

# The New Radio Broadcasting Station WGY

**A** RADIO broadcasting station, more powerful than any now sending out programs, has been installed by the General Electric Company at its plant in Schenectady, N. Y.

From the roof of a five-story factory building, two towers 183' high and spaced 350' apart, support an antenna at such height as to give the wireless waves unobstructed freedom to travel equally well at a speed of 186,000' per second in all directions.

This station has not been regularly operated, nor has an advance announcement been made of the impromptu or test programs sent out, which would cause amateurs to be listening, yet, letters have been received from such distant points as Cedar Rapids, Iowa, Minneapolis, Minn., and Santa Clara, Cuba, the last place being 1450 miles distant, announcing that the programs have been heard. These reports come from operators who, in an evening's experimentation with their receiving sets, have accidentally come upon the waves from Schenectady and are no indication of the distance this station may be heard.

Broadcasting stations, with but a fraction of the power of this station, have been heard at distances of 2,000 miles or more, under favorable atmospheric conditions.

The General Electric station has been licensed to operate on a 360-meter wavelength under the call letters of WGY. It is equipped with the most modern of radio apparatus, including the multiple tuned antenna which, because of its many advantages, has been installed in Radio Central, the world's most powerful commercial station at Rocky Point, L. I., and other Transoceanic stations of the Radio Corporation of America.

A three-room studio, where the programs are produced, is located in a company office building, 3,000' from the transmitting station. One room is used as a reception room for the artists, where they may sit and chat until their time on the program arrives, without danger of interfering with what is going on in the studio. The second room is the studio, where a concert grand piano, a victrola, an organ and other equipment for the artists are to be found. Here a number of portable microphones which are commonly known as pick-up devices can be shifted about to locations best suited for the reception of announcements, musical numbers, or whatever may be sent out. In the room on the opposite side of the studio is apparatus for amplifying the sound waves before they are transmitted by wire to the broadcasting station.

A switchboard in the studio, which lights a red light when the station is in operation, thus warning persons in the room that whatever they may say will be sent out to thousands of ears of an invisible audience,

is within reach of the studio director at all times. Not until he throws a switch can anything reach the antenna. A telephone attached keeps him constantly informed just how the program is going out and allows

there is nothing in this room to indicate it as different from any musical studio.

In the apparatus room, the sound waves are put through a number of steps of amplification by means of vacuum tubes which

increases their volume thousands of times. The amplified sounds are then put into a wire and sent to the broadcasting station, where they enter another bank of vacuum tubes, known as modulators or molders of the electric waves.

Direct current at a high voltage is necessary for the operation of a transmitting station. To obtain this, a 220-volt alternating current line, which is but little higher than the voltage used for lighting purposes in the home, is boosted to 30,000 volts by means of a transformer. This voltage is then applied to a number of vacuum tubes, acting as rectifiers, which change the voltage to direct current. Placed between the rectifier and the modulator or molding tubes, is

a high power oscillator tube. The electric power entering this tube sets the ether into vibration and upon these vibrations the electric waves, molded into shape in the modulator tubes, are sent to the antenna to go out into space.

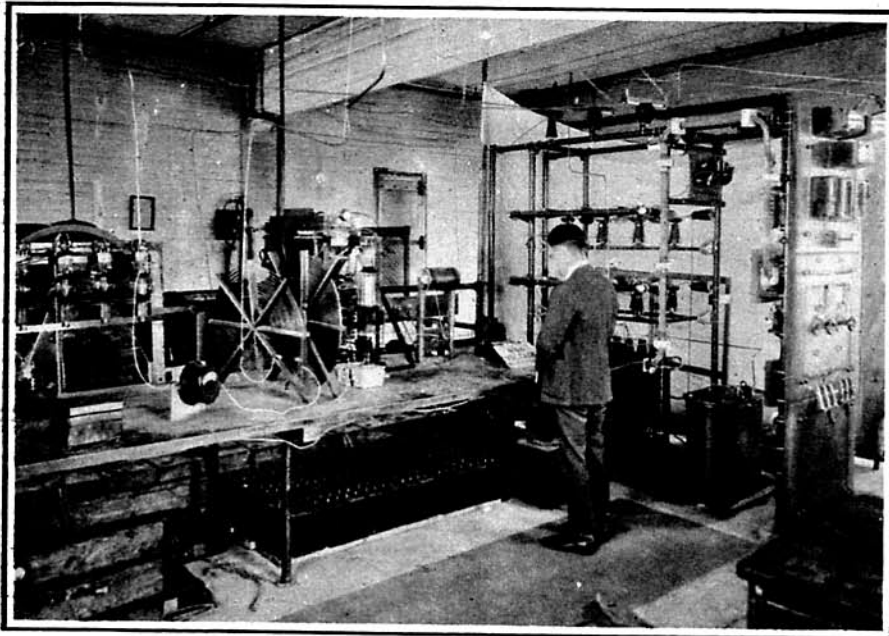
## BROADCASTING OF SONGS BRINGS NEW PROBLEMS.

The musical activities of the various radio broadcasting stations have not only been looked upon with interest by publishers and allied lines, but the rapid developments, scope and power of this new device have features which many in the music publishing field believe will result in time to their disadvantage.

As the publishers see it, there are many good features attached to the broadcasting of songs and before any action is taken regarding such activities, which might be considered premature, the publishers seem willing to await developments. They feel that from several directions, in case the future development of the radio in its present use becomes disadvantageous to their interest, they have the power to curtail such activities, at least, under the present method of programing and with the song material involved.

Where the wireless program is received in an opera house, hall, or public auditorium, etc., the publishers, particularly of popular music, see no evil, but much good. It is the amateur receiving stations and the future development of such that bring up questions that may develop into problems.

Conclusions can hardly be reached at this time, however, and the trend of development of wireless telephony seemingly takes many angles. It is thought in some circles that wireless will replace theatre orchestras, at least in motion picture houses, and this is quite possible.

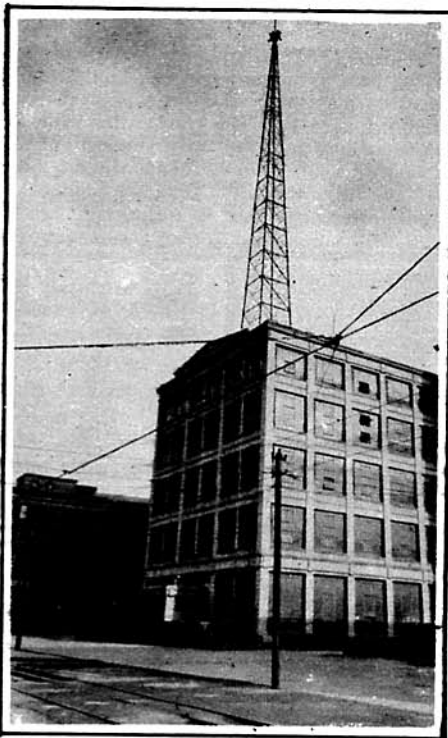


Interior of Transmitting Room in WGY, General Electric Co.'s Radio Broadcasting Station, Schenectady, N. Y. This is the Most Powerful Radio Broadcasting Station in the Country. The Picture Shows Tube Sets, Control Board and Other Apparatus. The Programs Are Sent Out From Another Building Nearby.

Photograph by courtesy of General Electric Co.

him to change position of the artists or microphone, if such is necessary to improve the tone quality of the entertainment.

With the exception of the small pick-up devices or microphones and the switchboard,



One of the 183-Foot Towers Supporting the Antenna of the General Electric Co.'s Radio Broadcasting Station, Erected on the Building Where the Powerful Transmitting Apparatus is Located.

Photo by courtesy of General Electric Co.