



On Location Video Production

Practices and techniques for video production
away from the studio and out in the real world.

1. The Camera (Technical Stuff)

The private parts of your camera and how they affect your image.

Lens:	Shades, Dirt, and Flare
Eyepiece & LCD:	Viewing ease, power consumption
Exposure Control:	Backlight, Exposure, Shutter speed
White Balance:	Sunlight, Indoor lights, Fluorescents
Zoom:	Multi-focal length, Zooming
Focus:	Auto focus, selective focus
Microphone in	External mic's
Headphone out	Monitor sound

2. Camera Operation (Technical Stuff)

A steady camera makes a happy image.

Use the tripod to get a shot that is almost always better than hand held.

- Smooth pan & tilt
- Smooth pan & zoom
- Footwork and handwork
- Working with flimsy tripods
- Start uncomfortable and move to comfort

Handheld camera is quick and easy, but yields a degraded picture.

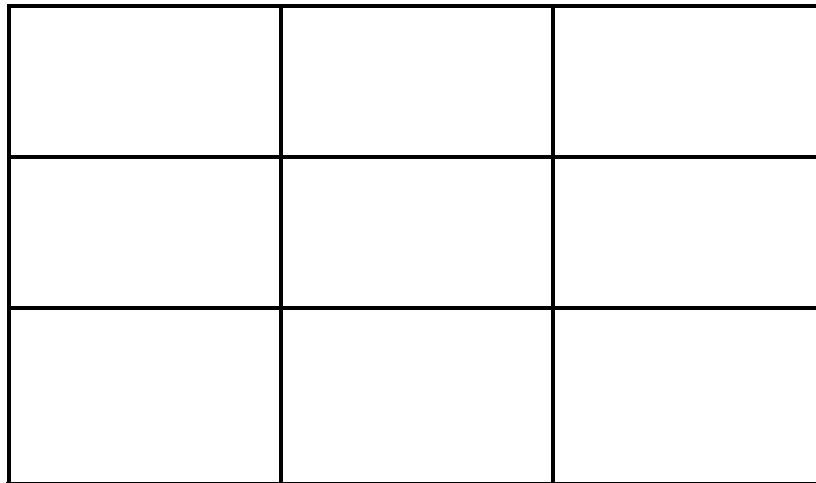
- Braces: Body, Walls, Poles, Anything solid
- Neck Strap:
- Footwork and body position
- Start uncomfortable and move to comfort.

Steady *Straight* *Smooth*

3. Camera Operation (Artsy Stuff)

The objective of the camera work is to get a sequence of moving and still images which can be edited to tell a story. The best images will have good composition.

Rule of Thirds:



Place objects of attention at the four corners of the “tic-tac-toe” grid. This usually means a person’s head at the upper third in a long shot, and their eyes in a medium close shot. The mouth can be at the lower third point.

Headroom: The space above a person’s head in the picture. Except in an extreme close-up there should be some head room.

Leadroom: The space in front of a person or object facing a direction. There should be more space in front of a person than behind them. Put the nose in the middle. There should be more space in front of a moving object than behind it.

Composition: Always look at the picture in the finder, not at what you see with your eye and mind when you look at the subject directly. Is the picture really what you want the viewers to see?

Look for things in the picture that should not be there.

Look for things in the picture that should be there.

Look for light or dark areas. Be conscious of over and under-exposure.

Working with Light: The limited exposure range of video (5-6 stops), compared to film (7-8 stops), or the human eye (10-12 stops) means that all elements in a scene must be carefully evaluated to be sure they are properly exposed.

The auto-exposure feature of the camcorder will cause a backlit subject or one with light colored background to appear under exposed. There are three solutions: use artificial light on the subject, use a reflector on the subject, and change the background.

In documentary or rapid shooting situations it is most practical to change the background by changing the shooting position in order to shoot against a darker background.

Reflectors can be many and creative.

- Real Hollywood reflector panels

- White foamcore panels

- Foldable cloth (Flexfill) or RV window sunshields

- Any white cloth or paper

- Stand beside a light colored building wall

When the subject is in direct sunlight, use reflectors to fill in the shade side of the face. This is particularly useful if the subject is wearing a hat.

While reflectors are cheap and easy to use, they do require an assistant to hold them steady during the shot.

Focus:

A subject in focus will draw attention away from fuzzy subjects.

Auto-focus may not focus on object of interest, particularly off center objects. Observe focus in viewfinder and go manual if necessary.

Auto-focus is fooled by very dark and very bright objects, as well as windows and flat reflective areas. Observe focus in viewfinder and go manual if necessary.

Auto-focus may “hunt” and shift focus.

Exposure:

Auto exposure can be fooled by very dark or light areas in a scene. Observe in viewfinder and use lights, reflectors, or go to manual exposure if necessary.

Auto exposure may change during a zoom or pan. Watch for this and decide if acceptable. You may have to go to a manual exposure and set an average value.

Shutter Speed:

Normal shutter speed is 1/60 sec. Some camcorders can go down to 1/4 sec and up to 1/10,000 sec.

Frame rate is always 30 (actually 29.97) frames per second.

High speed shutter gives clean picture of moving subject.

High speed shutter can sometimes cause strange “strobing” effects on moving objects.

Use high speed shutter to change f stop and decrease depth of field, throwing background out of focus.

White Balance:

Usually choice of sunlight, tungsten, auto, or manual setting

Use to make colors and skin look most natural. Be extremely vigilant of skin tone and condition in close-ups.

Use manual color balance on white card for most consistent colors and best scene to scene matching..

4. Shooting to Edit

Making a video has several phases, and getting the right images is just one of them. Whether it's an unscripted documentary of uncontrolled action (like TV news), a scripted documentary, or a completely written story, it is the cameraperson's responsibility to bring home the images that can be edited to tell the story. To do less is to be unemployed.

The classic formula for movies and TV is to have a master or wide shot to establish the scene, then move in to medium and close shots to bring attention to the action and characters. Close-ups and cut-away shots are used to concentrate attention and bring in more information. Wide shots are used at times afterwards to keep the action in context. This method is pretty well proven and provides a solid starting point for creative shooting and editing.

The wide shot tells the audience where the action is taking place, like a helicopter view of Manhattan or a panoramic view of the Rockies. It could also be just a picture of the haunted house.

Notice that in a TV news picture the reporter always stands in front of the crime scene or disaster site so that viewer gets both the spoken commentary and a picture of the event.

Give 5 to 10 seconds of tape rolling time before and after the action in order to give the editor plenty of choices for pulling the desired scenes.

If there is action coming into or exiting frame, roll enough tape for clean entrances and exits.

Unless there is a compelling reason, do not zoom during a shot. Consumer camcorders do not have sensitive zooms to do it right. Proper zoom moves can be made only with the right equipment and lots of eye-hand coordination. Think of the zoom lens as a multi-focal lens and do shots with many settings. If you have to zoom, do it quickly so that the sound track is continuous and the editor can put in a cut-away to cover the move.

On a pan or zoom scene, start with a well-composed frame and end with a well-composed frame.

Shoot a variety of cut-away shots of objects at different angles and distances. Get cut-away and close up shots of all elements mentioned in main scenes.

Shoot the close-ups and cut-aways after the main action is over to conserve valuable time with talent and subjects.

Shoot a variety of people reaction shots at different angles and distances. When changing angles or distances, make the change large enough to be noticeable. An angle change of 20 to 30 degrees is usually enough.

On-screen action is the result either a) action by subjects in the frame while the camera is fixed, b) panning over or with the subjects to create action, or c) a combination of both. All this contributes a dynamic element to the story.

Continuity is important to the story. People should be dressed the same and the light about the same for the shots supposedly taking place at one time.

Continuity requires that the direction and speed of action is the same from shot to shot. If car A is going left to right in the first scene, it should always do that unless there is some on-screen reason to change the viewpoint.

Remember that the video is a series of shots assembled in an order to tell a story. Always think of shooting a sequence, not just independent snapshots.

The wide or master shot should be at least 15 seconds long to allow all the content to be seen by the viewer.

Action shots should be as long as necessary for the action, plus 5 or 10 seconds at the beginning and ending.

Static cut-aways and close-ups should be at least 5 seconds long and allow the editor to pick the right 2 seconds to use. Most DV cameras have a still photo mode with a 5 second shot.

Composition Continuity Close-ups Cut-aways

AUDIO

Just when you thought it was safe to go off and shoot, something new and frightening pops up: the sound track. As we all know, the sound track of a movie has a tremendous impact on the story. Just imagine watching the latest Hollywood epic with no sound. It would be pretty dull. That's why it is important to be conscious of the sound and how it is being recorded.

Getting sound for your video can range from the totally simple method of letting the camcorder microphone take in whatever comes to it, to having a dedicated sound mixer and recorder to capture the sound with specialized microphones. There is a continuous range between these two extremes.

Our modern digital camcorder is a little miracle. It is capable of recording beautiful pictures with a zoom range of more than 100 in all sorts of lighting conditions. It can record stereo sound simultaneously with the picture.

However, as a sound recorder it has serious shortcomings that must be dealt with in order to get a good sound track for a finished video. For the vast majority of cases, the microphones are not of top quality and have limited frequency response and dynamic range. Second, they are usually not very directional microphones and generally pick up about as much sound from all sides as from the area in front of the lens. Finally, the electronic system with automatic gain control causes a large amount of excess noise (electronic, mechanical, and ambient) to be recorded.

The built in microphones may give acceptable sound when within a few feet of the subject and there is little ambient noise. Hence the rule for getting good audio with these camcorders is "Get close to the subject". This may be contrary to how you want the picture.

The first and most reasonable alternative is to use an external microphone. Generally it will be one of four types

- A wired lavalier mic
- A radio lavalier mic
- An on camera shotgun mic
- A boom mounted shotgun mic

The wired lavalier microphone will give excellent sound provided the ambient noise is reasonably low. Care must be taken in mounting the microphone to prevent clothing noise and wind noise. The wire between subject and camera limits the motion of both.

A radio microphone uses a small radio transmitter to send the audio signal to a receiver mounted on the camcorder. This is quite useful when the subject is at a large distance (more than 10 feet) from camera, or when either is moving. There is always a problem with radio interference from lights, motors, switches

making unwanted electrical noise that interferes with the signal. This is minimized with high quality UHF and digital wireless systems (very expensive).

A shotgun microphone is designed to be sensitive to sounds coming only from the front, and rejecting those from the sides and back. This directivity is a function of frequency, and does not completely eliminate ambient noise. In fact, it may emphasize noise generated behind the subject. When camera mounted, like on some TV news cameras, there can be reasonably good sound with subject to camera distances up to 6 feet.

A boom mounted shotgun microphone requires a sound mixer to hold the microphone near the talent, yet just out of camera frame. There is considerable flexibility with this arrangement, but the microphone must still be linked to the camcorder by a wire unless a radio transmitter/receiver system is employed.

The sound recording automatic gain control (AGC) in the camcorder seeks to present a constant level signal to the tape. Hence, in quiet moments it will turn the gain up and record very loud ambient noise. When sound from the subject is loud the AGC will turn down the signal to prevent overloading and distortion.

Although it is convenient and easy to use the AGC feature, using the manual level control can better control the recorded sound, if available. It is not always present on all camcorders.

The camera operator is now faced with the dual responsibilities of getting good pictures and sound. The operator must not only be aware of the lighting and action elements, also the ambient sound and the desired sound to be recorded. Unless a dedicated sound mixer is used to monitor and record the sound the camera operator is truly a one-man band.

After getting a proper microphone, the next step is to use a set of headphones to monitor the sound. By actually listening to the sound captured by the microphone the operator can tell if the ambient noise is too loud, if the sound is distorted, or if the subject's mic is turned off. A good set of closed headphones that block outside noise is preferred, but even the ear buds which fit inside the ear can be used.

The operator should continually listen to the sound being recorded just as carefully as looking and evaluating the picture in the viewfinder. An otherwise perfect and irreplaceable scene can be lost due to bad sound. After the fact voice looping or automatic dialog replacement (ADR) is a very expensive and time-consuming process only done with professional actors.

It becomes the camera operator's responsibility to also get ambient sound and special sound effects that the editor can later use in production. This might be something like pointing the microphone into the trees to get ambient bird sounds. It is common to leave the lens cap on or place a hand in front of the lens to indicate that it is a sound take, not a picture. Voice annotation of the shot will also help the editor identify the sound.

LIGHTING

The essence of making a good image is controlling the light. It is not just a matter of having enough light to generate an image, but control of the quality, color, and distribution of the light plays an even more important role. There are numerous books on lighting, and the TVTV Studio Production Training Manual covers this well. Rather than re-invent the wheel, excerpts from the Training Manual are included here.