

## Guglielmo Marconi 1874 - 1937

Awarded the Nobel Prize for Physics in 1909

Marchese Guglielmo Marconi was an Italian physicist and electrical engineer who saw the possibility of using radio waves for the transmission of information. He was the first to put such a service on a commercial scale, and was responsible for many of the developments which have transformed radio and telegraph into an industry. He took out many patents and received prizes, but undoubtedly the principal one was the 1909 Nobel Prize for Physics.

Guglielmo, the second son of a successful Italian landowner and a wealthy Irish woman, was born in Bologna in 1874. He received his first education under private tutors, then he entered the Technical Institute in Livorno to study physics under prominent Italian professors. **Apparently he never enrolled for the university courses and did not receive an academic degree.** 

Marconi built his first transmitter and receiver at his father's villa. In his experiment the radio waves ( or Hertz's waves ) were generated by a spark which jumped across a gap between two metal balls connected to a high voltage power supply. As the receiver he used a device introduced by the English physicist Joseph Lodge - a glass tube full of metal filings connected to a battery - to pick up the radio signals. The transmitter was connected to the wire antenna. Marconi succeeded in sending radio signals across his father's estate, a distance of about a mile, in the autumn of 1895 ( similar work was being done at that time in Russia by Alexander Popov).





LATERT HORBY

The Italian government was not interested in his experiments and Marconi, with his mother, travelled to England. Shortly after arriving in London in February 1896 Marconi secured the interest of government officials from the War Office, the Admiralty, and the British Postal Service.

Obtaining a patent, Marconi formed the Wireless Telegraph and Signal Company, later renamed Marconi's Wireless Telegraph company Ltd. **He achieved the first international wireless transmission, between England and France, in 1899, and in 1901, he transmitted signals across the Atlantic ocean, from Cornwall to Newfoundland.** 

In 1902, Marconi returned to Italy and the Italian Navy offered him a ship, the 'Carlo Alberto', as his first floating laboratory. With the onset of World War I Marconi took a post as technical consultant to the Italian military.

After the war Marconi bought his own yacht, which he christened 'Electra', and this became his laboratory and home. He continued to work on the development of very short wavelength beams and they were used for communications over long distances in 1932. At the same time he proved that microwaves (waves shorter than 1 cm) could be received.

Marconi married twice. He had three daughters and a son from the first, and a daughter from the second marriage. Biographers described him as a man of enormous energy. Musically gifted, an inventor and businessman he participated in social and political life. In 1923 he joined the Fascist Party and was among those who supported Mussolini. He gained many awards, being made a Marquis and President of the Royal Italian Academy. At his death in 1937 he was accorded a state funeral by the Italian government.



He received honours from Mussolini



Apparatus used by Marconi



Radio became the main source of entertainment and communication

