

## LIGHT METERS

We know that we can control exposure of the film by using the aperture and shutter in the camera. We also know that film is sensitive to light and that by proper selection of aperture and shutter settings we can achieve accurate exposure on the film. We also know that by selecting particular shutter speeds and apertures we can achieve predictable visual results in our photographs. Yet, we still have to find a way of determining the a starting combination of aperture and shutter speed for correct exposure for a particular film speed under any given lighting condition.

One way is trial and error. Another more efficient method is to use the instruction sheet that comes with the film. Finally, a more accurate method is to use a light meter capable of measuring light and converting this information to aperture and shutter speed data based on the parameter of film speed.

### **Types of Light Meters:**

1. Hand Held Meters
  - a. Photoelectric Cell meters
  - b. CdS (Cadmium Sulphide) meters
2. In Camera Meters
  - a. Standard (external)
  - b. TTL (**T**hrough **T**he **L**ens)

## HAND HELD

These meters are still widely available and used, though for the most part they have been replaced by the more popular CdS type. This is so mostly because they are less sensitive to low light situations.

Photoelectric meters work with reflected light coming from the subject to be photographed. Light strikes the photoelectric cell creating electrical energy proportional to the level of that light. This electricity runs to a meter causing a proportional swing in the needle.

The scale on the meter is marked off in  $f$  stops, the shutter speed and film speed being a constant given. Once the  $f$  stop is determined you use the shutter speed designated by the meter. You must figure out other combinations on your own.

It is because the cell in this type of meter requires light to produce current that these meters are not very efficient in low light conditions.

## CdS METERS

These meters also utilize reflected light and as with photoelectric meters the light sensitive cell is pointed towards the subject to be photographed. Some of these meters are equipped with a translucent plastic hemisphere that can be placed over the photo cell thereby allowing it to be used as an incident light meter. In the foregoing case the meter is directed from the subject towards the camera allowing the incident light that is striking the subject to also strike the hemisphere of the meter. Incident metering is considered to be more accurate in determining exposure.

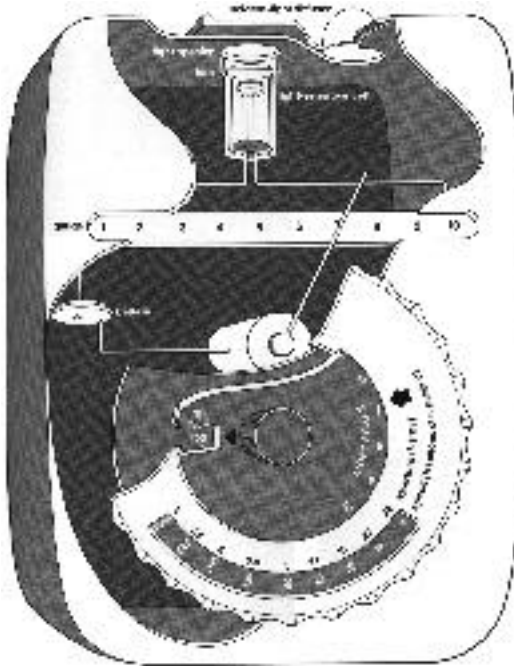
This type of meter is the most popular type in use to-day since they very sensitive and provide very accurate readings even under low lighting conditions. The reason for this sensitivity is the type of photo cell used in these meters. The cells do not create electricity, the current is provided by batteries in the meters or cameras, instead the cells change their resistance to the battery current in accordance with the light that strikes the cell.

Some of these types of light meters are further enhanced with circuitry that allows them to measure bursts of light from electronic flash. Also included in this category of meters are specialized meters known as **Spot Meters** that have a narrow degree of acceptance for critical readings and **Colour Meters** that can measure the Colour Temperature of the light.

## **IN CAMERA METERS**

The in camera meters of most 35mm SLRs are **THROUGH THE LENS** or **TTL** meters. This means that they measure the reflected light from the subject after it has passed through the camera lens.

Some TTL meters are now used to measure continuous light as well as flash.



Hand held meter