

# TUNED IN

**Ken Taylor**, Museum volunteer and member of Oxford and District Amateur Radio Society (ODARS), explores how objects in the Marconi Collection worked.

## Oscillator



**Maker:** Augusto Righi

**Origin:** Bologna, Italy

**Date Created:** 1895

**Provenance:** Presented by the Marconi Corporation

**Materials:** Mahogany, brass, ebonite, celluloid

**Inv:** 21300

Marconi used this spark-gap in Bologna and brought it with him when he came to England in 1896.

It was also used in subsequent General Post Office demonstrations (the mark of Marconi's Wireless Telegraph Co. Ltd would have been added at a later date).



*Righi Oscillator (Inv: 21300)*

*Photograph by Hermeet Gill*

Multiple Oscillators were invented by Heinrich Hertz, and later improved by Augusto Righi.

The improved versions were often referred to as 'Righi Oscillators'.

Righi was a Professor at the University of Bologna, an expert on Hertzian waves, and a family friend of the Marconi family. Righi first made Marconi aware of Hertzian waves, and Marconi used a Righi Oscillator in his earliest experiments.

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The secondary winding of an induction coil was connected to the outer ends of the rods supporting the brass balls.

The high-tension voltage generated by the induction coil when the primary winding was energised via the Morse Key would cause sparks to appear between all three gaps. The wavelength of the emitted radiation would have been in the centimetre region.

This form of oscillator was soon abandoned in favour of a simpler and more reliable version using only 2 balls, but was made obsolete by the tuned transmitter.



*Righi Oscillator (Inv: 21300)  
Photograph by Hermeet Gill*