

STUDIO LIGHTING

Lighting has two purposes in television. It allows the camera to make a picture and it makes the picture interesting. Flat, even lighting gives the video engineer the least amount of trouble, but it also renders the least interesting picture. The most basic lighting set-up is called "3-point" lighting. Lighting is always planned relative to the camera angles.

Advanced students are expected to practice basic 3-point lighting.

Since lighting can be a very subjective medium, there are no real hard and fast rules about lighting ratios and lighting setups. Talk shows tend to be lit evenly and flat. The particular lighting set up depends on mood, purpose, or style of lighting needed. There are many different ways to achieve this.

Fresnel Spotlight: So named for its ring-stepped lens. In our studio, most of the fresnel spots contain 500-1000 watt lamps. A 1000 watt instrument is called a ONE-K. The instrument has a spot/flood control on the side or rear which allows the light to be changed from a narrow, highly focused beam of light, to a wider, less intense spread. This range is actually produced by the movement of a reflector inside the instrument which moves closer to, or farther away from the fresnel lens.

On the other side of each fresnel spot is a knob called the "tilt lock". When tight, the up and down motion of the instrument is locked. When loosened, the instrument may be tilted up or down to any position. The tilt control is usually set tight enough to maintain the tilt position, yet loose enough to allow the operator to move the light up or down. "Barn-doors" are metal flags attached to a spotlight to confine the light to a given area, often to keep light off the background.

Scoop Floodlight: A deep open-faced (no lens) floodlight with a diffused, generally elliptical contoured reflector. Often used as a fill light.

Cyclorama Strip Light (cyc strip): An rectangular open-faced instrument mounted horizontally at the top of the cyclorama curtain. A cyc strip lights the curtain in a smooth and uniform manner. Often used to wash the cyclorama with color.

Key Light: The key light is defined as the apparent, main source of light. The position of the key light can greatly impact the positioning of all the other lights. The key light is the modeling light. A harsh, shadow producing instrument such as a Fresnel spotlight, is usually used as the key light.

Fill Light: The fill light is the instrument used to soften the dark, well defined shadow produced by the key light. Ideally, the fill light should not produce a shadow of its own. Therefore, an instrument which produces a softer, more diffused type of light is usually used.

Back Light: Back light is illumination from behind the subject. Its main purpose is to show the separation between the subject and the background. Since the television screen is a two dimensional object, it is necessary to imply the third dimension with light.

Without the backlight, the subject and the background tend to blend together, but when correctly applied, the back light subtly rims the subject with light, which visually separates the subject from the background. The back light is set at about a 45 degree angle. It must be used with care, since its intensity should vary according to the relative quality of the hair, etc. Blonds and bald people get less back lighting than those having dark hair.

Side light: Side light is sometimes used as an alternative to the standard three point lighting set up. It is helpful to light this way for people with glasses because there are no reflections of the lights in the glasses. It still involves a main, key source, and a soft fill, except the lights are aimed almost directly from the side.

Background light: The purpose of the background light is to establish a "base level of overall lighting" on the set, and to illuminate the set pieces. These lights are usually considerably dimmer than the lights on the performers. Background lights are similar to back lights in that they are both used to create a feeling of depth and dimension in a two dimensional medium. "Slashing" the drapes is to light them with an oblique beam of light that creates a highlight line or "slash" across them.

Barndoors - The flaps attached to the front of the instrument, they are manipulated to prevent light from striking unwanted areas.

Flags - A Device which can also block out light. Flags can be mounted on a light stand or in the lighting grid. Flags create harder edges where the light is cut off, than barndoors do, and can also block off unwanted light.

Diffusion - Diffusion scatters light, creating soft, somewhat blurred shadow edges, and less severe modeling. Diffusion also act to reduce the intensity of an instrument without significantly affecting the instruments color temperature. Diffusion is available in a variety of materials. Diffusion can be mounted in a "gel frame" or attached to the instruments barndoors with clothes pins.

Scrims - A wire screen used to cut down the amount of light emulating from an instrument. It is inserted between the lens and the barndoors. They do not significantly alter the shadow pattern or color temperature produced by a light.

Gels - The generic nickname for a vast array of colored tough, heat resistant, polyester, film-like products used in front of lights. Their purpose is to alter the color characteristics of the lights to which they are attached. Gels are mounted in a "gel frame" or attached to the instruments barndoors with clothes pins.

Footcandle - Refers to the amount of light falling on a one-foot square surface from a candle placed one foot away.

Light Meter - A device used to measure the quantity of light (in foot candles). The camera requires a minimum amount of light to render an acceptable image.

Color Temperature - Color temperature refers to the redness or blue-white quality of light, certain color temperatures are required for color TV. Cameras are calibrated for a specific color temperature, the lighting should remain reasonably close to that temperature range. You should also know that when you dim a light, its color temperature drops, becoming more red based.

Motivated Light Source - As an example, if a person were indoors near a desk lamp, the lamp might appear to be the main source of subject illumination. "Regardless of the type of fixture or its location on the set, if that light is the main, apparent source of subject illumination, it is by default the key light".