

## **Week 3 Grip / Matte box / filters. 12/10/2009**

### **Lecture aims.**

To introduce the accessories which complement a camera outfit. The matte box, lens filters and grip equipment.

Explain what each one is for and a basic insight of how to use them with examples of relevant situations.

At the end of the lecture students should recognise, handle and use each piece of equipment safely for basic use.

### **Introduction**

#### **The Matte Box System.**

The matte box is a camera accessory which fit on to a set of bars fitted to the camera base plate. The matte box serves two functions. First it helps to reduce lens flare by shielding excess light from the front element of the lens. Second it provides a means of holding filters. Note that not all matte boxes accommodate filters.

Matte boxes which accommodate filters have either removable trays or a slot for placing filters in them. The shape and size of the filters vary in size depending upon the size of the lens to which the matte box is paired up with.

Some matte boxes have additional flaps which fix onto the sides and the top and bottom. The side ones are called side flaps and the top and bottom flaps are called top/bottom flap or brow, as in eye brow. These flaps and brows are adjusted to stop as much stray light falling onto the surface of the lens. We want to stop the stray light as it can cause unsightly flare contaminating the image.

Sometimes we want flares but these are usually controlled and used as a creative enhancement. One should always work on the principal that the lens flare is unwanted.

In addition to the flaps and brows, flat panels with rectangular panels can be push fitted onto the front of the matte box. The rectangular cut-out is size dependent on the lens you are using. The panels are usually marked with the desired lens size.

#### **Filters.**

Filters are accessories which are placed directly in front of the lens. The idea is to change the light entering the lens in order to create an effect on the image. The filters can be made out of a variety of material but most commonly glass or acrylic. High quality optical glass is the usual type favoured by professionals whereas acrylic is usually found in still photography. The type of glass used is high quality optical glass which has the properties of being neutral in colour and distortion free. Common window glass tends to be green in colour so therefore is unusable.

Filter sizes vary according to the physical size and shape of the lens. Common sizes are 4 inch, 6inch, and *Panavision*, (letter box shape) and are rectangular. Occasionally circular filters are used.

Filters can be made to control light in various ways.

Colour effects, colour correction, graduation, polarisation, diffusion and neutral density for exposure control. Some cameramen make their own cosmetic diffusion filters using fine weave stockings. These make excellent diffusion medium with the added hint of a star filter.

It is common for filters to be graded in varying strengths. For example colours, graduations and neutral density.

A lens protection filter is known as an optical flat. This is simply a piece of glass which has a neutral effect and doesn't alter the exposure in any way. Its function is to protect the lens from any debris which might damage the lens. Optical flats can be used as a base for making alternative effects. For example smearing the filter with a grease can produce a slight diffusion and star effect. Vaseline is often used to produce such effect.

Some matte boxes have a rotating holder so that the filter can be placed at an irregular angle rather than square on. This is usually the case for graduation but most commonly for polarising filters as the strength of polarisation is set by eye or looking through the view finder and rotating the filters until the desired effect is achieved.

As with lenses, filters need careful handling. Free from fingerprints are marks. Filters are easy to drop so please handle with care as they can be very expensive.

### **Grips.**

We have our camera body with a lens attached. A matte box is added with or without a filter. We now need a means of support. We can either hand hold the camera which is usually reserved for a free style wobblycam effect or we can make it move in horizontal or vertical movements. The next piece of equipment is a camera head. This attaches to the bottom of the camera.

Before we attach our camera head we need a support system for it. There are four basic ways we can do this. First we can fit it to a tripod. The most simple and basic support as it has three legs and is easy to use and carry. The legs are adjustable in height and the head usually has a bowl fit allowing it to be locked at any angle to allow the camera to be levelled even on an uneven surface. A spirit level is usually built into the head.

Second support system would be a dolly. A dolly is a frame with wheels attached. It can have either its own camera support on it or can have a tripod fitted. The dolly can either be moved directly on ground or it can be put on rails or tracks for extra smoothness.

Third support system demonstrated was the jib arm. This is a small jib or crane arm which can float a camera in any direction. Students were shown the safe mode of operation. Out of all the equipment available this is the most dangerous. Remember, a safe shoot is no accident!

Fourth, a steadicam system can be used. This is the most flexible of all the systems as it allows the camera to roam anywhere. Its also the hardest to use properly. Note that Steadicam is a trade name and the type used by the University is a Glidecam; also a trade name. Glidecam is the light weight version suited to DV work only.

Fourth would be a custom made device such as a modular system for attaching the camera to a car or any moving object.

Other support / tracking items could be wheel chairs skate boards and rickshaw. This is where ingenious devices are created and is limited only by the grip's imagination and ability.

This website shows a variety of grip / camera rigging by David Maund – Camera Grip has rigged.

<http://web.mac.com/davidmaund/iWeb/davidmaund/davidmaund.html> or [www.davidmaund.com](http://www.davidmaund.com)

Peter Talbot.