Audio Crossover

A typical audio signal from a smartphone needs amplification before reaching the crossover and speakers; it features frequencies ranging from 20 Hz to 20,000 Hz. The audio crossover separates amplified audio signals into high and low frequencies using resistors, capacitors, and inductors.
To create an effective crossover, suitable inductors should be connected in series with woofers and capacitors with tweeters.

An RC filter consists of resistors and capacitors arranged either way to form high-pass or low-pass filters.

The cutoff frequency is defined as where output voltage drops to approximately 70.7% of the input.