Audio and Lighting Basics

...hear me, see me...

Sound
- Often forgotten in video productions.
- Extremely important aspect of any audiovisual production.

Microphones’ sound pick-up patterns
- Omnidirectional -- sounds from all directions (Groups).
- Unidirectional -- sound strength from one side, with some sound from adjacent sides (Narrator).

Common TV microphones
- Handheld microphones
- Shotgun mikes
- Lavaliere mikes

Handheld
- Used in everyday TV production.
- Often equipped with a windscreen.
- Can move it back and forth from reporter to interviewees.

Shotgun
- Super unidirectional mike.
- Narrow pick up pattern.
- Very sensitive over a great distance and can usually be kept out of the camera shot.
Lavaliere (clip on)

- Limited range
- Very small
- Clips on to shirts or ties

Mike placement with lavaliere

- The microphone is susceptible to rustling noise of clothes.
- Give some slack to the mike cable.
- Keep it unobtrusive.
- Keep it out of the speaker’s reach so he/she won’t be tempted to twist the cable.
- Be alert for jewelry.
- If person is pointed to the left, then mike should be on left; right if on the right.

Mike cords

- Treat with care.
- Don’t drape mike cord over power cables; may get a bad hum.
- Cords can act as a radio antenna; pre-test before shooting.

Lighting serves three basic functions in TV production

- Provides illumination -- no light, can’t see.
- Creates the illusion of depth--gives the viewer cues to estimate the form of the objects.
- Establishes mood or setting--nighttime, mystery, suspense.

Characteristics of light

- Quantity -- measured in foot-candles.
- One foot-candle represents the amount of light one foot from a standard candle.
  - Clear sunny day 3,000-10,000 foot-candles.
  - TV studio  200
  - Living room 10-35

Characteristics of light

- Quality -- Ranges from red at the lower end of the visible portion of the electromagnetic spectrum to blue at the upper end.
  - (Imagine a flame—red hot to blue to white).
Characteristics of light

- Quality measured by color temperature.
- Kelvin scale: 0 degrees Kelvin = -273 Celsius.
  - Typical Kelvin color temps
    - Sunlight: 5,600
    - TV studio: 3,200
    - Living room: 2,600-2,900

Characteristics of light

- Want to achieve a color close to white light.
- A regular bulb won’t stay the same as it burns over its lifespan.
- To handle color temperatures, cameras have a process known as white balancing to get color temperature right.

Characteristics of light

- Direction
  - Direct (hard light) from a distinct source.
    - Has one sharp distinct shadow.
  - Diffused (soft light) light from many different sources.
    - Shadows coming from one angle are washed out by the light coming from other angles.
  - Difference: sunny & overcast days.

Light sources

- Natural -- sun
- Artificial -- dimmer than natural lighting.

Lights for lighting

- Key light -- set it up first.
  - Usually 45 degrees from camera; needs to be high.
  - Gives "flat" lighting.

Lights for lighting

- Fill light -- 45 degrees on other side of camera.
  - Difference is the fill is pointed straight to the shadow, not the face.
  - Doesn’t have to be as high as key.
Lights for lighting

- Back light
  - Also a tall light.
  - Illuminates back of person's head.
- Wash light
  - Back light on other side.
  - Burns out more shadows.
  - Not used often.

Types of TV lighting equipment

- Barn doors -- restrict light from reaching portions of the scene that are to be dark.
- Umbrellas and scrims--used to diffuse lights or reflect

El Fin