

The History of Radio

- The history of radio can be traced through the lives of these people:
 - Maxwell
 - Hertz
 - Heavyside
 - Marconi
 - DeForest
 - Armstrong
 - Farnsworth
 - Sarnoff



Married on December 1, 1923, Howard and Marion Armstrong went to Palm Beach for their honeymoon. Here on the beach Howard tunes in the world's first "portable" radio, a wedding gift to his bride.

European

James Clerk Maxwell

- **Unified Electric and Magnetic Theory.**
- Predicted **Electromagnetic Wave Propagation**
- Theorized that **light** was an electromagnetic wave.
- Could **"low-frequency"** waves be generated?



James Clerk Maxwell (1831-1879)

Heinrich Hertz



Heinrich Hertz (1857-1894)

- Experimentally verified Maxwell's Theories.
- Generated and propagated "radio waves"
- Built first transmitter, antenna, and receiver apparatus.

Guglielmo Marconi

- The "inventor of radio".
- Improved and commercialized Hertz' apparatus.
- Used for radio telegraphy.
- Among the first radio engineers.



Guglielmo Marconi
(1874-1937)

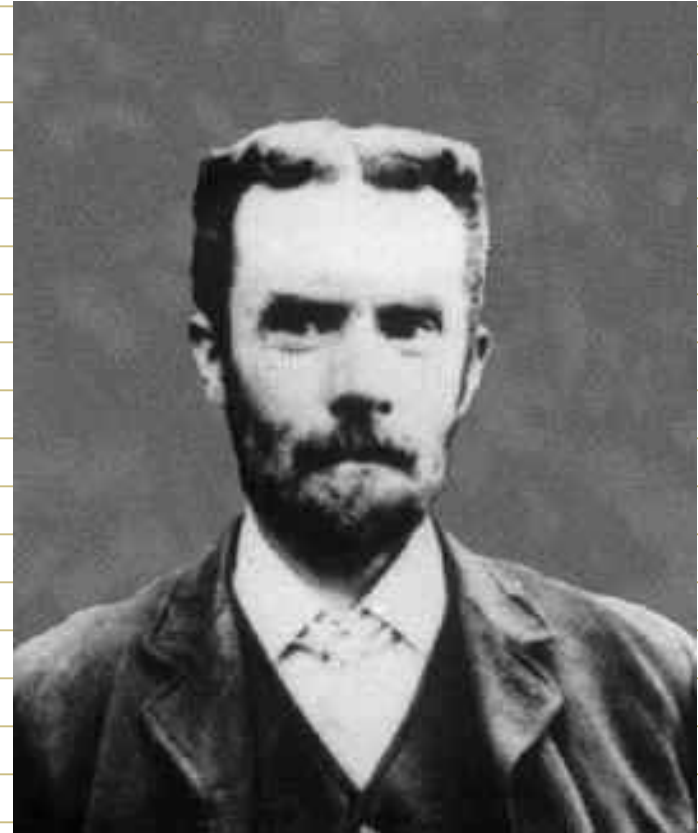
Oliver Heavyside

- Mr. Heavyside was perhaps the first true **electrical engineer**.

- He was an **odd recluse**, who was entirely **self taught!**

- Although unappreciated in his time, he provided **mathematical solutions** to important problems.

- Among his accomplishments are **transmission line theory** and **Heavyside (Laplace) Transforms**.



Oliver Heavyside

1850-1925

Lee DeForest



- Invented the "audion" vacuum tube.
- Allowed for amplification and detection.
- Led to first transmission of voice and music.

Lee DeForest (1873-1961)

Edwin Howard Armstrong



Edwin H. Armstrong
(1890-1954)

- Perhaps the **greatest EE** in history.
- Inventor of the:
 - **feedback amplifier**
 - **electronic oscillator**
 - **super-hetrodyne receiver**
 - **FM radio.**
- These inventions allowed for the transmission of **voice and music.**
- His ideas are still **widely used today!**

Philo T. Farnsworth

- Inventor of **electronic television.**
- Largely **self-taught.**
- Developed initial design while in **high school!**
- A victim of **bad timing** and small capital.



Philo T. Farnsworth (1907-1971)

David Sarnoff



RCA mastermind
David Sarnoff

- Began as telegraph operator for Marconi.
- Originated idea of "broadcasting."
- Became president of the Radio Corporation of America
- Was not an engineer — and the only guy who became **really** wealthy!