

The Beginnings of Radio Central

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This article was one of a series by the authors about RCA's "Radio Central" operations at Riverhead and Rocky Point New York. The series was published in the Spring, 1992 issue (Vol. 20, No. 1) of The Antique Radio Gazette. One part of the series, The Alexanderson Alternator Story, was published in our last issue. Additional parts will be published in future issues. Some editing has been done, but the content remains unchanged.

The beginnings of Radio Central, the extensive facility of the Radio Corporation of America (RCA) on the eastern end of Long Island's north shore, is a fascinating story. Most radio historians are familiar with some of this information. But the details are known only to those who have searched them out in contemporary records and verified their findings with the people who were assigned there. The story is well worth recording and telling, if only because of the impact that Radio Central had on the world of electrical communications.

One way to start is to look at the functions performed at the facilities at Riverhead and Rocky Point. They included high speed radio telegraphy, antenna experiments, propagation studies, and transmitter development. Those beginnings are recounted in other articles by the authors.

Another place to start is with the corporate parentage of Radio Central. That part of the story is told in this article, which traces the path beginning with the work of Marconi. Upon realizing the possibilities for two-way message exchange without the limitations of land-based pathways (wires), Marconi moved from his home country, Italy, where his work was not appreciated, to England, where his contributions to the art of communication were highly regarded. There he sought financing from his family and from others who could envision the possibilities of his ideas.

His goal was to develop a practical wireless (radio) signalling system. His ideas attracted enough attention for interested financiers to set up the Wireless Telegraph and Signal Company in 1897. Its purpose was to provide the financial backing Marconi needed to reach his goal. The inventor was made the chief engineer of the company.

For more effective fund raising (probably based on drawing power of Marconi's name). the name of the company was changed to "Marconi's Wireless Telegraph Company, Ltd." (Hereafter called British Marconi). Marconi understood the potential of long range communications for both maritime and international use. Whether he also anticipated and understood the details of the message handling business is not known but his advisors could see from the wire telegraphy business that all stations of the system had to be under company control.

Although the transmission medium was beyond anyone's control, the newly-formed company planned to own the facilities at both ends of their communications pathways. To assure control of marine communications, the shipboard stations were rented, not sold. The limited range of both ship-board stations and (in the early days) land stations meant that a chain of stations had to be installed throughout the world.

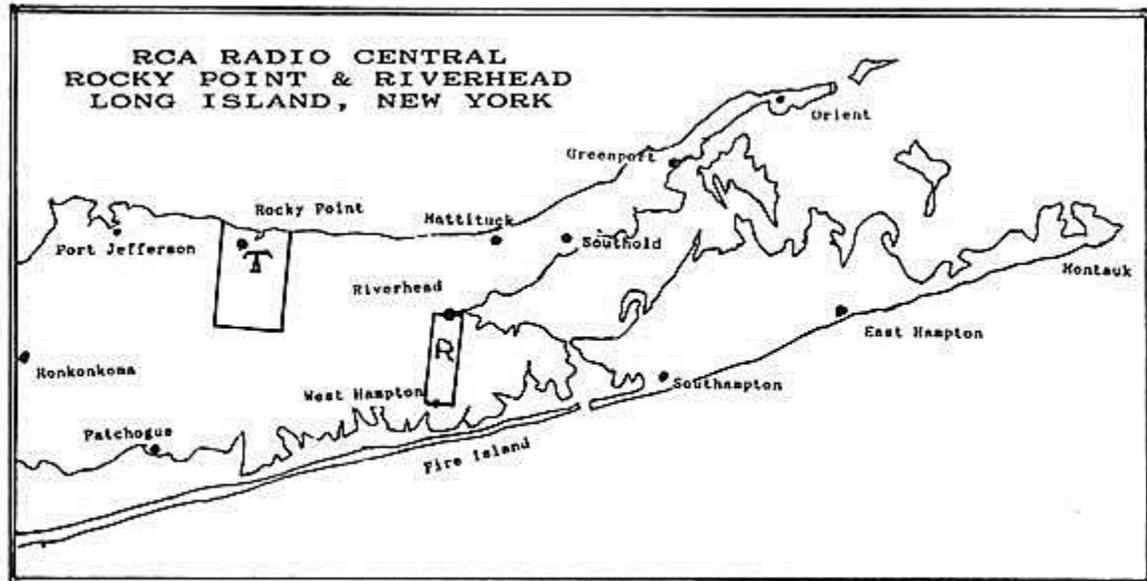
Therefore additional companies had to be set up in the several nations where

maritime traffic would be heavy. World-wide communications could eventually be developed by increasing power, building larger antennas and improving detectors. Besides maritime messaging, the land stations could also be utilized to serve world-wide business interests. To carry out both functions, it was decided to put two subsidiary companies in place. The first was to operate between Europe and America and serve ships sailing in western waters. This was accomplished in 1899. The new company was incorporated in the state of New Jersey as the Marconi Wireless Telegraph Company of America (hereafter called American Marconi).

The second subsidiary company was organized in 1900 as the Marconi International Marine Communications Company. Shortly after it was set up, it opened stations in England and Ireland.

The primary source of income for the Marconi companies was the marine message service. Initially this was not a big business, but with the recognition of the importance of wireless communications to ship safety it grew quickly. As the number of stations and the revenues they earned increased, the Marconi companies became a world force.

Wireless companies other than Marconi's had been started (deForest's being one example), but they were not operated in the same tight, businesslike manner. The policy of the Marconi companies was to limit the technical upgrading of station equipment and to carefully limit service. For example, Marconi stations would communicate only with other Marconi stations. These practices maintained moderate growth while avoiding over-extension that might threaten the survival of



Locations of the RCA transmitting and receiving facilities at Rocky Point and Riverhead, respectively.

the companies. However, they also had the unpleasant flavor of monopoly.

By 1908 American Marconi had grown to five land stations and 40 marine stations. It bought United Wireless and thereby added 50 land and 400 marine stations. The company had also grown in its handling of international traffic. Trans-

atlantic message service was routed through the station at Glace Bay, Canada and could provide service 20 hours a day.

Modest growth continued until the beginning of World War I when the Navy took over nearly all of American Marconi's facilities, including the coastal stations and the shipboard stations on ocean-going vessels. This put American Marconi out of the trans-atlantic message service business but not out of the radio equipment manufacturing business.

As early as 1907, a factory had been set up in Aldene, New Jersey (near Elizabeth) to produce and modify wireless equipment for the company. This operation mushroomed into a major manufacturing facility that produced equipment for the Navy. With the cessation of hostilities, the Navy either had to return all the stations and other facilities that it had used for war purposes to their owners or to have the law changed so that the government could stay in the public radio message service.

Changing the law would have been counter to American attitudes toward government. Still, the Navy was reluctant to return the bulk of American radio communications to what seemed to be a foreign agency. Though it was argued that American Marconi was not a foreign company, the Navy knew that the controlling interest was held by British Marconi.

The solution to the problem was to have the British interests bought by an American Company. At that time (1919), General Electric was negotiating with Marconi about supplying Alexanderson alternators for use in international message service. The Navy prevailed upon GE to help resolve the problem.

It was arranged for GE to start a new company that could take over the British interests and receive the stations held by the Navy. That company was incorporated in November 1919 as the Radio Corporation of America. Almost all of the assets, financial, capital, technical and human were transferred from American Marconi to the Radio Corporation. Included was what turned out to be the single most important asset of all, David Sarnoff. American Marconi was dissolved as a corporation in April 1920.

RCA hit the ground running. The patents held by British Marconi as well as those held by American Marconi and, more important, those held by GE became the engineering base of the new company. The Alexanderson alternators at New Brunswick and the new ones that Marconi had ordered were the means that could lead RCA to world leadership in communications. However, first there were problems that needed to be solved. The Marconi antennas had traded height for transmitter power. They performed poorly in receiving because they offered no noise reduction. New antennas were needed. Receiving and transmitting stations near big cities suffered from both interfering noise and from the incompatibility of high powered transmitters and their antennas with urban life.

RCA's potential growth was also limited by the size of the Marconi facilities. Much larger ones would be needed to accommodate the expected increase in international traffic. That story is told elsewhere in this *Gazette* (it will be reprinted in an upcoming issue of *The AWA Journal--ed*).

It was decided that the new stations could best be located along the sandy shore line of the ocean, especially in places where the pathways to the other stations in the link would not cross any noisy sources. But because messages originated from, and

were delivered to, New York, the international station had to be located where land lines could be established to handle traffic to the city.

These requirements pointed to locations like New Jersey (where Belmar and Tuckerton were already operating), Massachusetts (where Marion had been established), and Otter Cliffs, Maine, (where Beverage had done some of his wave-antenna experiments). There was, however, another location, previously used for experiments by Marconi, that met these requirements even better. This was the eastern end of Long Island.

Early in 1920 RCA purchased property at Riverhead (see map) and set up a receiving station. At the same time, a transmitting facility was established at nearby Rocky Point (16 miles to the northwest). These stations were connected by telegraph and telephone to the main offices in New York, 80 miles to the west. Although the facilities were modest in their beginnings they eventually became "Radio Central," the center of the RCA world-wide communications network.