

Presentation on audio.

© 2005 by Glenn Koenig

Equipment:

- professional camcorder with audio inputs, battery and tape for later.
- external microphone
- professional headphones
- sound equipment brochure

Presentation:

"So, I'm going to talk about the sound for a few minutes.

First, let me say this - if you're not good at math or science, don't worry. I'm not going to talk about numbers at all, and I'm going to keep the technical stuff to a minimum.

- but, even without that stuff, I can tell you a whole lot about sound!

1. How important is the sound?

- sound is **very important** these days. The Apple Computer company is making millions of dollars selling **iPods** to everyone these days. And iPods are all about the sound.

- the town did a survey in the Census last January and people in Arlington said the the **biggest problem** with **shows on cable is the sound**:

- The sound is too weak.
- There's hiss in the sound.
- It's distorted.
- The sound cuts out.
- It's loud enough but you still can't hear what people are saying.

So, sound is very, **very important**. If you were watching a **TV show** and **sound went off**, would you still watch it? People just standing there with their mouths moving but nothing coming out? It looks really stupid.

But what if the picture was messed up but you **could hear the sound ok**, would you get anything out of it? Probably.

But for some reason, you hand someone a camcorder and tell them to start shooting, right away, they **forget all about the sound**. They're busy going "Wow, look at the cool color pictures I'm shooting!"

Sometimes, they even **say stupid things** from behind the camera while shooting

because they **forget that it's even recording** any sound at all! OOPS!

So, why do we have so much trouble with sound? Because you **can't see it**. AND because of another factor...

2. You already own the **best sound equipment** in the world right now.

- you already own **microphones** that are better than 90% of microphones found in studios today. **Your own ears**. Why are they better? Because you can hear very faint sounds all the way up to very loud sounds and most microphones and sound systems **can't handle** such a wide range. Either they're good at very soft sounds, but they'd blow out with very loud sounds, or the other way around.

- AND you have a better **sound mixing and recording board** than all those studios as well. It's called **your brain**. Your brain is a better sound processor than any electronics we've ever invented. You can tell **where a sound is coming from**. You can **listen to someone talking** even though there are other sounds in the room. You can **hear the words a singer is singing** even though there are a lot of other instruments playing at the same time, like in a rock & roll band.

- In fact, for most people, your **ears and your brain work so well**, that you can **forget about sound most of your life**. You just listen and it's there.

- so it's very easy to **forget about the sound** because it's so natural.

- so to have good sound in a video production, you have to stop to **think about the sound**, and that's something most people never do. If you can learn to do it, you'll be way ahead of most adults who have never really thought about it.

And I'm going to tell you how, right now.

3. Listen to this room for a moment.

Everybody stop and don't say anything and just listen to the room for 10 seconds. I want you to think about what you can hear if nobody is talking.

(pause)

OK, what did you hear?

- people breathing
- clothing noise
- air conditioner/heating system fans going
- noises out in the hall
- voices through the walls from the next room
- airplane or traffic outside
- sirens or train horn

- cough or sneeze

One person clap their hands with one loud clap.

- did you hear an echo?

- how would it sound in the grand canyon?

- how would it sound in the auditorium of this school?

- how about the gymnasium instead? much more echo?

- out in the woods?

- in a car with the windows rolled up?

- in town hall auditorium?

4. The first rule of good sound - the mental attitude

Just as in anything, your mental attitude is very important. Getting good sound won't happen with lazy thinking. Like marshal arts or music or dance or acting or getting good grades, the sharper you make your mind, the better you'll do.

Usually, the sound is **more important** than the picture. It takes more intelligence to have good sound than it does to have a good picture. It takes experience for both, but the sound is usually harder. Pretty much anybody can hold a camcorder and push the little red button and record something. But they are not thinking about the sound.

When you go out to make a video, one way to think about it is that you are **making a sound recording** that just **happens to have pictures to go with it**. (Now, some videos are more visual, and I'm not saying you never want to concentrate on that.) But usually, you want to think about the sound **before** you think about the picture.

So that's the first rule.

5. The Second Rule - recording

Where do you put the microphone to get the best sound? Depends on what you want to hear. Think: **What do I want to hear most?**

The best place for the microphone is **where you'd put your ear** if you wanted to listen very carefully to something - you'd get very close, right?

- if you want to hear someone talking, have the microphone as close to them as you can
- if you want to hear the background sound to help set the scene, have the microphone away from anyone who's speaking, so you don't just pick up one person.
- the **worst place** to have the microphone is where most camcorders have it - on the camera!

Why? Because:

- it's almost never close to what you want to hear

- it's too close to the person holding the camera, who is breathing, coughing, muttering things under their breath, like, "oops!" or "move out of the way!!!"
- it's too close to the camcorder's mechanism, such as the zoom motor, the tape drive, the dangling lens cap going clank, clank, and so on.

So WHY do they sell them that way? Because:

- most people **can't be bothered with thinking** about the sound, they just want it to be automatic.
- people think they **can't understand cables** and microphones and other technical stuff
- everybody wants the **lowest price!** It costs more to provide a separate microphone, and a cable and a jack to plug it in, so they don't put one in. If you want these things, you have to buy a **more expensive camcorder** and pay even more for a microphone as an extra accessory.

6. The third rule - monitoring

When you shoot a video, you're watching what you're shooting at all times, right? You have a **viewfinder** *and* these days usually a **viewing screen**.

Well, because **light travels in a straight line**, it's easy to have the screen on and the camera recording through the lens at the same time because the light from "here" (the viewing screen) can't get around and back into "here" (the front of the lens).

But the **sound goes all over the place**. If you **put a loudspeaker** on the camcorder and turned it up enough to really hear the sound quality well, the **sound would go out all over the room**, bounce off the walls, and get back into the microphone and keep amplifying itself over and over until it would turn into a **huge painful noise** called 'feedback.'

So the only way to listen to the sound while you're recording is to **use headphones**.

And the best headphones are ones that **seal off your ears** from everything else so you can really **concentrate on the sound quality** being picked up by the microphone instead of hearing everything else in the room. Remember your ears? They're listening for everything around you, so that's why you should do this.

But do they sell good headphones like these with every camcorder? No. Why? Same reasons. People don't ask for them because they're not used to **thinking about the sound**. And they would make the camcorder **cost** even **more**. And they involve another **wire** and a **jack** into which to plug it.

7. Fourth Rule - a crew

Now you might imagine that trying to think about the sound and pay attention to the shot you're getting with your camcorder is **a lot to do at once**. And it is. Most people

can't really concentrate on both at once.

So, they're listening to the sound and they forget to move the camera and end up recording a blank wall when someone steps to one side. OOPS! So that's why really good video recording people **have two people** instead of one.

I have a picture here, on the front of a catalog for audio equipment. This catalog is full of all kinds of microphones, and mixers, and batteries, and windscreens and poles and stuff, but **the most important thing is on the front cover**. There are two people, one is holding the microphone on the end of a boom pole, so that it's close to whatever is making the sound and monitoring it, and the other person is holding the camera to concentrate on the shot.

And the sound person is as important or **even more important** as the camera person. Just think if they're recording the president and all you could hear is everybody else making lots of noise but you **can't hear what he's saying**. The video would be **useless!**

Now. We have covered a lot of things about sound and I never mentioned any technical words such as "cardioid" or "omnidirectional" or even "decibel" or "impedance" or "dynamic" or "condensor" or "phantom powered" or "mixer" or "levels." And we can talk about all that stuff if you want if we have time or perhaps some other time.

But without going into all that technical stuff, if you follow what I've said, you'll be better at sound than 90 percent of anyone who's ever picked up a camcorder.

So the rules are:

1. Have a good mental attitude - sharpen your thinking about the sound.
2. Put the microphone where you'd want to put your ear to hear best.
3. Monitor what you're recording with headphones.
4. If possible, have a crew with one person just paying attention to the sound.

Questions?