



Shadows are evil. They introduce noise into our video, obscure our subject detail and suck the life from a well-lit scene. We must exorcise these underlords of darkness from our sets.

O.K., perhaps that's a tad overboard. But, as beginning producers, that's how many of us have felt. Our mentors cautioned us not to use hard lighting instruments, which cast distinct shadows, to avoid the inherent high-contrast ratios that were beyond the dynamic range of our camcorders. We became addicted to softboxes and bounced light. Sure, the result was video that showed detail and lacked noise, but it also lacked drama.

Shadows can be our friends if we learn a few simple techniques. Through matching the mood of your scene, controlling contrast and careful selection, placement and modification of your lighting instruments, you too can become a shadow master.

Creating Shadows

Dramatic Lighting without Fear
(Or, How I Learned to Love the Dark)

BY BRIAN PETERSON

Mood Matching

Before you plug in your first light, you first need to ask yourself two questions. What mood do I want to create, and what lighting do the time and environment suggest?

To help you determine the mood, look to your script, action or topic for guidance. If it is a dramatic dialog with rising tension, your lighting should support this tense atmosphere. To establish distinct moods, you can simulate with video lights the accusing effect of a reading lamp spotlight, the warm flicker of a fireplace or the ghoulish glow of a TV. Their contribution relies as much on their unique shadows as on the quality of their illumination.

As for the time and place of your environment, let's say you have a scene in a living room. What time is it? Are there lots of windows or interior lights that will be visible in your shots? This will make a

big difference in how you choose to create a lighting solution that mimics the natural setting and casts appropriate shadows. We'll cover this in the section on light placement.

High key and low key are terms used to describe general lighting styles that are respectively low- and high-contrast. You would use a high-key setup for scenes where the mood is light-hearted or where simply documenting everything is most important. Low-key setups establish moods that are mysterious, tense and serious, and that is where shadows play an important role.

“ **HIGH KEY AND LOW KEY TERMS DESCRIBE GENERAL LIGHTING STYLES THAT ARE HIGH AND LOW CONTRAST.** ”

High key



Low key



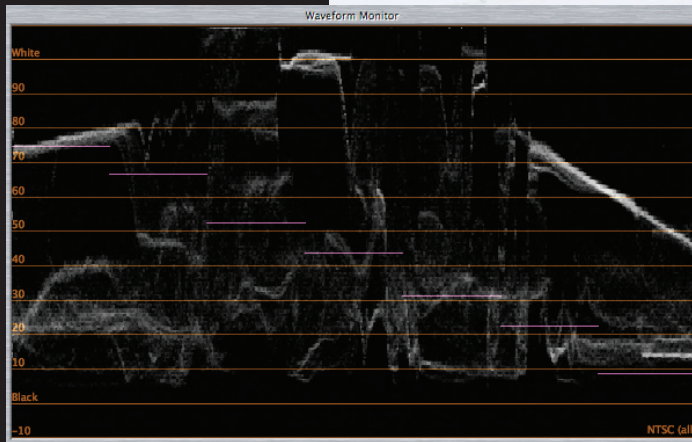
High key lighting style washes the scene with lots of light. Low key lighting style uses pools of light and shadow areas to create a more moody scene.

Controlling Contrast

Today's camcorders can handle a greater range of brightness, but it remains important to learn how to control this dynamic range when you can. You control the intensity of the shadows on your subject by adjusting the light output ratio between your main and fill lights. Shadows start becoming apparent at a ratio of less than 2:1 and reach their effective limit at approximately 8:1 (see sidebar for calculation).

If you are shooting indoors, you have the opportunity to create a base level of illumination. You can do this by either using large light sources – those that do not cast their own shadows – or bouncing lights off a ceiling or other large light-colored surface. This base level of illumination is like a master fill light and will give you the freedom to change your other lights without worrying about losing detail in the dark areas or having noise creep into the shadows.

Unless you have test equipment, like a waveform monitor, you'll need to set up your base illumination by eyeballing it. Do this by setting up your main, fill and any accent lights, and



then manually expose for your subject. Then add your base-level lighting instrument near your camcorder and adjust so that your shadows just begin to move toward dark gray. Watch your image closely in a calibrated monitor or trusted viewfinder while you make this adjustment.

If you have a waveform monitor, increase the intensity of your base illumination so your black levels just begin to move off the 7.5 IRE mark. In other words, don't smash your blacks.

There is a difference between what we are describing as base illumination and your standard fill light. The base illumination should raise the brightness of everything in your scene, including the background, so that nothing becomes pure black. Your fill light usually reduces only the contrast on your subject.

Waveform monitors can gauge the luminance values of your shadow areas. There are laptop solutions, or most pro video editing applications have them.

Lighting Ratio Calculator

f-stops	Lighting Ratio
1	2:1
2	4:1
3	8:1
4	16:1
5	32:1

You can use your camcorder as a crude light meter to determine your lighting ratios. Set your camcorder's iris to auto, zoom into the lightest area of your scene and note the f-stop. Do the same with the darkest part of your scene. Count the number of f-stops between the two, and use this table to determine your lighting ratios.

“Careful placement of your lights projects the mood you have envisioned for your scene.”

Selection and Placement

Which type of lighting instrument should you use? Recall that a hard light is any light that is small in relation to the subject. They can be open-faced designs, those with focusable lenses, like Fresnels, or even very small softboxes. In most cases, LEDs and fluorescents do not cast discernible shadows.

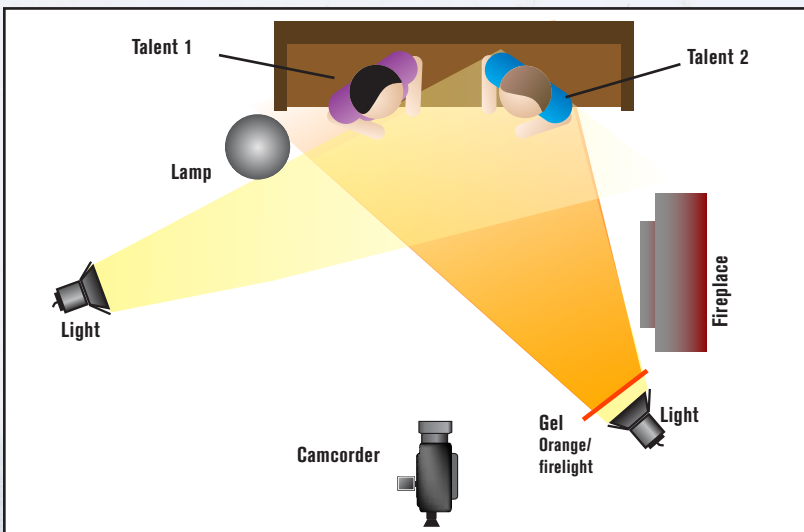
Fresnels give you the best-looking shadows and light control. Open-face designs lack a lens, so they actually throw two ill-defined shadows: one that comes from the reflector and one directly from the lamp. With a Fresnel, all

the light is effectively emanating from just one point, the lens. The lens' concentric rings also create a much more defined edge between light and shadow.

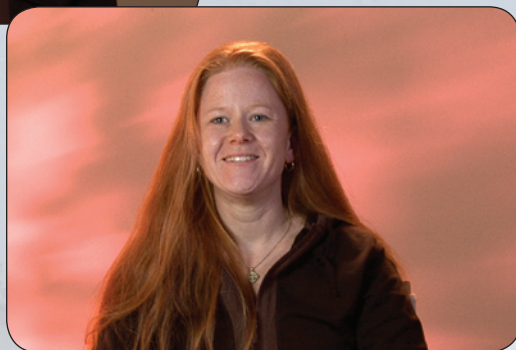
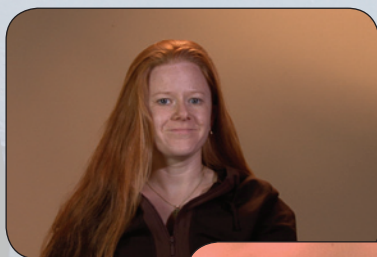
Careful placement of your lights projects the mood you have envisioned for your scene. The further away from your camcorder you place your main light, both horizontally and vertically, the more shadows will define your subject.

For example, to light a dialog scene at night in a living room, you may place your lights based on the light sources either visible within

your shot or expected to exist in a standard living room. For example, you have two actors sitting on a couch with a lamp just behind the actor on the left and a fire crackling in a fireplace to their right. Place one light out of frame behind and above the lamp pointed at the actor on the right, skimming the hair of the actor on the left. Place another light (with an assistant flicking an orange gel in front of the instrument) just out of frame near the fireplace, pointed at the actor on the left and skimming the hair of the actor on the right. You now have a setting ready for heated action or romantic dialog.



Lighting helps build the environment of the scene and the mood. Although the fireplace is outside the camcorder's viewing angle, the firelight added to scene implies the scene's location and sets the mood.



Just throwing in a simple patterned cookie in front of a background light can give a dull background depth and punch.

Modification

One of the most dramatic light modifiers is the cuculis, or "cookie." You can make cookies yourself out of opaque material like wood, plastic or even foamcore. Simply make cutouts that are geometric, randomized or cut to resemble natural elements. When you place it between the light source and the subject, the cookie will cast shadows that create depth and drama by simulating tree branches, window blinds or a host of abstract patterns. While you can use cookies on your subject, you will most often use them to cast intriguing shadows on background elements and walls. Other light modifiers such as flags, fingers and cutters are used to either corral stray light or to create their own shadows. (See *Tips and Tricks* www.videomaker.com/vidcast/87/ to see some ideas for using cookies.)

For the most distinct shadows with any light modifier, use a Fresnel light and set it to full flood position. Your shadows will become even more defined the further you place the cookie from the light. Of course, in attempting to create softer shadows, be careful not to get the cookie too close to the light. Instead, you can use very light diffusion material either on the light or taped to the cookie itself. Although this is not immediately intuitive, you can also soften the shadows projected through a cookie by adjusting the light toward its spot setting.

So think twice the next time you reach for that soft box. Instead, experiment with shadows and add some drama to your next project.

Contributing editor Brian Peterson is a video production consultant, trainer and lecturer.

Additional Resources

- Lighting Film Noir Style
- Lighting: Using Practicals
- Illuminations: Casting Shadows
- In the Mood: Mood Lighting

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