

The Early Days of RADIO

This month we look at the origin of the word "radio," and pioneers behind the birth of the vacuum tube.

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Part 2 NO ONE KNOWS FOR sure how the word "radio" was coined. It is very likely that the word is a shortened form of radioactivity, first used by French physicist Antoine H. Becquerel, or of radiation. In describing the radio effect, the magazine *Strand* in July 1896 said "At the solid object the new radiation springs into being and then travels away from it in all directions in very much the same way that ordinary light would do." Dr. Lee de Forest wrote about "radio waves" in his PhD dissertation in 1899.

Whether it was called radio, wireless telegraphy, or something else, there was no denying that the phenomenon captured the public's fancy. In fact, the airways soon became so crowded that it is reported that the U.S. Navy had to plead with the amateurs to shut down so that they could maintain communications with their ships at sea. In 1903, de Forest wrote that "Radio chaos will certainly be the result until...regulation is afforded." The first radio society, The Wireless Association of America, was formed in New York in 1908. With de Forest as its president and Hugo Gernsback as its chairman and business manager, that organization attracted over 3000 members in just its first few months.

The first radios were often simple, home-made, spark-gap units. A schematic diagram of an early "transceiver" made up of a spark-gap transmitter and a crystal receiver is shown in Fig. 1-a; a more detailed view of the spark-gap coil is shown in Fig. 1-b. Note the lack of a tuning mechanism in the transmitter. When our forefathers said that they were "modulating the spectrum," they weren't kidding around. A single low-frequency broadband spark-gap signal would effectively occupy the entire useable spectrum.

The first sound transmission

Let's backtrack for a moment and give some mention to an individual who today is not well known, but deserves to be.

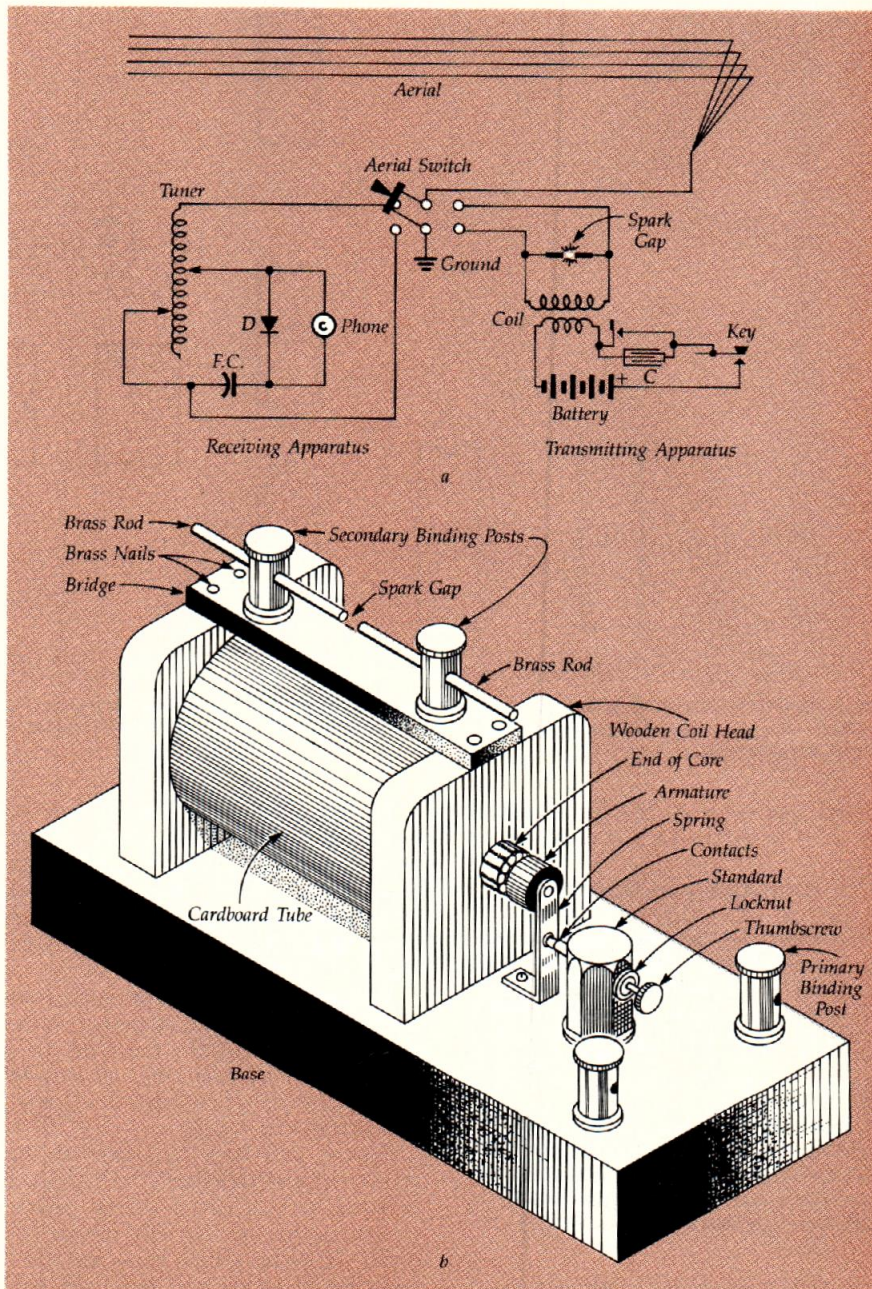


FIG. 1—AN EARLY SPARK "TRANSCIVER" is shown in a. The spark coil is shown in detail in b.