

Living in the Past

Historical perspective

The father of radio



While radio has had many "fathers" and inventors and other pioneers, perhaps the title *Father of Radio* is more appropriately associated with Guglielmo Marconi than with any other person. On 12 December 1901, Marconi received the first wireless radio signal in St. John's, Newfoundland, transmitted by a close colleague from a station he set up in Poldhu, Cornwall, England. He was 27.

At the young age of 18, having only been home-schooled and tutored (so having never attended high school or college), Guglielmo became fascinated by the works and findings of Heinrich Hertz, the first to demonstrate the radio waves predicted by James Maxwell. He was especially drawn to the possibility of communicating by telegraph over radio waves, dismissed by many as a scientific phenomenon rather than something for communication value. By age 20, Marconi was conducting experiments in his attic, and demonstrated to his mother a transmitter that, when he pushed a button, rang a bell attached to a receiver on the other side of the room. Once he saw this, Guglielmo's father began encouraging the young man to pursue his experimentation more vigorously.

The thought at the time was that radio waves were limited to a maximum travel of a half-mile, but when Marconi raised his antenna, he began to exceed that distance by two miles. Furthermore, he found that when he grounded his station and antenna, the distance increased even more. After failing to receive funding in his home country of Italy, Marconi traveled to England, where he met officials who encouraged him to patent his apparatus. On 02 June 1896, Guglielmo Marconi received the first patent for a radio wave-based communication system.

In England, Marconi took his system outside, where he was able to reach distances of 6 km, 16 km, and even farther. In December 1898, the British government approved the establishment of a wireless communication system aboard the *East Goodwin* and at the Dover lighthouse. In March 1899, the *East Goodwin* sent the first-ever wireless distress call in behalf of a merchant vessel, which had run aground.



Further encouraged by his successes, Marconi first attempted to span the Bristol Channel, then the English Channel, and eventually the Atlantic Ocean. Although his first transatlantic transmission was a little controversial, his subsequent experiments validated his claims.

Marconi never revealed the frequency he first used, but based on his equipment and antenna, we estimate his transmission frequency was between 820 kHz to 850 kHz.