

Broadcasting in 1912

By G.C.B. Rowe

*(Editor's Note: This article is reprinted from the *Radio News*, June 1925. Could the General Manager of the Radio Station—John P. Rainbault—be the same John P. Rainbault who was the principal clock case designer for General Electric in the 1930s? The Rainbault clock designs are often attributed to Rockwell Kent.)*

Very little is known now of the first commercial broadcast venture in the United States. This article chronicles its history. It was over telephone lines.

In the age of science in which we are living people take the wonders that surround them as a matter of course and are wont to say: "How the world is progressing!" True enough, but it should be remembered that there is an old saying—"There is nothing new under the sun." How about the music, bedtime stories, news items and all the other programs that can be listened to without leaving the home, may be asked. Nothing new, is answered, nothing new, someone tried that a quarter of a century ago in Europe and thirteen years ago in Newark, N.J.

"What?" we can almost hear gasped, "could people hear the same sort of programs we hear today without stirring from their firesides?"



John P. Rainbault, who was the general manager of the first broadcast company.

The answer is in the affirmative. If a person in Newark in the fall of 1912 wanted to learn how his pet stock was behaving or if he wished to hear the latest happenings reported by the newspapers, or some snappy cabaret music, he put on his headset (even as you and I) and there was the program he wanted. Hardly seems possible, does it? But here is the tale.

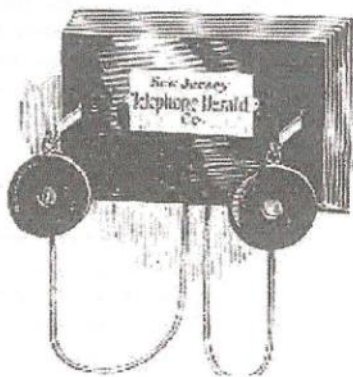
In the early part of 1912 there were several gentlemen of New York traveling in Austria-Hungary and while they were in Budapest they

were surprised to learn that they could listen to concerts or lectures without leaving their rooms. Being progressive Americans, they investigated this system of broadcasting programs and ascertained that it was not patented in the United States. They decided that such a system would be an excellent one to introduce at home, so they persuaded the Austrian engineers to tell them how it was accomplished.

These traveling gentlemen of Wall Street, naturally attacked the new venture in the Street's usual manner. They formed the New Jersey Telephone Herald Company. In the charter it was stated that the company was formed to provide subscribers with entertainment by using telephone lines. Among the gentlemen who were heading the venture were Percy R. Pyne, 2d, H. B. Hololins, and Charles E. Danforth.

It was decided to install the system in Newark, N.J., with the idea that if it was successful in that city, it should be introduced in New York. Wires were leased from the telephone company and the work of installation was started in the Spring of 1912 and regular programs were being broadcast by July.

These programs started at nine o'clock in the morning and continued without interruption until 11 p. m. As has been mentioned above the same sort of programs that are broadcast today were sent out over the wires in 1912. Every 15 minutes during the sessions of the Stock Exchange, quotations were given, supplied by ticker service from the Stock Exchange in New York. News items were read as soon as they were reported to the papers. There were fashion talks, sports talks, and bed-time stories for the children. The musical portion of the programs were under the guidance of Frank Clegg, who had his own orchestra at the studio and several times a week, in the evening, dance music was broadcast from one of the cabarets. Then, as now, managers of the theatres had the problem confronting them of whether they should broadcast their productions because several plays in the local theatres were put "on



the wire."

However, the apparatus supplied by the Austrian engineers was not adaptable to American telephone engineering practice and the reception of the music and talks was not as clear as it should have been. The use of twisted pair in the distribution resulted in a capacity effect that had not been encountered in the installation in Budapest. The directors of the company then called in Mr. John P. Rainbault, a telephone engineer of New York and the present Eastern representative of the Fansteel Products Co., who revised the entire system according to American engineering principles. In a short time, due to his efforts, the people of Newark were able to enjoy the first broadcasting that had ever been attempted in this country. Mr. Rainbault was retained by the company as their general manager, which position covered everything from arranging the programs and seeing that they were transmitted properly, to getting new subscribers.

The central offices, the studio, and the switch rooms were located in the Exxex Building in Newark. Performers in that studio in 1912 would be surprised if they should walk into a present day studio of a broadcast station, because they were just the same in nearly every detail. The walls of the room were hung in heavy drapery to eliminate any echos, there was a piano in its usual place, and then the most necessary of all, the "mike." It was in the latter instrument that the old-timer would notice the only difference, as the microphone then used was of the Erickson type. The operation of the station was also the same. Announcers, who were called "stentors," told the audience what the next numbers were to be, just as contemporaries do today.

The layout of the apparatus and lines were in accordance with the best engineering principles of the day. The signals were picked up by the Erickson microphone and went to the switch room. Here they were connected through a switchboard to sub-distributing centers in the Branch Brook, Waverly, and Market districts. The necessary apparatus of the broadcast company was placed in a building adjacent to the district exchanges, where the monitors of the system checked up on the different circuits to see that they were in proper operating condition. The lines that were leased from the telephone company were used only from the switch room to the three districts and from the district exchanges to the different sections. Each section was a city block and all the headsets in a section or block were in series with the line from the district exchange, these circuits being all care-

fully balanced. Inside the houses that were equipped with the service there was a small moulded insulation block with two hooks on which were hung the head-phones. However, there was no switch to turn off the music and so whenever the phones were placed on the ears between the hours of nine and eleven something was heard.

The price of this service was \$1.50 per month and the first two or three months the subscription service was swamped with orders for installations. Within the first three months about 5,000 subscribers were on the books of the New Jersey Telephone Herald Co. However, as with everything else, people soon tired of their new toy, mainly because loud speaker reception was not available, although the signals that were received were very clear and of excellent head-phone volume. New subscriptions continued to come in, yet there were a large number of subscriptions canceled. The management of the company realized where the difficulty lay and Mr. Rainbault and his chief engineer, Mr. J.L. Spence, worked on the perfection of a mechanical amplifier. However, they realized that the results obtained were far from satisfactory, so in December of the same year it was decided not to fight any longer against such odds. It is an interesting fact to note that if there had been the vacuum tube as we have it today, this scheme would have worked satisfactorily in every way.

Problems

There were many problems then that are interesting to review. One of the large department stores of Newark wanted the New Jersey Telephone Herald Co. to read a resume of their advertisements daily to the subscribers, but the directors of the company refused to comply with their requests as they feared that it would cheapen the broadcasting. The mechanical amplifiers used were nothing more than a mere diaphragm with a rod attached to its center, which energized another diaphragm. Naturally, an amplifier of this type was far from being satisfactory, as the distortion present in the amplified signals was considerable. Mr. Rainbault and Mr. Spence, did considerable research work on these repeaters, but the company closed their business before any satisfactory results were obtained.

As has been mentioned before, if there had been some means of amplifying the signals that were sent out over the lines, the company would doubtless have been successful. However, there occurred the family argument that is recurring today in the home where there are

receivers using crystals for detectors—who gets the phones? Even though the reception of the signals was clear, yet the people in general could not be educated up to the idea. Advertising in Newark's papers had increased the subscription list to over the five thousand mark, yet the public refused this initial trial broadcast entertainment. There had an outlay of over \$200,000 and so the New Jersey Telephone Herald Co. was closed and the headsets removed from the homes of Newark.

This was a scheme that has proved to be one of the most popular types of entertainment that has ever been devised, but to be so popular it needed the vacuum tube of the present day to amplify the received music so that entire families could listen in at the same time. The Newark venture of 1912 was just another one of those things that are devised a few years ahead of their time, in this case not more than five or six.

