FOREWORD

Your METER is without question one of the most practical, least-complicated, compact and accurate made thus far. If you observe these few informative points, you will become expert in its use after the first using.

1. Set film speed ASA.
2. Set sensitivity (Chiock mark) of "Cover Closd", "Cover Open" or "Cover Open and Booster Open".
3. Point meter toward object or subject.
4. Place chiock bar with green circle over pointer, then close your eyelid and shutter speed.
5. Because of the highest craftsmanship and the highest grade of materials used, you may expect this meter to give you many years of satisfaction. Also, due to the high rating ASA 4 or 12 threshold, this meter will not become saturated due to high intensities speeds being steadily raised by manufacturer.

WHAT IS A PHOTOELECTRIC EXPOSURE METER?

Briefly described, a photoelectric exposure meter is a precision instrument which, by means of a photoelectric cell or cells, measures precisely brightness level. It also provides that the measured brightness be translated into photographic factors for the determination of the correct exposure of sensitized film.

It is important that the photographer appreciate fully that, although this instrument is infinitely superior to the human eye in evaluating the intensity of light, it has no magical powers. The human eye functions sharply at a small angle, it is sensitive to light but also possessses the power of accommodation to various levels of lighting. It is well known that the accommodation takes some time, as long as two hours. On the other hand, the photoelectric cell is extremely sensitive to the slightest variation in light intensity and records this intensity. However, the meter provides only an average of all the various light rays from the highest to the darkest parts of the field; it was designed to cover it does not "see" the more specific light sources, shadows, colors, etc.

In the hands of a thoughtful photographer, the Sekonic Auto-Leader L-99 meter is indispensable for determining consistently the correct exposure under all conditions of lighting. Read the instructions carefully. Make experimental exposure tests. In this way, you will gain absolute mastery of the all-important photogrphic problem—correct exposure.

Study the diagram on the opposite page. There are two photoelectric cells, the main cell and the amplifier cell. The former is called the "Flip-Up Booster". It is not sensitive until it is brought to the right angle position as shown in Fig. A. Each photoelectric cell is covered with a fenestral window which permits light coming from a certain angular field to be focussed through a lens on the photoelectric cell below. The cell is known as a barrier-layer type of selenium cell. A diagram of its parts is shown in Fig. B. When this type of cell is exposed to light, it becomes a self-generating source of electricity. The reason for this phenomenon is not fully known. It is believed that under the impact of light particles (a form of energy), electrons within the selenium are freed.

Some of the free electrons move towards the collector plate and a greater number towards the metal base. Thus a potential difference is created and this results in the flow of a very small electric current. The strength of this electric current is proportional to the intensity of the light falling on the cell. The current is conducted through a very sensitive microammeter which is attached to a pointer. The pointer is deflected in proportion to the current. Therefore, where this deflection is read on a scale, we have obtained an average value of the intensity of light or brightness.

When the flip-up booster is switched on, the sensitivity is increased 400% so we can obtain a value in very low light illumination.
THE BASIC OPERATION OF THE METER

The METER is used for measuring reflecting light. This is the light that is reflected from objects towards your camera. The photoelectric cell is so constructed as to give considerable response to bright lighting when the cover above its window is closed. In this condition, the cell receives only the light that emerges through the lens. The flip-up button is used when the intensity of the light is so low that there is little or no deflection of the pointer when the cover over the window of the main cell is open. The meter measures for three degrees of illumination which we term bright, dull, and dim.

In order to make a precise determination of the brightness for the correct exposure, the METER provides three finder openings in lower dial plate. Along side of the main "n" should be pointed to the red dot on the cover of the ASA or DIN value when the cover is closed and the bottom cover is closed.

The blue mark "c" is placed over the red dot when the cover is open. The black mark "m" is placed over the red dot when the cover is open and the bottom cover is opened and wrapped in place.

The first two marks refer to the condition of the cover over the main cell window. The cover has a blue index bar, which is open, and a red dot when it is closed.

THE CALCULATOR OR COMPUTER DIAL

This is control of the disk. The illuminance of the dial is very simple. You will find it easy to orient it to any setting, using your hands.

LVS AND EVS SCALES

This is shown by the numbers within the window inside "N", "X", and "Y". EVS is another name for LVS. This scale is used if your lens is fitted with a special lens which incorporates charting for the light value or exposure value appropriate, and then read the L.V. (or E.V.) number from the dial.

Now set this value on the lens of your camera.

MOVIE CAMERAS

Since the shutter speed of the movie camera is a common value, it becomes merely necessary to select the correct f/number for the number of frames per second (24 to 48). The movie lens is shown as an red dot 1 to 2.5. Set the dial to the ASA or DIN value, locate the appropriate index against the red dot on dial, stop the viewer and determine the desired position, then read the f/number of frames per second you desire to open your camera. Since the normal operating speed is 16 frames per second, it is indicated by in bold face within a red square.

CONVENTIONAL FACTORS

These are the shutter speed and f/number. These shall apply to any metering. They are the series 1 through 22 (1/250th) and 100 through 8 (f-number range). Standardized to be 1000 times 1000. In the lower series the black figures 5, 10, 20, written square are the exposure times for 1, 2, 4, and 8 (which number approximates the lower exposure times). You use the numbers of these two series as a means to accomplish the shutter speed and lens stop combinations. It is for you to determine which combination is best for the subject. If you wish to stop action, you select a high shutter speed. If the object does not have to be photographed to show considerable depth of field, you select the smallest f/number.

To give you an example how this combination works, set the ASA speed at 100, center the red triangle (closed) over the red dot on dial, rotate the dial counterclockwise so that the shutter stop lines at the right end.

MOVIE SCENE

Switch the red dot to the left and read the value of the shutter speed. In the conventional shutter speed, your subject should be photographed to show considerable depth of field. For black and white films, better balance is often obtained by using a light yellow filter. Do not forget to compensate for the factor of the filter used.

If you are a beginner in photography make some experimental exposures to gain confidence.
CLOSE-UP METERING

This is always the most satisfactory method but not always possible. Having your meter close up to the subject reduces some, and a six inches distance is about right but be careful not to let the meter or the shadow of the surface you are measuring.

Measure the intensity of light from various parts of the subject. Use this information to reproduce the different parts of the subject accurately. For the average values of the various readings you desire, refer to the notes under "Close-Up Photography." |

INACCESSIBLE OBJECTS

A compromise exposure value can be determined by measuring the light reflected from the palm of your hand. See that your finger is facing the direction of the light falling on the subject before making a reading.

Practice also has its reflectance value of 40% and is therefore realistic for determining the correct exposure for flesh tones. Black objects have a reflectance value of 5% or less, whereas white objects may be as high as 90%.

For important exposures, take three shots in sequence. With black-and-white film expose at the f/stop you are using first and then write into the exposure meter using a full stop above and below that for the final exposure.

With color film the difference should be set more than one-half stop.

COLOR PHOTOGRAPHY

The photographer has to consider the characteristics of the light, the type of film being used, and the color temperature. The film manufacturer's recommendations should always be followed, but the photographer should be aware of the differences between light and film used.

In general, the film is more important than the subject. For instance, the film is not important for black-and-white film, but the color film is important.

For color photographs, remember the following facts:

- Use a color film to represent the colors of the subject.
- Use a color film to represent the colors of the subject.
- Use a color film to represent the colors of the subject.
- Use a color film to represent the colors of the subject.
- Use a color film to represent the colors of the subject.

SPLIT-SHOT LIGHTING

Here you have to be concerned with the light that will be reflected by the subject. The amount of light reflected will depend on the subject's luminance and the distance between the subject and the light source.

The general rule is increase your shutter speed by 50 to 100% of the time the subject is on the subject. Use this shutter speed for the average value.

SNOW SEA AND WATER

Here you have to be concerned with the light that will be reflected by the subject. The amount of light reflected will depend on the subject's luminance and the distance between the subject and the light source.

The general rule is increase your shutter speed by 50 to 100% of the time the subject is on the subject. Use this shutter speed for the average value.

COPIING

This is usually done with artificial lighting. Generally the illumination is about the same as the natural light. The subject and the background are both uniformly illuminated. However, the subject and the background are both uniformly illuminated.

The general rule is increase your shutter speed by 50 to 100% of the time the subject is on the subject. Use this shutter speed for the average value.

VERY DIM ILLUMINATION

At times you may want to make an exposure under lighting conditions where the subject is not uniformly illuminated. The fill flash or the flash of a flash unit will improve the exposure.

If you are using a flash unit, you should increase the shutter speed by 50 to 100% of the time the subject is on the subject. Use this shutter speed for the average value.

TECHNICAL DATA

The exposure to photograph an average scene is determined by this formula:

Full Reflectance Light: 2 - E. A. B. S.

Flash: 2 - E. A. B. S.

1. Exposure time for second.
2. A. E. A. B. S.
3. B. E. A. B. S.
4. A. E. A. B. S.
5. A. E. A. B. S.
6. A. E. A. B. S.

WARRANTY

This meter is backed by a warranty for one year. Should it prove to be defective within 90 days, the manufacturer will repair it at no charge.

CARE OF YOUR METER

This meter is a precision instrument. Keep it clean and dry. Do not allow it to get wet. When not in use, store it in a cool, dry place.

ZERO ADJUSTMENT

Check the meter periodically to see that it is functioning properly. When all light is excluded from the window of the meter, the light meter should be in the zero position.

If it is not, zero the meter by adjusting the zero control on the meter. A small amount of interference can cause the needle to deflect slightly or to return to zero.