

The Lizard Wireless Station of Guglielmo Marconi

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During the vacation with my wife in Cornwall, we by chance were walking by the Lizard wireless station, originally installed by Guglielmo Marconi and recently refurbished by The National Trust/UK. Fortunately the shed was open for public visitors and a student was present telling stories about the station and its history. The historic equipment was demonstrated by sending some Morse codes. The high voltage sparks and its sound were quite impressive while in the background the Morse code receiver punched dots and dashes onto the strip chart.



Figure 1 ~ Author in front of the Lizard wireless transmission station (building on the right side) during a walking tour along the coast of Cornwall/UK. The short-wave antenna is located behind the house and therefore not visible.

History

Electromagnetic radiation has been predicted purely mathematically by the Scotsman James Clerk Maxwell in 1864. Later, in 1888, the German Heinrich Hertz successfully demonstrated electromagnetic waves in his laboratory. Marconi born at Bologna, Italy in 1874 studied physics at Livorno and became interested in the newly discovered electromagnetic radiation. In 1894 Marconi set up his first equipment near Bologna and was able to detect radiation with his simple setup. During a vacation in 1895 he went to Salvan in Switzerland and conducted further experiments with improved equipment and managed to transmit over a distance of 2.5 km. The Italians were not interested in these 'useless' experiments, so Marconi went to England and worked with further improved equipment on Salisbury Plain in 1896.

In July, 1897 Marconi formed a company called "The Wireless Telegraph and Signal Company Limited" to develop equipment commercially. By the same year the achievable range with Marconi wireless equipment had

increased to 7 km and in 1898 and 1899 to 23 km and 51 km, respectively. In the latter demonstrations there was reception at times to 140 km giving an early indication that perhaps the horizon was no limit for wireless. By 1900 Marconi had made such good progress he could sell equipment to the Navy. In the same year Marconi needed to improve his company's sales and financial position, so he constructed a new wireless station on the cliff-top on the eastern side of Housel Bay at The Lizard. This was called The Lizard Wireless Station shown in figure 1. This station was in the first group of eight coastal stations built in 1900-1901, which operated on ship-to-shore wireless telegraphy and which in these early years provided much-needed income for the company. Then in 1901 he managed to transmit over a distance of 300 km from the Isle of Wight. By the end of 1904 Marconi had set up 124 wireless stations. The stations operated mainly at about 500 KHz (600 m wavelength) and the range in daylight was in the order of 160 km.



Figure 2 ~ Receiver with Morse code puncher on the left side, Leyden jars (a type of battery) with induction coil, spark gap and Morse key on the right side.

The station, with its call sign LD, continued as a Marconi station until 1908 becoming more busy on all-weather and day-and night wireless telegraphy. Later that year the Post Office took over responsibility and changed call sign to GLD. Marconi staff provided assistance until 1911. The station was then closed in 1913 when a newly developed station was opened at St. Just named Lands End Radio, and this new station took over the GLD sign. The Lizard station reopened in the 1914 to 1918 period under Admiralty control, and was used for listening for enemy transmissions during World War I.

The National Trust carefully restored the buildings to their original configuration and form during the winter 1999-2000. Access to the site is by foot from nearby parks located in The Lizard Town or adjacent to the Lighthouse.

Further information and reading:

http://en.wikipedia.org/wiki/Guglielmo_Marconi