

SOME OLD-TIME

The wireless stations recalled in this article will undoubtedly bring up fond memories to every old-time operator. The names of the "ops" who operated these stations in the old days may no longer be remembered but the service they



OPTICAL TELEGRAPH COMMUNICATOR ABOUT 1800



An Early Marconi Station about 1896



Glace Bay (B.B.) Transmitting Room, about 1904



Receiving Room at Glace Bay Station (MARCONI AT LEFT)



BEFORE wireless came about, when a ship left land it was never heard from again until the day it returned to the same port, unless some other ship brought in news or tidings, or perhaps even some mail exchanged in mid-ocean. When wireless came along that picture was changed, since its first adaptation was for ship-to-shore communication although some of the first stations were intended to replace the telegraph and trans-Atlantic cable in the art of communication.

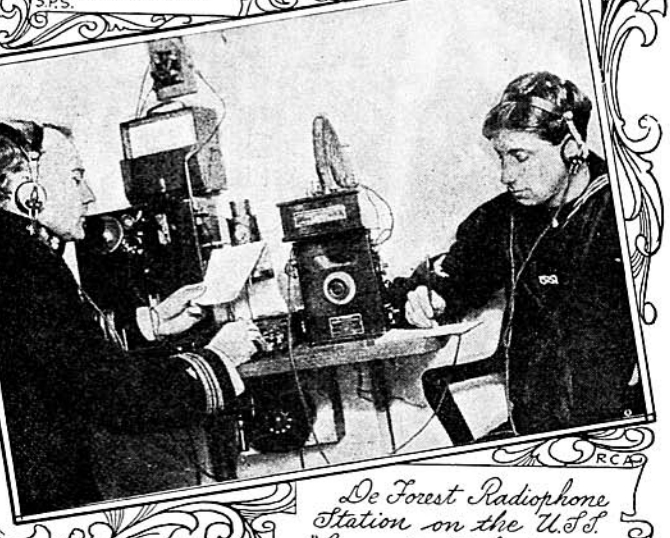
The first commercial wireless station was, naturally, Marconi's, and was erected in November, 1897, at Alum Bay on the Isle of Wight, England. The station employed an antenna consisting of wires stretched between masts that were 120 feet high, and many messages were sent from this station to an experimental station located on a steamer. These tests were designed to show the feasibility of ship-to-shore communication, and the first record of a paid-for message by wireless was made in June, 1898, when Lord Kelvin came to this station and sent a message, for which he paid, to another station at Bournemouth, approximately 14 miles away.

From then on, ship and shore stations were installed rapidly, and we find Mar-

coni's company interested in spanning the Atlantic. With this in mind, he had already installed (in 1901) a powerful station at Poldhu, Cornwall, England. It employed for an antenna system 20 masts, each 200 feet tall, arranged in a circle 200 feet in diameter. After it had already proven that it could reach ships far out at sea, Marconi then traveled to St. Johns, Newfoundland, and after some experimental work was able to hear the letter "S" (3 dots: "...") transmitted by Poldhu. Other difficulties arose, and it wasn't until 1902 that Marconi was able to return to the North American continent to erect his station for trans-Atlantic communication. When he did, he selected Glace Bay, Cape Breton, Nova Scotia, and on December the 17th of that year the Governor-General of Canada and the King of England exchanged greetings through the facilities of these two stations.

These were the forerunners of commercial ship and shore stations to which wireless operators were destined to listen eagerly for communications, press, instructions, weather reports, etc. In the United States, between 1904 and 1908, the United Fruit Company found it advisable to erect a number of shore stations so that its fleet of steamers traveling to southern climes

POZ or Nauen, Germany Early Radio Equipment. About 1905



De Forest Radiophone Station on the U.S.S. "Connecticut," about 1908

RADIO STATIONS

rendered and the role that these stations played in the days when they constituted the single meagre ethereal thread which permitted contact between ships and distant shores will always remain alive and vivid to all seagoing operators.

could be contacted at will. These early United Fruit stations were located at Limon, Costa Rica and Bocas del Toro, Panama. Before 1908 this company had added more shore stations located at Nicaragua, Cuba, Guatemala, Louisiana, and Swan Island in the Caribbean Sea. In 1904, de Forest installed 5 large Navy shore stations at the following locations: Pensacola, Key West, Guantanamo, Colon (Canal Zone) and San Juan (Porto Rico).

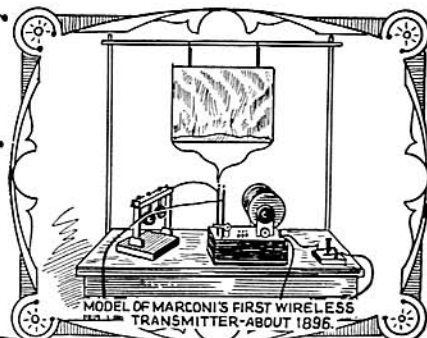
Arlington (NAA) didn't go on the air until February, 1913, although the installation was started in 1909. Its first signals were made by a 100 kw. spark transmitter of Fessenden design, but this was replaced shortly afterwards by a 30 kw. "arc" transmitter which was much more efficient. From then on, arc transmitters were preferred by the Navy, and Arlington results were the criterion. The Eiffel Tower station (old "FL"), in Paris, began its transmissions in the latter part of 1912, and Time Signals from this station were transmitted regularly.

LONG-WAVE STATIONS

An interesting point, with which only real old-timers would be familiar, is that many of these aforementioned stations operated on extremely low frequencies or very high wavelengths, although the best results are obtained today in the opposite direction, i.e., ultra-high-frequencies or low wavelengths.

Arlington, or NAA as the veteran wireless operator would refer to this station, for instance, operated on a wavelength of 6,000 meters. Eiffel Tower, or FL, operated on a wavelength of 10,000 meters; Nauen (Germany), or POZ, operated on 12,600 meters, and NSS (Annapolis, Md.) operated on a wavelength of 16,900 meters or approximately 18 kilocycles—a frequency now considered on the fringe of the audio

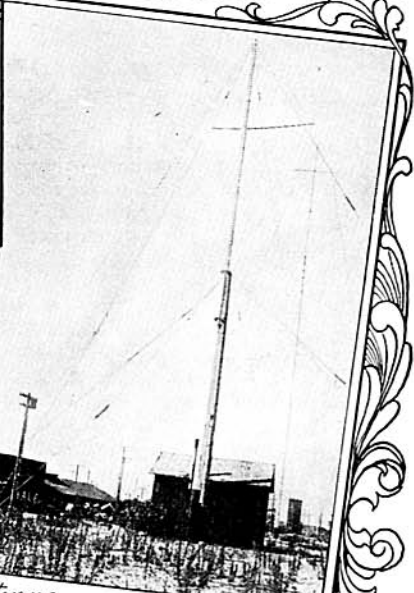
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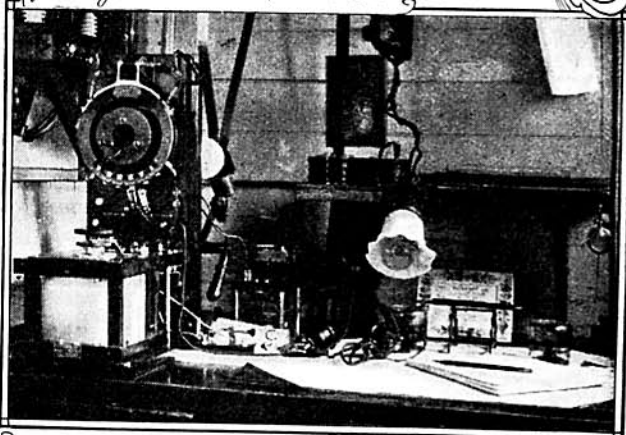
MODEL OF MARCONI'S FIRST WIRELESS TRANSMITTER—ABOUT 1896.



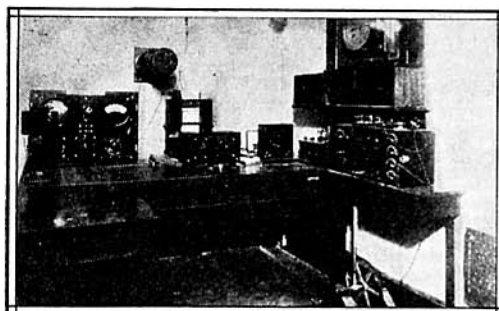
Marriott's Early Radiophone Transmitter at Manhattan Beach (old D.F.) Station, N.Y. 1908.



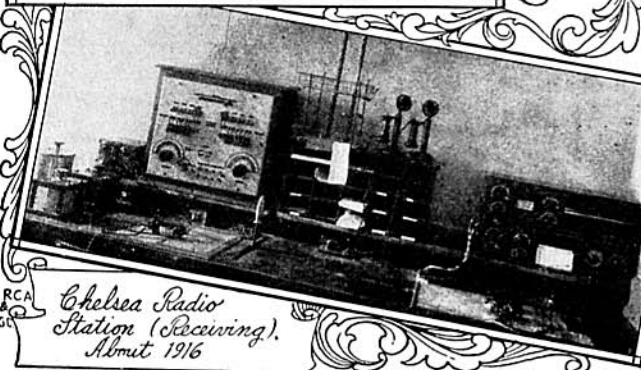
Shack and Antenna for Key West Station, about 1905 RCA



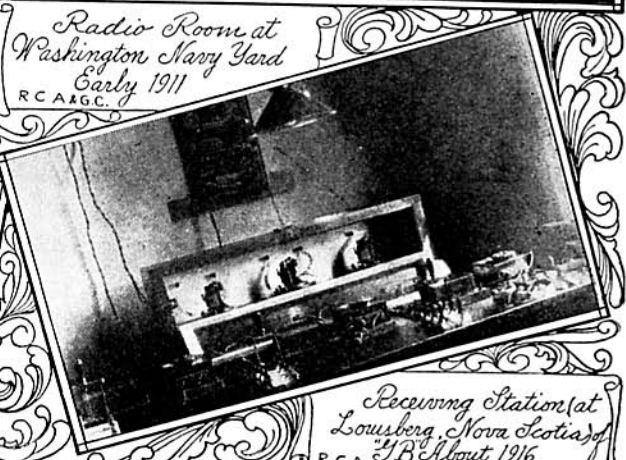
Radio Room at Washington Navy Yard Early 1911 RCA & G.C.



NAA, Arlington Radio Station (Navy) About 1912 RCA & G.C.



Chelsea Radio Station (Receiving), About 1916 RCA & G.C.



Receiving Station (at Louisburg, Nova Scotia) Y.B. About 1916 RCA

SOME OLD-TIME RADIO STATIONS

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spectrum. No small wonder that these stations had to use tremendous power and extremely large and lengthy antenna systems. The tuning coils on the receivers, for receiving these wavelengths, were also very large—sometimes resembling huge Tesla induction coils. In general, though, commercial wireless seemed to favor the 600- to 1,000-meter range.

The first attempt at legislation of commercial wireless was made at the International Radiotelegraphic Convention, held at Berlin in 1906, which provided that the wavelengths of 300 and 600 meters be assigned for commercial wireless work. The wavelength of 1,600 meters (or band from 600 to 1,600 meters) was reserved for governmental coast stations. However, these provisions did not at that time apply to wireless in the United States, since this country sent no representative to the Convention. The U. S. had no real laws governing wireless until The Wireless Law of 1910 was signed by President Taft, and which only became effective on July 1st, 1911. The tenets of the International Convention were not ratified by the Senate until January 22nd, 1913.

From this period on, and until the United States entered the World War, commercial wireless grew by leaps and bounds, and when finally this country did enter the War, the shore stations that were established by this time proved to be an invaluable asset. When the War started there were 35 Navy coastal stations (privately-owned commercial stations were much more numerous), and 45 Marconi stations for ship-to-shore service. These the U. S. Navy took over, and in 1918 purchased them outright. Their calls were heard by innumerable wireless operators of those days, and amateurs as well, since listening-in to commercial news, press, etc.—especially, the NAA press reports after the 9:55-10:00 P.M. time signals—was a favorite pastime that provided good practice to attain "copying speed."

Today, the number of shore stations in the United States is difficult to estimate, since wireless (radio) is no longer confined to ship service. Aviation, Police, Facsimile, Press, Communication (radiograms), Wireless Telephone, Broadcast, Military (Army and Navy), Experimental (television, etc.), all tend to make the number run into many thousands.

Meanwhile the ghosts of old stations still linger in the background. Arlington still sends out Time Signals; Nauen, Germany, still transmits on the upper wavelengths where now, if one were to listen-in, an almost graveyard silence prevails in contrast to the old-time busy chatter. The Eiffel Tower is somewhat more modern, having included facilities for radiophone and, we understand, television transmission, but the call letters are the same . . . probably to serve as a reminder of its past glories.



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