

Audio

2024

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Audio matters

When it comes to making videos, audio is key—it's what helps pack an emotional punch, weave a compelling narrative, and keep viewers hooked from start to finish. The right sound enriches the video's world, adding layers to what's happening on screen and making sure everyone can catch the dialogue and info that's being shared. If the sound quality isn't up to scratch, it can turn viewers off or give them the impression that the video just isn't that professionally done. Pairing top-notch audio with great visuals is what brings a video to life and makes it something people will want to watch over and over.

Types of microphones

Condenser microphone uses a capacitor to convert sound waves into electrical signals with two conductive plates - one of which is a lightweight diaphragm that vibrates from sound waves. These microphones require power and are known for their sensitivity and ability to capture a wide range of frequencies.

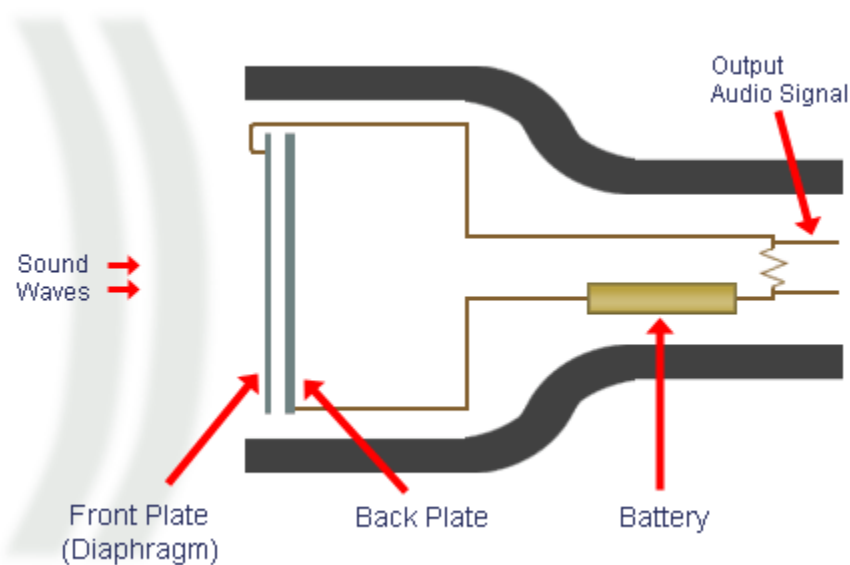


Image Source: mediacollege.com

Dynamic microphones use electromagnetic induction to convert sound into an electrical signal. When sound vibrates the diaphragm, a small coil moves and a

magnetic field is created, resulting in an electrical current with mirrors the original sound wave. An external power source is not required for this type of microphone.

Cross-Section of Dynamic Microphone

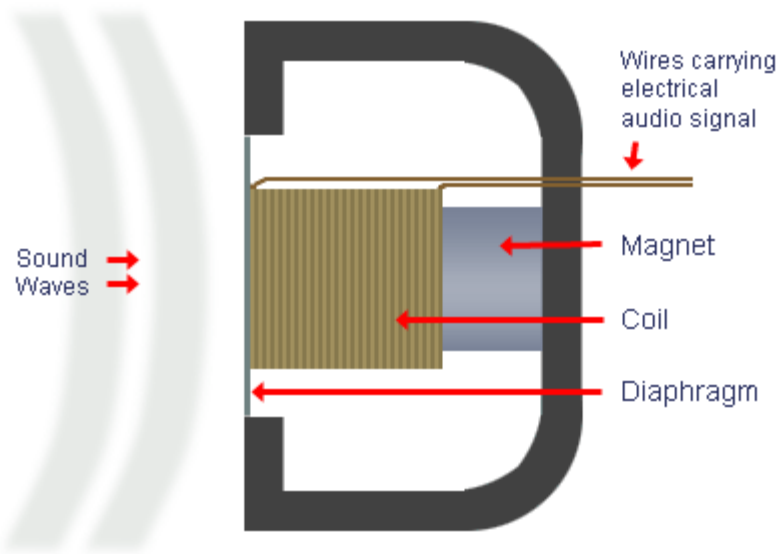


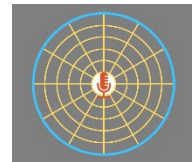
Image Source: mediacollege.com

Pick up patterns

There are three patterns which describe how microphones pick up sound relative to their position to where the sound comes from.

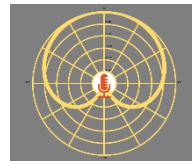
Omni-directional

- Captures sound from 360 degrees around the microphone.
- Ideal for recording ambient or a group of sounds.



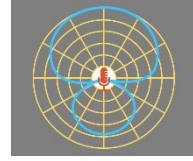
Cardioid

- Captures sound from the front and to some extent from the sides. Does not pick up sound from its rear.
- Used to minimize feedback in live settings.



Hyper-cardioid

- Captures sound with a tighter area of front sensitivity and a bit from the rear of the microphone.
- Ideal for when high isolation from the sides is necessary and a narrow pickup area is required.



Styles of microphones

Lavalier (aka lav, lapel)



- Compact and unobtrusive device with a clip that can be used to mount on talent/subject, providing a hands-free option that allows for natural movement.
- Available as wired or wireless condenser options.
- Usually omni-directional, making it a great option for isolating voices and specific noises.

Handheld

- Versatile and user-friendly, used in a variety of settings from recording interview streeters to live performances.
- Can be wired or wireless microphone.
- Captures audio with cardioid or omni-directional patterns.



Shotgun

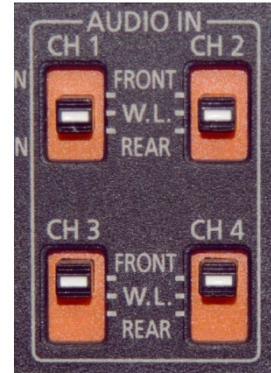


- Round condenser microphone.
- Often used to record audio where there is a lot of ambient noise as it allows you to focus on the subject.
- Add onto a boom pole to place the shotgun microphone as close to the subject as possible, while keeping it out of the shot.

Signal Flow

In a studio environment, every audio signal is directed through a soundboard, also known as an audio mixing board. This piece of equipment is overseen by a dedicated individual during production who adjusts audio levels to achieve optimal sound quality and clarity.

Field recording is achieved through the production camera and normally supports 2-4 channels of audio. Microphones are connected to each camera input via xlr cable. These sources are assigned as inputs to specific channels.



Pro tips

- Always use headphones to monitor audio.
- Do a sound check with talent prior to recording.
- Set your gain so your levels bouncing between -12bd and -6bd.
- If recording audio on multiple devices, clap loudly to synchronize audio.