

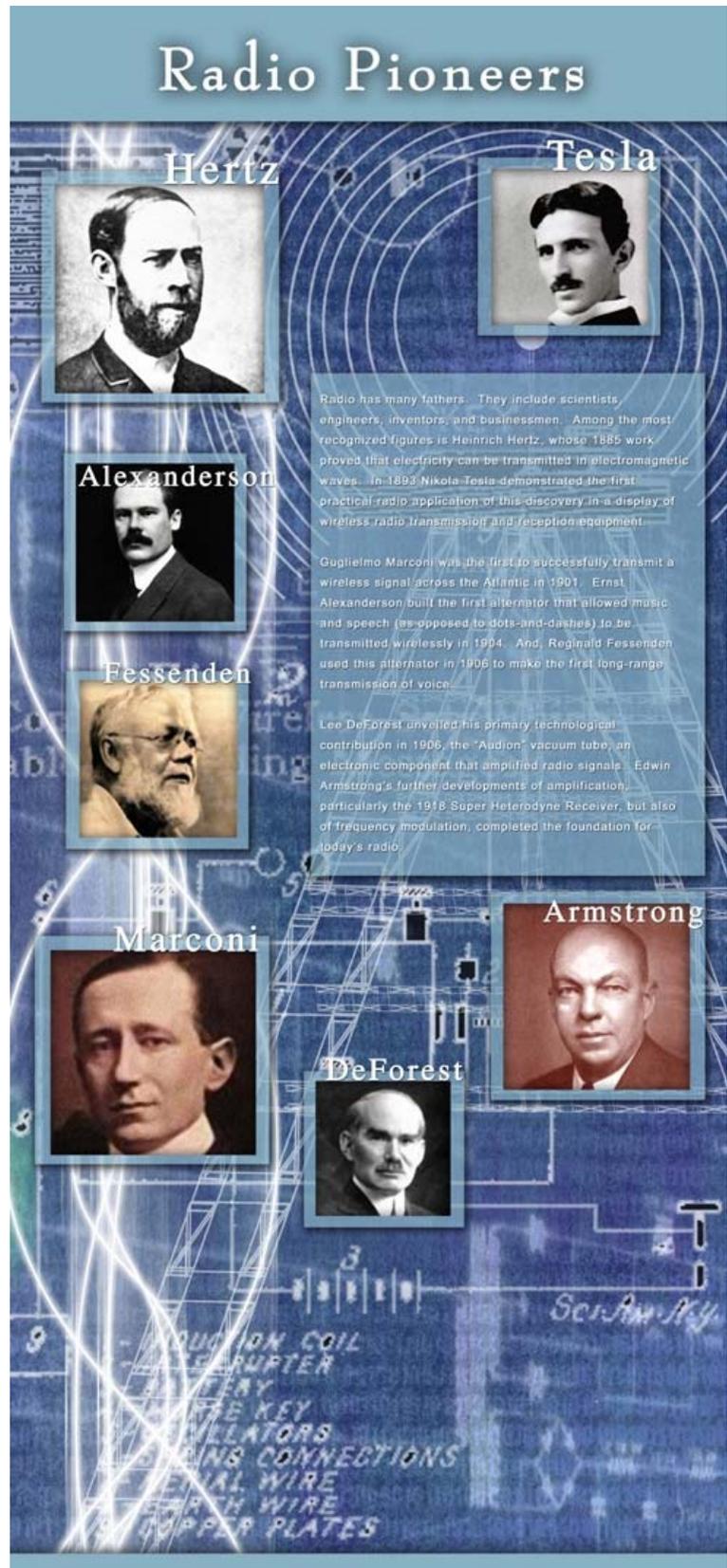
## Radio Pioneers and Core Technologies Lobby Panels

### Radio Pioneers

Radio has many fathers. They include scientists, engineers, inventors, and businessmen. Among the most recognized figures is Heinrich Hertz, whose 1885 work proved that electricity can be transmitted in electromagnetic waves. In 1893 Nikola Tesla demonstrated the first practical radio application of this discovery in a display of wireless radio transmission and reception equipment.

Guglielmo Marconi was the first to successfully transmit a wireless signal across the Atlantic in 1901. Ernst Alexanderson built the first alternator that allowed music and speech (as opposed to dots-and-dashes) to be transmitted wirelessly in 1904. And, Reginald Fessenden used this alternator in 1906 to make the first long-range transmission of voice.

Lee DeForest unveiled his primary technological contribution in 1906, the "Audion" vacuum tube, an electronic component that amplified radio signals. Edwin Armstrong's further developments of amplification, particularly the 1918 Super Heterodyne Receiver, but also of frequency modulation, completed the foundation for today's radio.



The lobby panel is a vertical display with a blue background featuring technical diagrams and circuitry. At the top, the title "Radio Pioneers" is written in a white, serif font. Below the title, there are seven portrait photographs of key figures in radio history, each with their name written above them in a white, serif font. The portraits are arranged in a roughly circular pattern. The names are: Hertz, Tesla, Alexanderson, Fessenden, Marconi, DeForest, and Armstrong. To the right of the portraits, there are three text boxes with white text on a blue background. The first text box is positioned between Hertz and Tesla, the second between Alexanderson and Fessenden, and the third between DeForest and Armstrong. The text in these boxes provides a brief biography for each pioneer. At the bottom of the panel, there is a list of technical components in a white, serif font, including: "INDUCTION COIL", "RECEPTOR", "BATTERY", "MORSE KEY", "OSCILLATORS", "WIRING CONNECTIONS", "SIGNAL WIRE", "GROUND WIRE", and "COPPER PLATES".

### Radio Pioneers

**Hertz**

**Tesla**

**Alexanderson**

**Fessenden**

**Marconi**

**DeForest**

**Armstrong**

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RECEPTOR  
BATTERY  
MORSE KEY  
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GROUND WIRE  
COPPER PLATES

## Core Radio Technologies

The devices shown on this panel were fundamental to the development of radio. Counterclockwise from the center top:

- Relay device used by Fessenden in 1906 in the first broadcast of human speech and music.
- Hertz's 1880's spark apparatus for creating and transmitting electromagnetic waves.
- The pole-mounted loop was the resonator that detected the waves.
- To the right is a wireless spark coil of the type grew from these experiments and was used as the basis for early Marconi radio systems.
- DeForest's 1906 "Audion" vacuum tube.
- The second prototype for Armstrong's 1918 Super Heterodyne Receiver, which ultimately made FM radio possible.

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- The second prototype for Armstrong's 1918 Super Heterodyne Receiver, which ultimately made FM radio possible.
- Alexanderson's 1904 Alternator, which was the first to provide enough power to transmit music and speech.
- Raising the kite-supported aerial in Canada for the first trans-Atlantic wireless message in 1901.

The FCC thanks the following for allowing use of their images:  
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 Mike Katalzen  
 Marconi PLC  
 Ina Memorial Society  
 Thinkstock  
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