

How to Get Great Vocals

Better Vocal Techniques without buying anything new!

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A New Perspective

As a recording engineer, you may think that my job is to provide a perfect recording. Well that is not an outcome that can be measured. Who decides what is correct? We can mimic aspects of popular recordings, copying piece by piece, but when I listen to recordings, I hear so many different perspectives, even in the same genre. Who was right? They all sounded good, but the micro details were different.

I have come to the conclusion that my job as a recording engineer is to eliminate things that would distract the listener from the content, I need to determine which things would negatively impact the listener or even make them turn the recording off. In regard to vocals, there are some things that could distract your listener:

Plosives:

Plosives are heavy sounds like “Ps” or pops that create harsh sounds on the recording. These are created when direct air pressure hits the diaphragm of the microphone. There is a narrow stream of air that comes from your mouth when you say words like “People” or “Believe”. Try this. Hold your hand in front of your mouth and say the word “People”. You can feel the air pressure of this on your hand. When you use a microphone, you want to direct this air stream away from the mic. Placing your mic slightly to the side of your face will direct this air stream away from the mic. This is easy for you and I to do, but what about the artist you are recording? They keep forgetting and re-direct their vocal directly into the mic. You can place the mic above the airstream and have their vocal go directly underneath the mic.

Using a pop filter also can help, but I still recommend also directing the plosives away from the mic. Even with a filter, you can still get unwanted plosives.

Breathing:

“To breathe or not to breathe”... that is the question? Breathing sounds in recordings have been the topic of many discussions. Clients notice breathing when they listen back to their audio takes. After breaths are totally removed, the recording doesn't sound right without them. So how much breathing is too much? Good question. There are a couple of things to consider. The softer the singer, the more breathing you will hear. Softer singers don't breathe softer. So the breathing is louder on the recording. The more compression you use, the louder the breathing is. Remember vocal compression has the effect of making the quieter elements louder while not increasing the items that are already loud. Sometimes I have to lower the amount of compression if the breathing is a distraction. The more an artist hears their recording, the more they will adjust how loud their breathing is. Sometimes even moving the mouth slightly away from the mic when breathing can lower the level of the breathing captured on the recording. If you have to edit a breath from the recording, I would suggest dropping the volume of the breath in half or a third. This will allow you to still have the breath, but may prevent it from being a distraction.

Room Echo:

The easiest way to ruin a great recording is by capturing room echo on your recording. When we record a vocal, we want the sound coming from the mouth to go directly to the microphone and not bounce off of something and then go to the microphone. Room echo is what you hear when you talk in a stairwell or a tile bathroom. The voice is bounced around and continues to return to your ears (or the microphone) at different times. This not only can make the recording sound unprofessional, but it also can make the recording hard to understand. Common reflective surfaces that continue to be a problem are sheetrock, tile, glass, any hard surface, or in the case of the stairwell, multiple hard surfaces.

Many times new home studio problems are created when a bedroom is converted into a studio. The first thing they do is empty a room. This exposes the hard surface walls and creates a problem. To break up the reflections, Leave some bookshelves with books and stacks of boxes. If you have hard

surface floors like hardwood, use a large rug to help stop reflection off of the floor.

The distance you are from the mic will also cause a problem. The closer you are to the mic, the less room echo you will pick-up. The further away you are from the mic, the more room echo you will pick-up. Try to stay within 3-6 inches of the mic.

There is also commercial acoustical tile that you can put on the walls to absorb the sound to keep it from bouncing. Be careful using egg crate bedding foam from a department store. It does not absorb all of the frequency range leaving a great deal of mid range frequencies that will continue to reflect. They are also extremely flammable.

Spoken word recordings are the most difficult to record because the slightest bit of room echo is noticed. Even when recording at a desk, you can hear the reflection off of the computer monitor and the desk. Music recordings are not as critical because you have a lot of instruments in the recording and you are probably adding more effects to the vocal anyway. I would add things to treat the problem until you get the results you need. It is more about how it sounds in the end. Use your ears as your guide.

Noise:

Noise in the recording can come from several places. You can get noise from external items in your environment such as your air conditioner or furnace. You also can pick up noise from appliances like refrigerators. Try to eliminate these items. Turn air conditioners off when recording, etc. Also make sure you are close to the mic. The closer you are, the less room noise you will pick up.

You also can get noise from your equipment. All electronic equipment has what is call a noise floor. When everything is quiet, the sound card and the microphones still produce a fixed low level noise. Let me give you a non-scientific explanation. For example, If you can set your recording input volume in a range of 0-100%, the noise floor could be at 5%. If your recording levels are set at 95%, then the noise is a small fraction of your signal and is probably not noticeable. But if your recording level is set at 15%, your noise is still at 5% and now it is very noticeable because the noise is now $\frac{1}{3}$ as loud as your vocal. Many people normalize their audio level after they record.

Normalizing raises the overall level of the recording to 100%. In the last example, that would raise the audio recorded at 15% to 100%. It would raise the vocal 85 percentage points. It also raises the noise that was at 5% to 35%. Now your recording could potentially have level of 35% rather than the original level of 5%, just because you set your recording input levels too low when you recorded. I would not recommend using “normalizing” in your workflow.

Vocal Recording Levels:

As we discussed in the noise chapter, recording levels do make a huge difference in the outcome of your track recording. Recording too low or too high can be a problem. I would record as loud as you can without ever clipping the channel. This means you will have to leave a little headroom to be safe. If I am recording myself, I know how loud I will get, so I don't leave as much headroom as I do with a client. Since I don't know what the client is going to do so I leave more headroom when recording them. Always know your equipment. If you get unusual noise or distortion, when you are louder, back off the input some. Use the technical methods as a guideline. In the end, all that matters is that it sounds great. You can make mistakes and it still sound great. You also can do everything right, but if it doesn't sound great then it is a problem.

When recording a client I shoot for the signal to be between -24 to -12db on the input volume meters in the software or at about 75%. When I record myself, it is between -12 and -6 db.

Mixing:

If mixing was simple, then recording companies wouldn't send the files across continents to find the right engineer to mix the next mainstream single. So how do you mix in a way that doesn't distract the listener from the content? Vocals can be in 3 places. Louder than the music, the same as the music, or lower than the music. All of them can be correct depending on the style you are recording. Listen to recordings you are benchmarking to and determine what you are trying to do.

Vocal compression can be used as a process to smooth the dynamics of the recording so it fits into the mix better. I would start out with ratios of 15:1 and

have reduction of -6 to -12 db. Go by what you hear not by the settings. Remember compression will also raise the breathes and other unwanted sounds.

I reduce the low frequencies of a vocal using a high pass filter. I set the shelf at around 120 hertz. Each voice is different. This will help remove the muddiness from the vocal.

Got Questions? Feel free to contact me at landongrace@howtorecord101.com . I am here to help!

Printable checklist on the next page

Vocal Recording Checklist

Print this off and place it by your computer until these become a habit!

1. Avoid **“Plosives”**
2. Anticipate **“Breathing”** Issues
3. Eliminate **“Room Echo”**
4. Avoid **“Noise”**
5. Correct Recording **“Levels”** (-24 to -12db)
6. Correct **“Mixing”** Volume for Vocal