

HOME RECORDING GUIDE



OVERVIEW

Recording is the foundation on which a track is built, and in many cases the vocals are the cornerstone. Thus, in *a cappella* music, which consists entirely of vocals, the recording quality is crucial.

Most of us don't have access to ideal recording environments. While a soundproof recording studio can make life easier, it's possible to create great recordings at home.

Goals of this guide:

1. Understand Reverb
2. Understand how environment affects recording quality
3. Understand microphones and basic recording technique

ENVIRONMENT

If you're looking for a good room to record in, there's a simple but effective test. Stand in the middle of the room and clap as loud as you can. Listen closely to how the sound is reflected around the room.

Listen for these common issues:

1. Reverberation: the phenomenon of persistence of sound after it has stopped as a result of multiple reflections
2. Echo: the repetition of a sound caused by reflection
3. Ringing: the noise produced as sound passes through metallic objects

Avoid rooms that...

- ...have hard surfaces
- ...have low ceilings
- ...are square-shaped
- ...have noisy appliances/electronics

Additional reading:

- [Acoustic Treatment for Podcasters](#)
- [Voice Recording in the Home Studio](#)

ENVIRONMENT

If you can't find a great recording location - don't worry. Here are some alternatives:

In the Closet:

A closet can double as a recording space as long as it is filled with clothes. You can try the clapping test to see if your closet would work well.

Under the Blankets:

If you have a relatively quiet space recording under the blankets works great in a pinch. While the blankets don't do much to keep sound out, there aren't many reflections. To take it one-step further you can build a mini fort. This creates space and prevents noise created by movement. Bonus points if you can stand up.

In the Car:

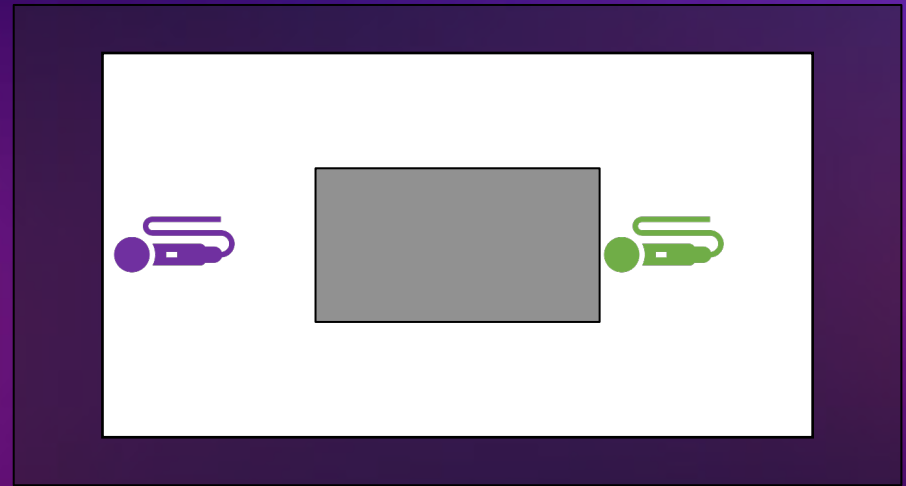
If you can't find a quiet place in the house, try the car. You can stuff the car with pillows and blankets and cover hard surfaces (like doors and windows) to reduce any reflections that are occurring.

MICROPHONE PLACEMENT

Microphones should be placed approximately midway between the center of the room and the wall (**white region**).

If you have an absorptive/soft surface in the room place the microphone closer to that surface and facing that surface (**purple**).

If you don't have an absorptive surface in the room place the microphone closer to that center and facing the furthest surface (**green**).



MICROPHONES

Once you've got a location you're good to go... or you will be once you've got a microphone.

A microphone is essentially a pressure sensor that converts sound waves into electrical signals. Microphones are typically identified by the type of transducer (the component that converts sound into electricity). Microphones are further classified by the direction from which they pickup sound.

To keep it simple:

- If you have a good recording environment, you'll want to get a **Large Diaphragm Condenser microphone (Cardioid Pattern)**.
- If you *don't* have a good recording environment, you'll want to get a **Small Diaphragm Dynamic microphone (Cardioid/Super-Cardioid Pattern)**.

If you want to learn more, the [Microphone - Wikipedia](#) page is a good place to start.

iPHONE MICROPHONE

To keep things simple we recommend using an iPhone for recording vocals. Check out the link below:

- [Recording Vocals On An iPhone \(And How To Mix Them\)](#)

iPhone Microphones are omni-directional so they pickup sound from all directions and don't keep out sound reflections. You can deal with this by finding the right environment and getting as close to the microphone as possible.

Watch out for "Plosives"! You can use a pop filter or record off-axis by slightly tilting the phone so sound is not aimed directly at the microphone.

iPhone microphones cut off at the extreme low and high ends. If your team will be recording entirely using iPhones please reach out as there are some editing tricks to resolve issues caused by this.

USB MICROPHONE

Microphones aren't cheap so you want to be sure you're buying a setup that works for you. If you're looking for a quick and easy way to record vocals, we recommend buying a USB microphone.

If you have a good recording environment, we recommend:

- AT2020 USB+
- Rode NT-USB / NT-USB Mini

If you do not have a good recording environment and background noise is an issue, we recommend:

- ATR 2100
- Samson Q2U

A Basic Setup includes:

- Microphone
- Headphones
- Microphone Stand
- Pop Filter
- USB Cable

PROSUMER SETUP

However, some of you may be interested in a more professional setup. The following are good resources to see which setup is best for you.

- [What's the difference between an XLR and USB mic?](#)
- [XLR or USB Microphone for Vocals?](#)

If you're interested in putting together a professional setup and need recommendations feel free to reach out.

A Basic Setup includes:

- Microphone
- Audio Interface
- Headphones
- Microphone Stand
- Pop Filter
- Shock Mount
- Cables and Connectors (XLR, USB, etc.)

ACCESSORIES

Pop Filter:

Certain sounds that cause high pressures result in “popping” sounds. Such high-pressure sounds, like ‘p’ and ‘b’, are called Plosives. Pop filters help prevent the popping sounds created by Plosives.

Pop filters are relatively inexpensive, but there are still a number of DIY options.

Microphone Stand:

This might be an obvious one, but still worth mentioning. Microphone stands hold the microphone in place to ensure consistent volume of the recording.

BONUS: RECORDING TIPS

- Use a Scratch Track (reference audio file of the part) and/or a click track (metronome track)
- Watch out for sound from headphones/earphones being picked up by the microphone
- Divide the song into phrases. A phrase should be recorded without taking a breath, or have set locations for breathing. Start recording a little before the start of the phrase and continue a little after the end of the phrase to make help make the editing sound more natural.
- Editing vocals might seem like magic, but there are some things even the best of audio engineers can't fix. Focus on the energy, dynamics, and tone of the vocals.
- If your environment is noisy, get as close to the microphone as possible. Use a pop filter.

RECORDING DEMOS, TIPS & TRICKS

- [How to Set Up Your Microphone for Recording Your Vocals \[Mr Different\]](#)
- [How to get the BEST VOCAL SOUND from your HOME STUDIO](#)
- [Vocal Recording - Where to Point the Mic at the Vocalist](#)
- [How To Record Vocals - Mic Placement](#)
- [How To Get Great Recordings In Your Bedroom Studio](#)