

Microvolt

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Radio Pioneers

This issue of *Microvolt* features the early forebears of radio. How many do you recognize? And do you know what or how they've contributed to the craft?



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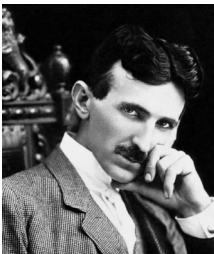
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Cover – Radio pioneers

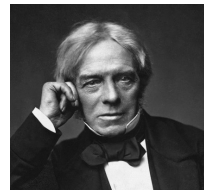
For over a hundred years, many really smart people have contributed to the art and craft of radio. Here are a few you might recognize.



Oliver Heaviside discovered the ionosphere, invented coaxial cable, and refined Maxwell's equations to the four we have today.



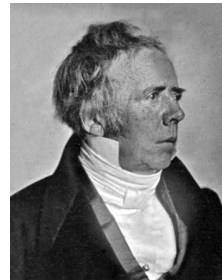
Nikola Tesla is credited with being the actual inventor of radio, and promoted AC (alternating current) as the preferred electrical power transmission carrier.



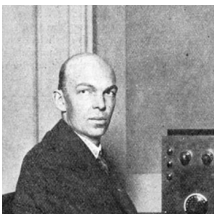
Michael Faraday discovered electromagnetic induction, the rotating magnetic field, and electrolysis.



Hedy Lamarr invented frequency-hopping, an interference-resistant signal coding method to fight radio jamming during World War II.



Hans Christian Oersted discovered the connection between electricity and magnetism, paving the way for future electromagnetic research.



Edwin Armstrong invented FM (frequency modulation), the superheterodyne receiver, the RF amplifier, and was known as the *pioneer of the airwaves*.



Guglielmo Marconi made the first long-distance radio transmissions and the first trans-Atlantic wireless transmissions.



Samuel Morse is the namesake for the code used for CW (continuous wave) and invented telegraphy, which revolutionized long-distance communication and helped reduce the size of our large nation.



Mary Loomis was one of the first women radio engineers, started her own radio school, from which a candidate can graduate only after building a complete radio.



Heinrich Hertz discovered radio waves, proving Maxwell correct in his electromagnetic theories.



Lee de Forest invented the audion and is considered to be the Father of Electronics.



Reginald Fessenden invented AM (amplitude modulation), SONAR, and made both the first wireless voice transmission and the first two-way transmission.



John Ambrose Fleming invented the vacuum tube and coined the term power factor.