

THE SINGLE-MIC TECHNIQUE FOR MUSIC REINFORCEMENT by Bruce Bartlett

[Photo: The Earls of Leicester from Cincinnati Magazine.]



What goes around, comes around. In the 1920's through the 1940's, PA systems for music used a single microphone. Band members gathered closely around this single mic and balanced themselves by moving toward and away from the microphone. Radio broadcasts and recordings used one mic as well.

This old-fashioned technique has made a comeback. Many bluegrass and folk bands are trying the one-mic method with surprisingly good results. They use a single modern microphone: typically a large diaphragm condenser with a cardioid polar pattern. It picks up the band with a very natural sound that is coherent and focused. There are no phase cancellations between multiple mics to color the tone or smear the transients.

PLACEMENT

Want to try the single-mic method? Install the microphone on a stand, ideally in a shock mount. Use a boom if you need more room for instruments. Place the mic at about chin height and 12 to 18 inches away from the performers. The mic stand goes in the middle of two or three musicians who play close together.

If the band is larger, every two people can use their own single microphone. In a typical bluegrass or folk group you might see a fiddle, guitar, banjo, mandolin, singers and maybe a dulcimer or bass. It's possible to get a good balance of all these elements through careful placement of the mic and the musicians around it.

Raise the mic stand to make the vocals louder relative to the instruments, or vice versa. You might aim the mic slightly left or right of center to adjust the balance between performers. Experiment with the distance of each performer to the mic to get a good balance.

If you can't hear the instruments well with this method, add mini clip-on mics such as made by Bartlett Audio. They are almost invisible when viewed from the audience. Another option is to use one mic at chin height for the vocals and another mic lower down for the instruments.

Feedback can be a problem with floor monitors, so this method generally omits them. Performers tend to hear each other just fine anyway because they are close to each other and don't use amps.

Most bands have soloists approach the mic closely for a solo, then move away when their solo is over. It takes some practice to work out the choreography but it's fun to watch.

ADVANTAGES

One obvious advantage of the single-mic technique is that the stage looks cleaner. Gone is the forest of mic stands, booms and cables. Instead you have a low-tech, old-fashioned look that fits in well with the music. Ear Trumpet Labs makes some spring-mounted mics that look straight out of the 1920's.

Setup is much quicker, too. Just place the mic, plug it in and you're done. The band determines the mix, rather than the sound mixer, who might not be familiar with the music. Of course, musicians are happier with this arrangement than sound mixers!

One old-time duo who used the single-mic method said, "We've often been disappointed with the PA sound that we've gotten on tour from sound mixers. Some of them don't know our style of music, so the mix is wrong or the instruments sound unnatural. But when we use one mic, the audience hears how we really sound. This technique is a natural for small bluegrass bands. As each musician takes a solo, they walk up close to the mic, just like in the old days."

DISADVANTAGES

With the single-mic method, you do give up fine control of the mix balance, EQ and effects. The technique works best for small acoustic groups that have a good live balance.

Also, the sound may be a little thin because you're not hearing the usual close-mic proximity effect. Use a mic with a good low-frequency response such as the Shure KSM 32 or Audio-Technica AT 4040.

This technique may not provide enough volume in some venues because of feedback. Here's why. Suppose the mic is 18 inches from a singer. At that mic location, a singer's voice is about 16 dB quieter than it is at 3 inches. So you need to turn up a distant mic by about 16 dB (relative to a mic at 3 inches) to get the same volume, and that can cause feedback. The single-mic technique is likely to feed back in a small venue. It works better on a large stage.

Another disadvantage is that the method is unfamiliar to many house engineers. As one player said, "About nine out of ten sound mixers are reluctant to use this technique. They don't like to give up control, or they don't think it can work. I have to convince them. Some engineers (understandably) don't want to re-EQ the room to work with our mic. But some sound mixers are open to the idea. They are surprised at how balanced and natural it sounds. And during our set, they can relax and take a break!"

SUMMARY

As they say, "Air is the best mixer." The single mic can capture a balanced blend of all the instruments and vocals at one point. Give it a try, and you might be delighted with the purity and simplicity of this technique.

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