

AUDIO FOR VIDEO, Part 3: Microphone Uses

Now, how do you use all these different types of microphones? Fortunately, in the video realm, you probably won't use them all. So we will limit our discussion primarily to the common mics found around PEGASYS and then touch on the others just a bit. Rather than organize this article by microphone types, we will do it by usage.

ON CAMERA VOICE Unfortunately, the recording of a person in the shot is about the most varied and difficult as well as the most common usage of a microphone you are likely to experience around here. There are three basic ways to do it, and each has its advantages and disadvantages.

LAPEL MIC Everyone is familiar with the lapel or lavalier mic. It is a tiny mic that clips on to a person's lapel or lavalier. If you don't know what the lavalier is, then just clip it on the person's lapel. On second thought, don't clip it on their lapel unless there is no other available point. The best place, provided the subject is wearing a shirt that buttons up the front, is right on the front of their shirt where the buttons are. Most lapel mics have reversible clips so you can point the mic up whether the subject is a man (buttons on the one side) or a woman (buttons on the other side). Ties are a good place to clip a lapel mic, and this is the only thing that ties are good for, so take full advantage of a tie if the subject is wearing one. If they are wearing a t-shirt, you may have no choice but to clip it to their collar. But it is better from a sound standpoint to gather up a pinch of their shirt and clip the mic to that. It may not look as good on camera however.

You want the mic at chest level – high enough to be close to the subject's mouth, but low enough that it's not obstructed by their chin. This varies from person to person and what is available on their clothing.

The pros of lapel mics are that they look good on TV due to their small size, especially if you hide the cable under the subject's clothing. They allow you to get close to the subject, which is especially good if there are several people on screen ala Community Talk. The only problem is if you turn on three or four or more mics, you will pick up each person from each mic and lots of room sound, so they have to be controlled independently. The lapel mic is generally the best solution for a multi-person talk show however.

The cons of the lapel mic are as follows: If the subject bends their head down, you will get a sudden increase in volume. Likewise, if they turn their head left or right, the volume will decrease. With any mic, placement is key. Once a lapel mic is in place, the movement of the subjects head can effect the sound quite noticeably. Another drawback with a lapel mic is that they are typically very sensitive to wind noise, so use outside can be a problem. The mics can sometimes be placed just under the shirt to prevent wind noise, but this will noticeably dull the sound. A hardwired lapel mic can be tricky to move around with. The solution to this is a wireless mic, but wireless mics come with an enormous set of complications, especially when more than one or two are used simultaneously. Lastly, lapel mics are an irresistible target for their wearers to hit or fiddle with the wire. Necklaces nearly always manage to hit a lapel mic at some point during the shoot and make a loud ruckus.

HANDHELD MIC This should read Handheld Omni mic, because an omnidirectional microphone is superior to a directional mic for handheld interview use. As discussed in article two, omni handheld mics have very low handling noise, high

immunity to wind noise, no noticeable proximity effect, and very little off-axis coloration, so they are perfect for a news-style interview situation, particularly when an interviewer is moving the mic back and forth between their self and their subject. The Electro-Voice 635 is the classic mic of this type. Nicknamed the Buchannon Hammer, they are very tough and reliable. (They are made in Buchanan and have commonly been used to hammer nails although we do not recommend this.) PEGASYS has a drawer-full. A handheld mic allows the user to get it close to their mouth, resulting in clear audio. The disadvantages are the visual aspect and the use of an arm and a hand. So it is a good choice for a casual situation, ie. a news report or something basically informational like that. You wouldn't probably want to use one in a movie where the protagonist addresses his enemy right before resorting to a sword fight. Although in a hammer fight, it might work well.

SHOTGUN MIC The shotgun mic is the most directional of all "ordinary" mics. There are some unusual mics that are decidedly more directional, such as the parabolic mics used on the sidelines at football games. And there are some highly abnormal microphones as used by the CIA which are pretty stinkin' directional. But of the type found in day to day video production, the shotgun is the defacto directional mic. We've discussed how shotgun mics are long and have lots of vents down the side that give them their directional characteristics. PEGASYS has a number of shotgun mics with foam windscreens. We also have a single shotgun mic loaded into a very fuzzy windscreen, known as a dead cat, which has the capacity to eliminate a hugh amount of wind noise. This one is mounted to a carbon fiber boom pole, and I use it any time A.J. and I go out into the world and shoot video. Although shotgun mics can be mounted atop a camcorder or a stationary mic stand, in the industry the boom pole is the most common method of using a shotgun mic. The boom pole requires an operator to hold the pole so that the mic is situated near the subject who is speaking. The mic can be placed in front of and slightly above the subject so as to be outside of the shot but still within a foot or two of the person's mouth. Being as directional as they are, this can result in a very clean and clear audio track. The mic can also be positioned under the shot and pointing up if conditions seem better for this approach. When interviewing a group of people, the boom pole can be maneuvered by the operator to follow the action, so to speak – to point the mic at the person doing the talking. This is a much faster and easier method than taking time to hook up a bunch of lapel mics. And in the field, it's a real pain to deal with more than two mics at a time, because it requires either a mixer and a person who can operate that on site or a multi-track recorder.

That pretty much covers normal on-camera voice recording. Off-camera voice recording, known as narration or voice-over, is best done with a nice large-diaphragm condenser mic or a high-quality dynamic mic, such as an Electro-Voice RE-20 or Shure SM-7. In the big world, narrations are recorded in a recording studio, generally one specifically designed for the task. Here at PEGASYS, narrations can be recorded in Studio A or in one of the control rooms or edit rooms to either a deck (as in Edit A, B, or 1) or even to a camcorder (as in Edit 2 or 3 or in your house or garden shed or car or motor home or airplane cockpit).

Now, for recording sound effects outside, it is hard to beat the shotgun mic with the dead cat wind screen on the boom pole. You have excellent windscreening capability, and the ability to hone in on the sound source without picking up too much of

the surrounding sounds. As with any kind of microphone, the closer you get to the subject, generally the clearer the sound will be, and the background sounds and room sound will diminish.

If recording sound effects inside, a shotgun mic is still a good choice. Being a condenser mic, the quality of the recording is good – sharp transients, low noise, etc. And once more, the object making noise can be better recorded apart from background and room sounds. However, any condenser mic can be used to good effect, and a dynamic mic can be used as well.

Stereo mics are often used for recording sound effects. A stereo mic is a single microphone with two capsules in either an X-Y pattern or a mid-side pattern (I won't go into the discussion of these patterns) and a multi-pin connector leading to two separate output connectors. However, as all PEGASYS material cablecasts in mono, the use of stereo effects is somewhat pointless.

In reality (because there is no law against it), any mic can be used for just about any application. It's just that some mics are better suited for particular jobs. Hopefully this article has shed some light on that. Experimentation is always a good way to learn what works and what doesn't. The key is to listen and make a judgement accordingly.

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