

Marconi and His Historical Day in 1901

Source: <http://www.pbs.org/wgbh/aso/databank/entries/dt01ma.html>

Late in the nineteenth century, Guglielmo Marconi began experimenting with electromagnetic waves to send signals. At that time, the telegraph wire was the quickest way to get messages from here to there, using Morse code. He designed a transmitter to send and a receiver to detect radio waves. By the end of the century Marconi had managed to send signals over several miles with no wires, and the idea was taking hold with naval officials. In 1898 he sent a wireless message 18 miles. In 1900 he patented his system.

On December 12, 1901, Marconi attempted to send the first radio signals across the Atlantic Ocean, in spite of predictions that the radio waves would be lost as the earth curved over that long distance. He set up a specially designed wireless receiver in Newfoundland, Canada, using a coherer (a glass tube filled with iron filings) to conduct radio waves, and balloons to lift the antenna as high as possible. The signals were sent in Morse code from Poldhu, Cornwall, in England. Marconi later wrote about the experience:

Shortly before midday I placed the single earphone to my ear and started listening. The receiver on the table before me was very crude – a few coils and condensers and a coherer – no valves, no amplifiers, not even a crystal. But I was at last on the point of putting the correctness of all my beliefs to test. The answer came at 12:30 when I heard, faintly but distinctly, *pip-pip-pip*. I handed the phone to Kemp: “Can you hear anything?” I asked. “Yes,” he said. “The letter S.” He could hear it. I knew then that all my anticipations had been justified. The electric waves sent out into space from Poldhu had traversed the Atlantic – the distance, enormous as it seemed then, of 1,700 miles – unimpeded by the curvature of the earth. The result meant much more to me than the mere successful realization of an experiment. As Sir Oliver Lodge has stated, it was an epoch in history. I now felt for the first time absolutely certain that the day would come when mankind would be able to send messages without wires not only across the Atlantic but between the farthestmost ends of the earth.