

## Microphone and Stage Technique for Singer-Songwriters

Frequently I attend or run sound for singer-songwriter competitions/showcases, and typically very few performances would have yielded a “take” had it been for a live recording. The rest were unacceptable due to *plosives* – hard p's, b's, d's, t's, etc. Some of these problems were attributable to inexperience or simple lack of skill in diction. Mostly, however, the problems come from poor microphone technique by working the mic too closely and directly on axis, and therefore the problems are completely avoidable and correctable.

Certainly, every singer should endeavor to master “*Peter Piper picked a peck of pickled peppers...*”, but even the most articulate vocalist will “puff the p's” when “kissing” the mic on axis (angle of 0°). The main consideration for a vocalist, and certainly a singer-songwriter, should be *intelligibility*. *Your words are important!* Intelligibility derives from the “telephone frequencies” in the mid-range, and can be severely hampered by overemphasis of low frequencies and the loss of consonants caused by “kissing” the mic.

Most vocal mics are directional and subject to a *proximity effect*. Although they are designed to reject off-axis sounds, they are less effective doing so with low frequencies. So when the vocalist is very close to the mic, there is a relative build-up of lows, and the sound becomes “muffled”. Also, the total sound of the human voice comes not only from the throat via the mouth; the head-tone resonances and the articulations of the lips and teeth are also in the mix (vowels come from the throat, consonants from the lips and teeth). So the sound source – the singer – needs to be far enough off the mic to hear the *face* - at least 3-6”. (You get a very different sound sticking a mic inside the bell of a sax, rather than backing off and capturing the resonance of the body and the attack sounds of the keys and mouthpiece.)

The response pattern of most mics permits full frequency range response off-axis by +/- 30°, so not making a puff caused by being perpendicular to the plane of the microphone cap is readily avoidable. (Picture what happens when you stroke a billiard ball directly perpendicular to the table's rail, as opposed to at an angle.) The microphone should sit at about chin level and tilted up towards your mouth and nose (~30°), so that you are looking (and singing) over the top of it – all the better for selling your song with your eyes and expression. It should *not* be at a 90° angle from a straight stand coming straight at your mouth. Boom stands are always preferable to straight stands to allow full articulation. An added trick is to rotate the mic so that clip seems to be on top, while the cable connection comes from underneath – for better visual presentation.

When you sing, and more so from an elevated stage, you sing to your audience at a slightly downward diagonal angle – a microphone coming straight for you will not only be somewhat uncomfortable, but it'll miss plenty of signal. An added advantage is that guitarists have more visual access to their hands by already looking down slightly. If seated, use a boom

coming in from your right (or opposite for lefties) to reduce visual obstruction for your audience.

Monitor placement and volume are critical. Here the optimal geometry argues that the monitor be directly on axis to the singer, and ideally in the maximum notch of rejection in the mic's pattern. A simple *cardioid* mic rejects at  $180^\circ$ , so the monitor should be directly in front with the back of the mic pointed directly at it. A *supercardioid* (or *hypercardioid*) typically rejects at  $\sim 165^\circ$ , so the monitor can be slightly off to the side at an angle. Monitor should be pointed directly at the singer's head - not knees or midsection - especially its tweeter. Elevate the monitor, change its angle, move it (or the mic and singer) forward or backward - whatever it takes. But don't pretend the geometry is not important.

When monitor output is picked up by the mic, the result in the extreme can be feedback. But more insidious is the phase compromise of the source by the differing nature and arrive-time of the original sound of the singer with respect to its reproduced/stepped-on quality from the monitors folding back into the mic. Best sound out front will come from no monitors at all. Worst case scenario is when a performer's demand for monitor volume is so great that it overwhelms the mains and leaves the engineer no choice but to turn the mains down to comply with room requirements for overall level.

Most engineers wonder in frustration why a soloist would even need a monitor to hear his/her own voice and guitar. After all, if you are a solo singer-songwriter, can't you hear your own voice and your own instrument? Still, most performers want to hear a more direct version of their voice than from the resonance of the mains in the room. Use as little as possible, both for the voice and the instrument.

In situations where there are multiple acts, typically the sound engineer would mute all unused mics, and perhaps unplug all unnecessary monitors. Gently remind him of this option to improve the stage sound. (Simply tap the other mics to see if they have been left on.) You can make the final adjustments of mic and monitor angles and placement yourself as you settle in to the comfort of your own performance space.

Even having had an earlier "sound check", make sure of the mic and monitor positions as you take the stage. Finally, double-check your tuning, take a sip of lukewarm water, clear your throat, etc. Pause, and then be fully in character to present the first notes and the first words to your anticipating audience. Oh, and ask whoever is introducing you to do so only after you have completed all preparations so you can hit the first note following "Please welcome..."

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