

The History of Radio

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How did it all begin?

It all began with the discovery of radio waves, by Heinrich Hertz. (he was a German physicist) He was first to discover that you could transmit and receive electric waves wirelessly. Originally, Hertz thought his work had no use, but today it is used as the foundation block of radio.

The electromagnetic waves have the capability to travel data (such as music and voice) through the air. In 1895, Guglielmo Marconi's first transmission coded signals that transmitted only about a mile in distance. He realised the potential of this and offered it to the Italian Government, but they turned him down, so he went to Britain and experimented further. In 1897, the signals travelled further and further until they reached up to 100 km. Marconi opened the first radio factory in Essex and in 1899, he proved that the curve of the Earth was not an obstacle by creating a 32 mile link between Britain and France. 1901 was the year that he made a connection with America, where a telegram was sent between Massachusetts and New York, for the Navy. Later that year, he sent the first transAtlantic signal to Canada from Ireland. Radios were then shipped to Canada and delivered by the truckload.

The science behind radio

Vibrations and longitudinal waves are passed into the microphone, the microphone converts them into an electrical signal, which gets passed to the accelerating electron, creating disturbances in electromagnetic field. This can be sent as a transverse wave to the antenna, through an electrical signal, and the amplifier changes it back to longitudinal waves by changing the magnetic field. Finally, it vibrates eardrum and the brain interprets all the waves functions.

Radio timeline

1885: Heinrich Hertz proved that electricity can be transmitted in electromagnetic waves. He conducted experiments in sending and receiving these waves during the late 1880s.

1891: Radios began to appear on ships at sea. This reduced the isolation of the ships; improving both reliability and safety.

1892-1893: Nikola Tesla wirelessly transmitted electromagnetic energy. He made the first public demonstration of radio in St. Louis in 1893.

1896-1897: Guglielmo Marconi filed for patent protection of his radio apparatus. He established the Wireless Telegraph and Signal Company in 1897.

1899: The R.F. Matthews was the first ship to request emergency assistance using a wireless apparatus (Marconi's system)

1901: First transAtlantic signal sent-by Marconi from Ireland to Canada.

1902: Amateur radio introduced to the U.S. via a Scientific American article on "How to Construct an Efficient Wireless Telegraphy Apparatus at Small Cost."

Radio timeline (continued)

1906: Reginald Fessenden is the 1st to transmit a program of speech and music.

1906: Lee DeForest produces the "Audion," a triode vacuum tube that allowed for amplification of radio signals.

1910: First radio transmission from an airplane. 1

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1912: Federal regulation of American airwaves begins. Amateurs had to be licensed; ships had to have a radio and trained operators.

1917: All U.S. radio stations not needed by the government are closed as WWI begins.

1970: The FCC reallocated TV channels 70-83 for mobile radio services.

1985: The FCC permitted spread spectrum, the technology of choice for many of today's digital, commercial cellular and PCS services.

1992: The FCC reallocated spectrum at 2 GHz for emerging digital mobile services.

1995: The first cellular system using digital CDMA technology was commercially launched by QUALCOMM.

BBC (British Broadcasting Company)

The BBC was originally set up as a radio station in the early 1920's. It was the one and only regional radio station. There was no other entertainment in households at this time (ie. no TV). When it was formed, it set up a standard in radio and had rules to uphold the standard. These rules were put into place by the Public Service Broadcaster, a company semi-funded by the Government. (what the BBC is). The BBC is not allowed to play adverts, as it is against the rules. There were three main original stations; the Home Service, which was regional, that featured news and discussions, which later became Radio 4, the Light Programme, which broadcast mainstream light entertainment and music, and later became Radio 2. The third and final service was the Third Programme. This service provided classical music, and later became Radio 3.

Radio became very popular in the 1960's as it was post-war and the music culture exploded due to people being happier and more optimistic.

Pirate Radio

Pirate Radio was when people went onto boats in the sea and broadcast radio from there. There were laws against illegally broadcasting radio on land and in a 3 mile radius, so going out onto a boat and broadcasting from there created a loophole in the law. Pirate Radio began to broadcast music from America, talked about fashion and became a voice for young people, hence becoming very popular. In 1973, the Government relaxed the broadcasting rules and allowed commercial radios, which were allowed to have advertisements.

Then came along BBC Radio 1, 2, 3, and 4, which catered to the needs of a variety of age ranges (from around 15-45+)