

The beginnings of radio from the Museum of Yesterday

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This, the first of several articles, appeared in the July 2017 issue of "The Richmond Ham," the monthly newsletter of the Richmond Amateur Radio Club. See rarclub.net/news-letter for a copy of that newsletter.

It was suggested that I prepare a series of articles describing some of the antique ham and communications radios that are housed in my collection known as the Museum Of Yesterday (www.demajo.net).

I would like begin this month with a preface to that series in which we talk about the history of radio itself, and the impact it had on civilization. The art and science of "long distance" communications probably started with Native Americans sending smoke signals. As time progressed, more scientific methods were introduced. In France, a series of towers had been built to allow semafore signals to be relayed, by line-of-sight. Each letter had to be transmitted by moving multiple arms on each tower. Estimates were that it took hours to transmit even a simple message by this means.

The next phase of development involved first oil then electric lanterns. Flashing signals could be used to send encoded information, and the use of Frensel glass lenses allowed the light beams to carry even greater distances than had been achievable with the mechanical semafores.

Finally when electricity was harnessed, it didn't take long for inventors to realize that impulses of electricity could be used to send coded messages without the restrictions of sight. DC voltage drops along lines were overcome with the use of repeating relays. The first systems utilized codes that required conversion by mechanical means to create letters from the impulses. Samuel Morse, while thought by many to have invented the telegraph, actually gave us the means to dispense with the mechanical translation by providing a simple binary code where the letters could be recognized by sound. Morse's system also allowed the use of two-wire transmission, whereas the European system that predated it required multiple conductors between stations.

By the early 1900s, scientists had begun to deploy the discoveries of several 19th Century scientists such as Maxwell, Fleming and others, to the belief that electricity could be transmitted through the air, thereby allowing communications to be carried on without the need for wires.

Each month in these articles, I will also feature a radio or device from the museum's collection. This month's photo is an early crystal set made by Federal Radio. Remember that when this set was made, vacuum tubes had not yet come on the scene, so it was necessary to use primitive technology to receive the spark generated radio signals that were beginning to attract the attention of early hams. The Federal set was one of the earliest of devices that replaced the original coherer detectors, bringing "radio" out of the laboratory and into somewhat practical use.

Next month, we will pick up with a discussion of early radio and its impact on mankind. It has been said that the railroads built America, but it was Radio that actually brought together all segments of humanity into what we now know as our American Culture.

