

# Proximity Effect

Proximity effect is when the frequency response of a directional microphone (i.e. [cardioid](#) or [hyper cardioid](#)) changes based on how close the sound source is from the microphone. This change occurs due to the housing design of the microphone. As the sound source (such as a vocalist) moves closer to the microphone the sound waves reflect off of the back housing into the diaphragm resulting in increased lows and low/mids.

The proximity effect is more pronounced on sound sources having more low or low/mid frequencies to start with (e.g. Male Vocals vs Female Vocals). This translates artistically to more bass or power in the vocal. The proximity effect is what makes Barry White sound like Barry White.

In addition to the proximity effect, as the sound source moves closer or further away, the inverse square law [inverse square law](#) applies to all frequencies.

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