Production: Lighting

Basic lighting

The aim of lighting is to illuminate a subject so the camera can record it, and to control extreme contrast, such as light and shade.

Principles

There are three basic principles of light.

The Key light is your main source of illumination. This is the light that creates shadow and detail in your subject. This is your strongest source of light.

The Fill light crosses the Key light at about sixty degrees to the left or right. The Fill light controls contrast between key-lit and darker unlit areas. This is your secondary source of light that brightens the shadowy parts of the subject.

The Back light is set almost facing the Key light, up high and not in direct vision of the camera. The Back light separates the subject from the background. The result gives depth to the picture. This light helps separate the contributor from the background, and makes the shot look more three-dimensional.

These principles apply no matter how simple or complex the set up.

Types of lights

Do not worry if you cannot access all or even some of these lights. Available light can be used very effectively and turning on main lights and even side lamps when filming indoors can be very visually interesting.

Please see below a simple outline of the different lights that can be used for basic lighting set ups.

Remember to only use lights that can be plugged into a household wall sockets safely. If concerned, use a special ‘trip’ device or ‘limiter’ which can stop you overloading a domestic electrical system. These can be hired from a lighting company or bought in a hardware shop.

Microphone	Use	Not good for
Clip, personal	Recording interviewee's voice, in a sit down interview.	Background sounds. If the subject is moving around.
Radio, wireless	Good when contributor is on the move.	Ambient sounds, wild track.
Reporter, baton, hand held	Recording interviews if there is no time to set up a clip mike.	Sequences where the microphone cannot appear in shot.
Gun	Interviews, voices, ambient sounds.	Not great if a lot of background sounds have to be recorded too, or interview situations with many people talking.

Hints and Tips – advanced lighting techniques

Here are some key pointers you may find helpful in lighting your production:

- To avoid big nose shadows make sure the Key light is on the same side of the camera as the interviewer. If there is no interviewer, make sure the contributor is sitting at a 30-degree angle to the Key light.
- Light reflected in glasses can always be a problem. To avoid this do not shine the light into the contributor's face, adjust the contributor's position until the light reflected in the glasses disappears.
- If you find you have lots of reflections, experiment: raise or lower the lights to reduce reflections. Getting the best lighting set up is achieved through practice and trial and error.
- To avoid hot spots on a bald head make the light weaker by using a diffuser gel, or try bouncing the light off the wall or ceiling; this can work as a natural light reflector.
- Soft and hard light can sometimes be a problem. If you bear in mind the following this can help. Hard light is strong light from a small source that produces strong shadows. Soft light is weaker and produces less obvious shadows. If a light is too strong for the scene, soften it by bouncing it off the wall or ceiling.
- Where possible try to use available light. At the location, look around for sources of available light. This is your Key light. Position your contributor facing the light but do not sit them head on. An angle of about thirty degrees is best. This will give some detail to the features. Is there too much contrast between the two sides of their face? Use a reflector to bounce light onto the darker side of the contributor's face.
- A reflector is any material that reflects light. The idea is to bounce the light on to the shadowy area of the contributors face. You can use a piece of white paper, a section of polystyrene board, a wall or ceiling, a foil plate or even a piece of white cardboard.

First Light

Light reflectors and their usage

Professional collapsible reflectors fold into small handy pouches. These come with white, silver or gold reflective surfaces. Gold reflectors will give a warmer shade of light than silver or white. Camera and video shops sell a range of brands.

Hold the reflector angled between the light source and the contributor, to bounce the light into the face of the contributor. Make sure it is not in shot. This is your Fill lighting. When the strongest available light is directly overhead, the image can look very flat, particularly if that lighting is fluorescent. Try bouncing light back into the eyes of your contributor, or use another light source as Fill.

Basic lighting kit

The basic lighting kit should have three lights, stands, gels, crocodile clips and extension cables.

Lighting accessories should include the list below:

- Black gaffer tape (to tape down cables)
- A thick pair of lighting gloves (to protect your hands from the hot lights)
- 2 x extension cables – at least 10m long
- Residual current device – use this to test the electrics are safe to use. It plugs into the wall socket and if there is a fault in the electricity supply, it cuts the power, helping to prevent electric shocks
- Crocodile clips – for holding gels or barn doors to the light
- White cardboard, foil for reflectors
- Talcum or makeup powder if the contributor starts sweating
- Gels – on video daylight looks blue and artificial light looks orange. To make a lamp or light look like daylight use a special blue piece of plastic called a colour temperature blue gel
- Diffuser gels – special sheets that can be clipped over a light to make the light softer or less strong

Hints and tips – low cost lighting

If the budget will not stretch to include professional lights, there are plenty of things around the house that can help.

- Halogen garden lamps are cheap, tough and great for flooding a room with light. An ordinary hundred- watt bulb and a big paper lampshade is another even cheaper trick.
- If there is no electricity source nearby, use a battery powered top light. Battery powered lights are a cheap and primitive solution without the problems of a lighting kit, but the results are usually primitive too.
- When all else fails it is better to get the shot than nothing at all
- For other cheap lighting solutions try the following:

Under £10 - you can buy 200w bulb and a paper lampshade.

Under £50 –you can buy a 150-500w halogen work lamp with stand (available from DIY shops).

The halogen lamp can flood the room with light and be just too bright. Use barn doors to control the light – the link below shows you how to make your own barn doors:
www.bealecorner.com/trv900/barn/barndoors.html

First Light

Safety first

If you are using lights, you will need at least one other person to help. Lights can be very dangerous and safety is always important on location. Position lights carefully away from entrances and exits. Light stands are not very stable so never leave them unattended. Use sand bags to add stability, which can be hired from lighting and camera companies. Cables should be carefully laid and taped down if necessary. Film lights get hot so make sure there is no risk that heat could start a fire. Do not forget to let them cool down after they have been switched off and always use padded gloves when handling lights.

DO:
Get a friend to help

Wait until lights are cool before moving them

Tape cables to the floor

Buy diffuser/CTB gels from a proper camera or video shop

DO NOT:
Use baking paper or tracing paper as a diffuser gel. Lights can get hot and these can catch fire.

Use ordinary plastic sheets. Buy a proper CTB gel from a camera or video shop.

Overload plug sockets

Plug lights over 2kw into a household socket

Touch or move lights while they are on

Clip plastic or paper to lights

Cover lights

Clip anything to lights using plastic clothes pegs