

## Topic 004

### Natural and artificial light

*Lighting* can emphasize important details or hide them. It can flatter a subject by bringing out positive attributes and it can de-emphasize or hide less attractive attributes. Lighting can even impart a sinister and hostile look.

It all depends on how you choose to use the concepts we'll be covering in the next few modules.

Television is based on the medium of light; in fact, without light there could be no video.

Just as sound must be skillfully controlled in audio production, light must be expertly controlled in television.

As video — especially HDTV — has begun to emulate the more artistic dimensions of film, there has been a greater emphasis on creative lighting.

But, before you can successfully control light, you need to understand and control its three basic characteristics:

- coherence (quality)
- color temperature
- intensity

In this module we'll cover the first of these —

#### Hard Light

- ▶ Light that is transmitted directly from a small point source results in relatively coherent (parallel) rays. This gives the light a hard, crisp, sharply defined appearance.



The light from a clear, unfrosted light bulb, a focused spotlight, or the noonday sun in a clear sky, all represent hard light sources.

Hard light casts a sharp, clearly defined shadow.

When hard light is used to illuminate a face, imperfections in the skin stand out. The result is less than flattering.

But in other applications, such as bringing out the texture in leather, or the engraving on a piece of jewelry, this can be an advantage.

Note in the photo on the left how the writing stands out. Also note the clearly defined shadow of the flower at the bottom of the photo.

### Soft Light

- ▶ Soft (diffused) light has the opposite effect. As shown in the photo on the left below, soft light tends to hide surface irregularities and detail.



Spun-glass diffusers (above) are used over the front of lights to soften and diffuse their beams. At the same time, diffusers also reduce the intensity of light.

- ▶ Soft light sources are used in production to create a broad, even area of light. In the field,

videographers often rely on umbrella reflectors (on the right, below) to create a soft lighting effect. As you can see, this is simply a light bounced off the inside of a silver or white, umbrella-like reflector.

In typical lighting setups, lighting instruments serve four functions:

- key lights
- fill lights
- back lights
- background lights



The photo below was shot with so-called formula or three-point lighting.

Even though some lighting directors say there is no such thing as a "formula" for lighting, the formula we'll discuss will provide excellent results for most of your ▲ video work.

We'll have a series of examples that shows this formula in action.

If you study this photo you may detect four light sources:

- one on the left (the key light )
- one on the right (a much dimmer fill light )
- one on the hair (a back light ),  
and
- one on the background (a background light )

**Note:** black and white photos and movies are often preferred when studying lighting

because lighting effects are more readily apparent without the dimension of color.

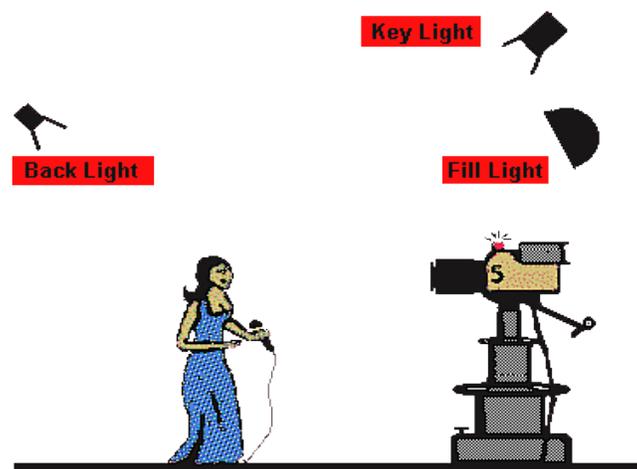
By the way, in case you are wondering, we call this three-point lighting, even though it involves four lights. Since the background light is not on the subject, it doesn't count in three-point lighting.

The combination effect of these four lights (put in exactly the right place, at exactly the right intensity and with the right quality/coherence), creates an optimum over-all effect.

### The Key's Vertical Angle

► We have established that the horizontal angle for the key light is approximately 45-degrees to the left or right of the subject in relation to the camera. One other key light angle should be considered: elevation.

As shown below, this angle is also commonly 45 degrees for the key light. We'll cover the other lights shown later.



Some lighting directors prefer to place the key right next to the camera, or at a vertical angle

of less than 30 degrees. Sometimes in limited on-location conditions this may be unavoidable.

### **The Sun As a Key**

▶ When shooting on location during the day, the sun will normally be your key light. However, direct sunlight from a clear sky results in deep, black shadow areas with a major loss of detail.