

# Microphone Directivity

Every microphone has a property known as directivity, also called polar pattern, which describes the microphone's sensitivity to sound from various directions with relation to the microphone's input.

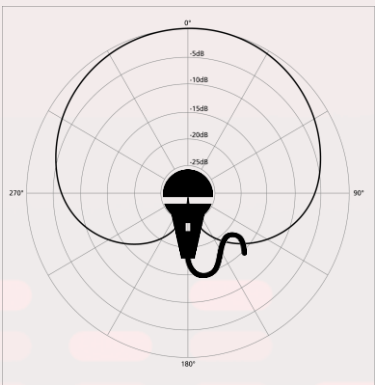
## Omni-Directional



Omni-directional microphones capture sound equally well from all directions . Choose an omni-directional microphone if you intend to record all sounds within an environment, do not know from which direction the acoustic source will occur, or if clean bass response is desired.

Omni-directional microphones do not exhibit a proximity effect. Low frequency is captured equally well from any distance and does not dominate other frequencies.

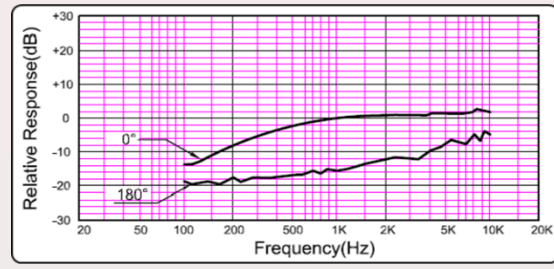
## Uni-Directional



Uni-directional (cardioid) microphones are built with sound holes on the front and on the rear of the capsule.

Inside the capsule, sound from the front takes precedence over sound captured from the rear. Sound from the rear is partially canceled-out, creating a response tailored for one direction.

This microphone works well in automotive applications and in headsets.



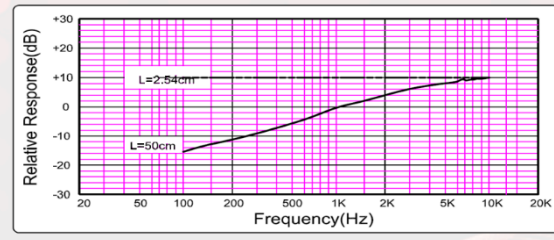
**Uni-Directional Frequency Response**

## Noise Canceling



Noise canceling (figure-8 or bipolar) microphones feature sound holes in the front and rear of the microphone capsule that capture sound in two directions while rejecting sound to the side of the microphone.

This type of microphone may be used to reject lower frequencies at a distance (such as wind noise) or to capture two different audio sources at once, such as for stereo recordings.



**Noise Canceling Frequency Response**