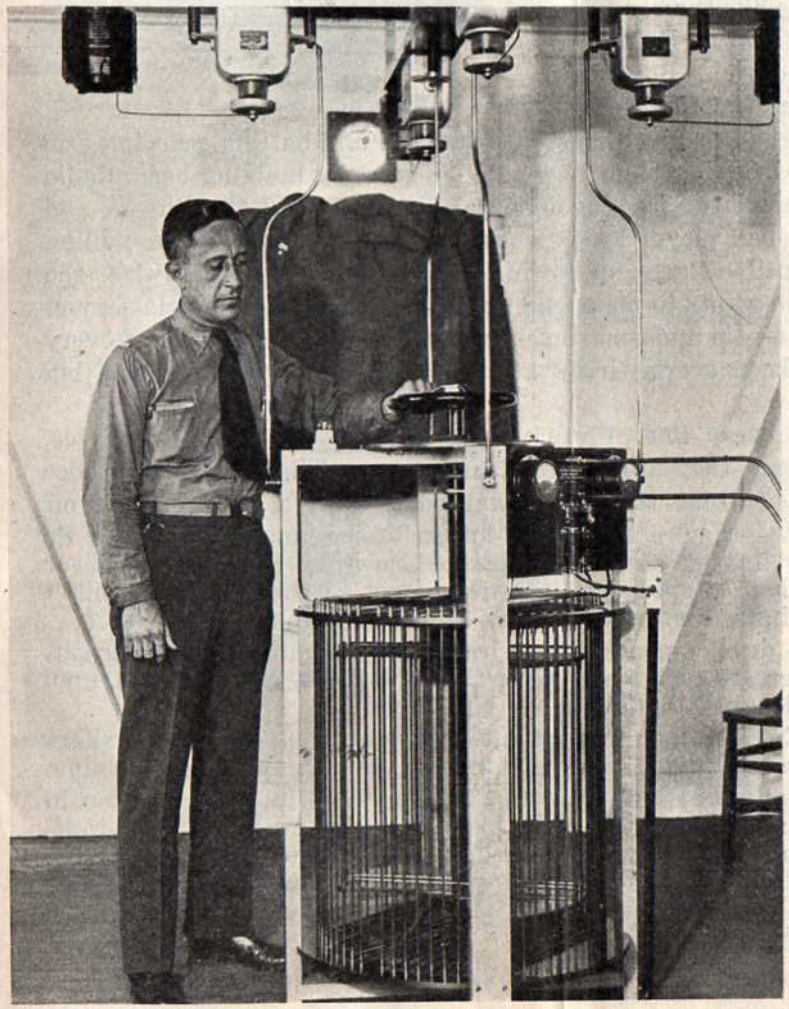

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Be Better and you'll be a Big Leaguer

President Smith and Willis Hudlin at N.R.I. entrance.

A SHORT time ago Willis Hudlin, ace pitcher of the Cleveland Indians, paid the Institute a visit. I learned a lot from him about big-league baseball men. In a way a big-league baseball man is like the big-league Radio man. Both start at the bottom. Both have to master the fundamentals. The ball player learns base-running and batting principles on the sand lot team; the Radio man gets his start by building basic Radio circuits and mastering the fundamental principles of Radio theory and practice. The ball player keeps working, keeps training, keeps pulling his way up until he gets in the big league class. And, likewise, the Radio man who wants to make the big-pay, big league Radio class must keep digging in—he must master every lesson, take advantage of every opportunity—keep everlastingly at it, always climbing up to the big jobs in Radio.

In nearly every line of work there are the well paid executives, the trained men—they are the big-league men. Then, there are those who waste their time, those who wanted to wait a while, put it off until tomorrow—they're the "sand-lotters"—the untrained men. So the world has its full share of untrained, low-pay men. They never realized they had to specialize in order to get to the top—they didn't know that training was necessary, or they just didn't care.

In Radio, developments are so rapid, opportunities are so great, and N. R. I. men are such a big factor that practically every N. R. I. man can be a "big-league" Radio man—a big success!

We back N. R. I. men to the limit. We want you to get your share of the big jobs in Radio. And that means careful, thorough training.

Willis Hudlin would tell you that if you want to reach the top in Radio—or in anything—you must have practical training, stick-to-it-iveness, and an honest-to-goodness desire to get there—to be somebody. And Hudlin knows—he is a sure enough "big-league" man in every sense of the term, and—here's a surprise for you—he's an N. R. I. student himself!

J. E. SMITH.

New Jersey Plane Talks With London

By Member N. R. I. Technical Staff.

On a number of occasions in the past, new possibilities in communication by inter-connection of wire and radio circuits have been demonstrated.

Recently, another demonstration of this character was made when a group of press representatives flying over northern New Jersey in the radio equipped airplane of Bell Telephone Laboratories were connected with the British representatives of their organization in London by a combination of wire and radio circuits.

Passing between the airplane and the Bell Laboratories' ground station at Whippany, New Jersey, by radio, the conversations were then carried to and from New York by a telephone circuit of the usual kind. In the long distance office of the American Telephone & Telegraph Company in New York, the circuit was split, the east-bound channel passing by wire to one of the trans-Atlantic radio transmitting stations, thence by radio to a receiving station in England, and to the long distance office of the British Post Office in London.

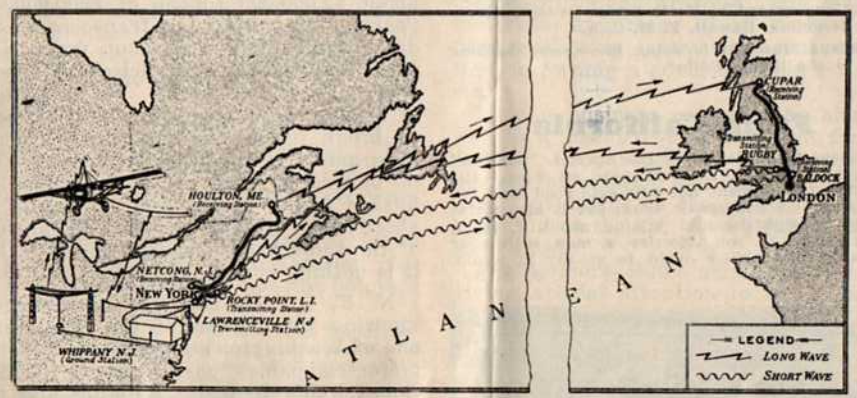
From the office in London, where the British representatives were assembled, the conversation passed over an ordinary telephone wire to and from the long distance office in that city, where the west-bound channel was separated and carried over a wire circuit to the English radio transmitting station. After being received in the United States, this channel passed over a wire circuit to the long distance office in New York where it entered the two-way wire channel to Whippany.

When the speaker in the airplane desired to talk, he held a microphone to his lips, and pressed a button which enabled him to talk to the ground station. This action disconnected his receiving circuit. When his voice reached the ground by radio, it operated a relay which disconnected the radio transmitter. As soon as he was silent and released his transmitter button, the upward circuit was ready for conversation to come to him from the land wire. A somewhat similar arrangement is a part of the trans-Atlantic radio circuit except that there all the operations are performed by voice-actuated relays. The voice of a person talking over the trans-Atlantic radio circuit clears a path in front of itself and closes the path in the reverse direction.

Technical details of the new apparatus are as follows: The receiving set in the airplane consists essentially of four tubes, three of which are of the screen grid type, while the fourth is of the three-element heater type. It has two stages of radio frequency amplification, a detector and 1 stage of audio frequency amplification. Due to the employment of the space charge grid detector circuit, the set is extremely sensitive.

The set operates from a generator which is driven by the action of the wind on a small propeller and has a total weight of less than 7 lbs. This generator supplies both 9 volts and 220 volts to the receiver.

The transmitter has a carrier power of 50 watts. The output and full modulation is 200 watts. A frequency range of from 1500 to 6000 kilocycles is provided and the operating frequency is maintained under all conditions. To accomplish this, a crystal oscillator is used.



Power for the transmitter is obtained from a separate direct current generator driven by the wind. Special control is provided to maintain constant speed of this generator with varying air speeds.

When the airplane radio receiver is disconnected from the headphones by operating the transmitter push button, the headphones are connected to the talking circuit so that the speaker can hear his own voice. This is of great importance to the noisy surroundings of an airplane because it gives the talker a rough check of the loudness of his own voice.