

Microphone Techniques for Singers

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Most contemporary music performance situations involve the use of microphones, and often even very skilled singers do not pay enough attention to using them to their advantage. This article will include some very generalized and basic information that should be of use to a wide range of singers in a variety of performance contexts. Please keep in mind, however, that every voice, microphone, sound system and performing space is different, so adjustments by the performer to each set of performance conditions must be made.

The microphone should be thought of as a musical instrument, not just as a delivery system for your voice. You sing into a microphone, which colors the sound of your voice and sends a signal through a preamp to a mixing board, which further alters the sound of your voice, and then sends it through an amplifier and a speaker that changes it even more before the sound is delivered to the listener. What the audience ends up hearing is not actually your voice but an altered reproduction of your voice. What comes out of the speaker is no more your voice than a photograph of you is actually you. This is why care must be taken in the selection and use of the microphone, the manipulation of the signal at the mixing board and the selection and placement of the amplifier and speakers. Most of the advice given in this article assumes the use of a standard dynamic or condenser vocal microphone with a cardioid pick-up pattern in a live performance environment.

1) Each microphone imparts a tone color of its own that changes the sound of your voice. Before purchasing a microphone, read reviews of the microphone to best understand how it will impact your voice. Pay particular attention to frequency response characteristics, polar patterns, rated sound pressure level (SPL), and whether the microphone is of a dynamic, condenser, or ribbon type, as these design features will have an impact on the way the microphone performs. These factors apply to both live and recording mics. Trying the mic out to see how it sounds with your particular voice, if you can do it, is extremely helpful. Recommendations on the performance of the microphone from fellow singers or sound engineers are also an important guide. There are many good microphones in every price range, but usually, you get what you pay for in terms of quality.

How you use the microphone not only changes the dynamics (volume) of what the audience perceives of your voice, but it also change its tone color or timbre.

Here are some things to keep in mind when performing with a microphone:

1. Sing into to the mic, not across the top of the mic. If you don't sing into the mic in the direction of the microphone capsule (the part that captures the sound), those sound waves you are producing with your vocal cords, which you call your voice, will not be amplified properly.

2. There is a contemporary fad these days made popular by rappers and some hard rockers where the mic is held by its head. Don't do that. Your hand will be in the way of the capsule, muffling your voice, you will be blocking the view of your face, and you are also more likely to cause acoustic feedback. Hold the mic by the shaft and point it up towards your mouth at an angle that permits you to sing into it and which does not block your face. This is what professionals with good microphone technique do. Why emulate the mistakes of others?

3. Be aware of where the speakers and stage monitors are located, and don't point the mic directly at them, as you will cause feedback. Microphone feedback is a squeaking, howling sound caused by loop of sound signal from the mic going through the amplifier, coming out of the speaker, and then re-entering the microphone, thereby creating it's own audible frequency. It is unpleasant and indicates that a performer does not know how to use their equipment in a performance or even a rehearsal situation.

4. As a singing teacher, I know that posture and body alignment are critical for good singing. I always check how my singers use a microphone because more times than not, it throws them off. When holding a microphone, always bring the mic to you; do not bring your head to the microphone. Try this exercise: hold the mic in your hand at your side and sing a phrase as you would normally sing it, then lift the microphone up to your mouth without changing your posture and then sing the same phrase. Do not lift your chin, do not tuck your chin, do not bend your neck, and remember to keep your shoulders relaxed. If you are singing into a mic with a stand, make friends with that stand. It is part of your performance equipment. Adjust it to the right height for you, making sure you don't have to crouch down or reach up to sing into the microphone. The same principle applies to the angle of the mic. Position it so that you will be able to sing into it, not across the top of it. If you are called up on stage to sing, take the time to adjust the stand for yourself, or take the mic off the stand and hold it. The audience can wait a few seconds for this and will enjoy a better performance for having done so. You are also allowed to grab the entire stand and angle it, as exciting rock singers often do. If it helps you, do all the physical things you might need to do, such as bending your knees to anchor your high notes, etc. Using a mic stand this way helps make for an exciting performance. In general, interaction with objects --the set, the piano, a scarf, your microphone and people (other performers, the audience) -- in the physical world tends to make performances, whether they are musical or theatrical, look more real and more confident.

5. Remember what I said about singing directly into the mic? Well, that does not apply in recording, or even live situations, when your voice tends to have a big plosive "P" or "B" sound. Those should be sung a bit to the right or left of the microphone capsule in order to minimize the distorted booming or popping sound they create.

6. In general be consistent and don't drift off mic. That means don't forget what you are doing and stop singing into the microphone. Many people do this! If you are playing guitar and sing with a boom mic stand, practice so that you don't have to move off mic to look at your hand when you need to be singing into the mic. If you are unable to do this, you really should consider a headset mic. If you are a classical singer performing in a concert where standing, choir or suspended mics are used, make sure you are standing and remain standing in the same spot you were in during your sound check while in performance. You really can't vary this position too much without poor results. Theater singers, if there are suspended mics, rather than body or headsets, you really do have to observe and adhere to your blocking, so that you will be heard properly. Lastly, for quieter types of music, such as vocal jazz with an acoustic trio or small ensemble in a small room, you might want to have the mic level adjusted to work with a mic held just above the waist for a natural and gentle amplification. I have seen several legendary singers work this way.

7. Ok, here is where the real deal skill of microphone technique comes in to play -- the adjustments in distance from the mic you should make according to the volume and pitch of your voice. In general, when you sing a climactic high note, you should back off of the mic by a few inches. That is because loud high notes suddenly send more sound pressure signal level into a microphone, which can overwhelm one or more components of the sound system and cause audible distortion. If you "eat" the microphone while singing loud and high, nobody will be able to hear and appreciate the beauty of your high notes. How much of an adjustment you need to make depends on your mic, the levels the sound person has set, and how big your voice is. Experience should put you in at least the right ballpark with this. Conversely, soft low notes will get lost if you don't bring the mic as close as possible to your mouth. This technique of using what is known as *proximity effect*, especially when employed with cardioid mics, tends to warm up or fatten up the sound as you get closer to the mic by increasing the relative strength of lower frequencies.

These techniques are not only important sound-wise, but they are also important as stagecraft devices. Audiences have subconsciously absorbed the mannerisms of great singers and have become aware that a big vocal moment is coming up when they see that microphone distance has increased. Without this convention, a performance can seem to fall flat from a theatrical perspective.

In addition to backing off when you are singing loud and high, and coming closer when you are low and soft, you can use the microphone to create or enhance crescendos and decrescendos on sustained notes in the middle of your range. You can do this by pulling the microphone off to one side and away for decrescendos and starting from that position and pulling in for crescendos.

It is vital for singers of all genres to become comfortable with the use of microphones and informed, not only about not letting their use interfere with their performance, but also, about using microphones as musical instruments to enhance their performance.