SEKONIC
Auto Leader L-38

L-38

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FOREWORD

Dear User.

Your Sekonic Auto-Leader L-38 meter is without question one of the most practical, least complicated, easier and accurate made thus far: If you observe these few informative painters, you must become expert in its use after the first using.

· Set film speed-ASA or DIN

· Set pointers (Triangles) for, "Cover Closed' "Cover Open' or "Cover Open and Booster Open "

· Point meter toward object or subject.

· Place chaser bar with orange circle, aver pointer, then choose your f / stop and shutter speed.

· Because of the expert craftsmanship and the. highest grades of materials used, you may expect this meter to give you many years of satisfaction. Also, due to the high rating ASA 6 to 12 thousand, this meter will not become outmoded due to higher emulsion speeds being steadily raised by manufacturers. SEKONIC Tokyo, Japan

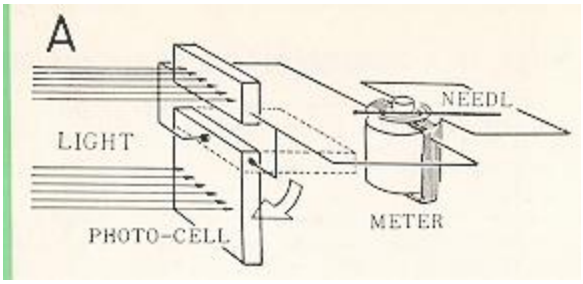
WHAT IS A PHOTOELECTRIC EXPOSURE METER?

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

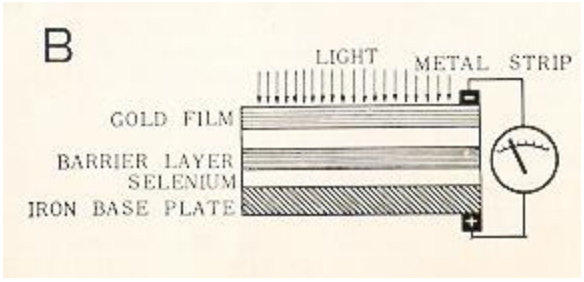
It is important that the beginner appreciate that, although this instrument is infinitely superior to the human eye in evaluating the intensity of light, it has no magical powers. The human eye focuses sharply at a small angle, it is sensitive to light but also possesses the power of accommodation to various levels of lighting. It is well known that this accommodation takes some time, as long as two hours. On the other hoed, the photoelectric cell is extremely sensitive to the slightest variance in light intensity and records this instantly.

However, the meter provides only an average of all the various light rays from the highest to the darkest parts of angular field it was designed to cover. It does not "see" specific high lights, shadows, colors, etc.

In the hands of a thoughtful photographer, the Sekonic Auto-Leader L-38 meter is indispensable far determining consistently the correct exposure under all conditions of lighting. Read the instructions carefully. Make experimental exposure factors In this way, you will soon achieve complete mastery of the all-important photographic problem-correct exposure.

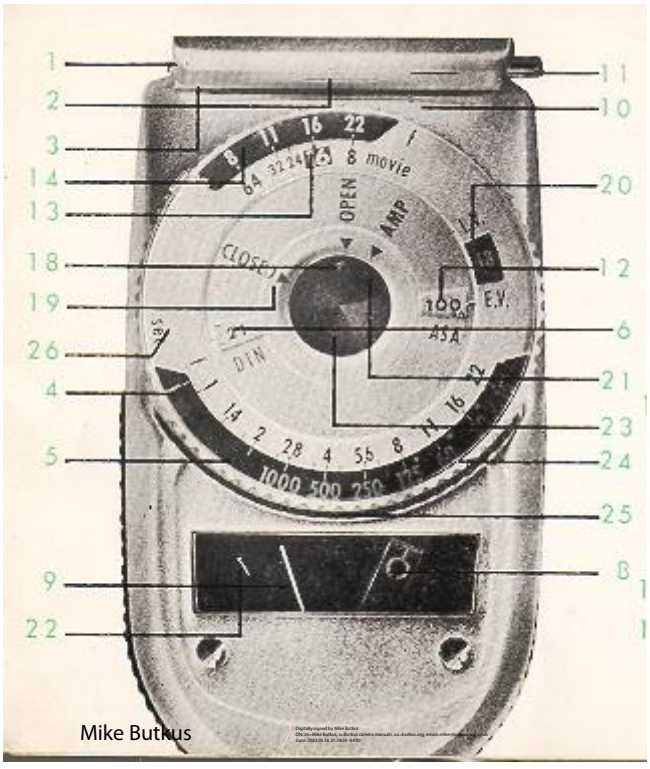


Study the diagram an the opposite page. There are two photoelectric cells, the main cell and the amplifier cell. The latter is called the "Flip Up Boaster." It is not operative until it is brought to the right angle position as shown in fig. A. Each photoelectric cell is covered with a lenticular window which permits light coming from a certain angular field to be focused through a baffle on the photoelectric cell below.

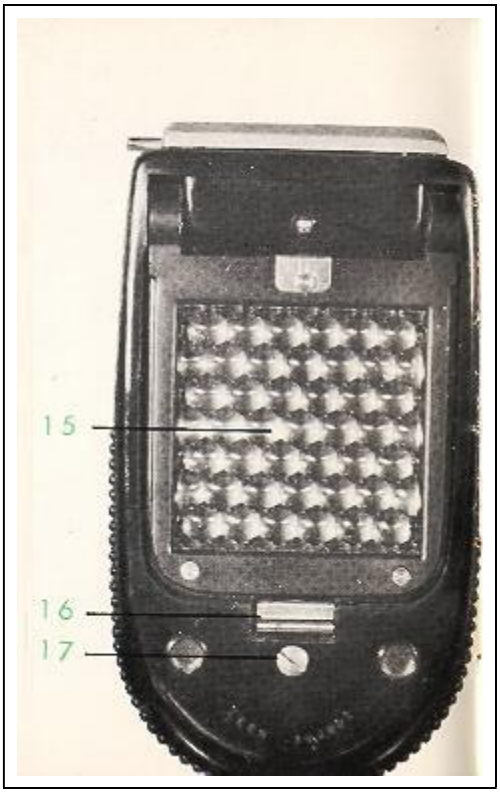


The cell is known as a barrier layer type of selenium cell. A diagram of its ports is shown in fig. B. When this type of cell is exposed to light it becomes a self generating source of electricity. The reason far this phenomenon is not fully known. It is believed that under the impact of light particles (a form of energy) electrons within the selenium are freed.

Some of the free electrons move towards the barrier-layer and a greater number towards the metal base. Thus a potential difference is caused and this results in the flow of a very small electric current. The strength of the electric current is proportional to the intensity of the light falling an the cell. The current is conducted through a very sensitive microammetor to which is attached a pointer. The painter is deflected in proportion to the current Therefore where this deflection is measured against a scale, we have obtained an average value of the intensity of light or brightness. When the flip-up booster is switched in, the sensitivity is increased 400% and we can obtain a value in very low level illumination,



1. COVER (BAFFLE)
2. SLIT
3. RED MARK (Dot)
4. f / STOPS
5. SHUTTER SPEEDS
6. DIN INDEX WINDOW
7. LVS AND EVS NUMBERS
8. CHASER BAR
9. POINTER
10. BLUE MARK (Bar)
11. COVER OPENING BUTTON
12. ASA INDEX WINDOW-6 to
13. MOVIE CAMERA SPEEDS
14. MOVIE f / STOPS

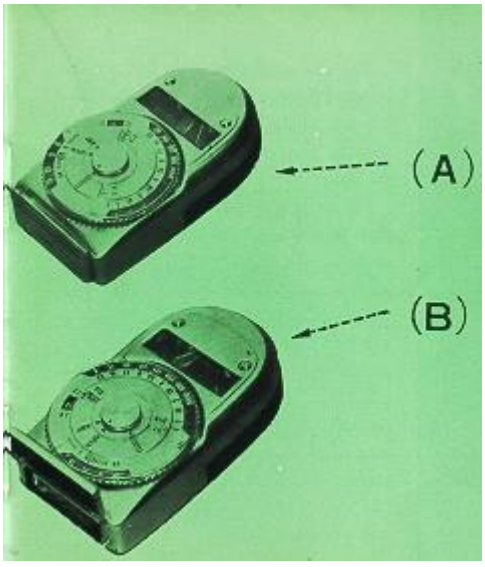


15. FLIP UP BOOSTER
16. STUD FOR FLIP UP BOOSTER
17. ZERO ADJUSTMENT SCREW
18. RED DOT
19. RED TRIANGLE (Closed)
20. BLUE TRIANGLE (Open)
21. BLACK TRIANGLE (Amp)
22. ZERO MARK
23. CENTER DISK
24. INNER DIAL
25. MAIN DIAL OR OUTER DIAL
26. FILM SPEED SETTING DIAL

THE BASIC OPERATION OF THE METER

T he Sekonic Auto-Leader L -38 is used for metering reflected light. This is the light that is reflected from objects towards your camera. The main photoelectric cell is sufficiently sensitive 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 enters through the slit. The flip-up booster 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 far three degrees of illumination which we term bright, dull, and dim.

In order to make a precise determination at the factors for the correct exposure, the Sekonic Auto-Leader L-38 provides three index markings on inner dial plate.



Along side of the word 'Close" (in red) is a red triangle. This triangle should be pointed at the red dot an the center disc when the cover is closed and the booster cell is closed.
The blue triangle is placed over the red dot when the cover is open.
The black triangle is placed aver the red dot when the cover is opened and the booster cell is opened and snapped in place.
The first two marks refer to the condition of the cover aver the main cell window. The cover has a blue index bar, when it is open, and a red dot when it is closed.
When metering, the simple rules to observe are these.

For bright outdoor and indoor illumination, CLOSE the cover and use the RED index or triangle. placed over the red dot on disc.
For dull conditions, OPEN the cover and use the BLUE triangle.
Center same over the red dot on disc.

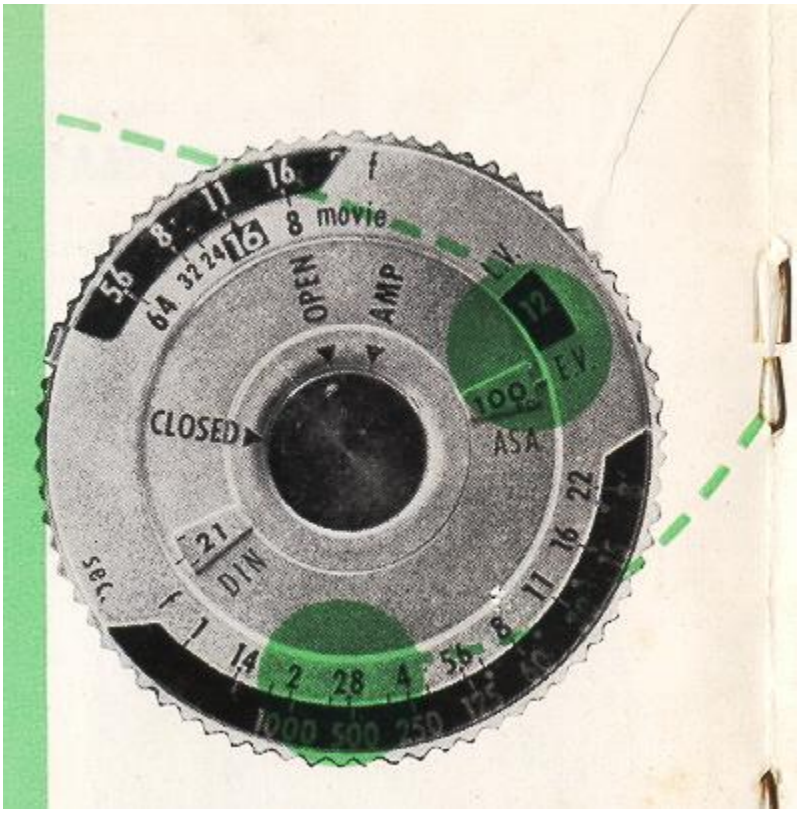
For dim conditions, (1) OPEN the cover, release Booster, pull up until Booster clicks in place, then use black triangle. Center same aver the red dot on disc.

Naturally you must be guided by the deflection of the pointer. Too much light entering the meter will deflect the pointer beyond the extreme right end. When there is too much light, snap the boaster shut and close the cover, thus reducing light entrance. Unlike other exposure meters, the lack of Guide Lines has eliminated any confusion in obtaining exact readings. The simplicity of just lining up the chaser bar and pointer gives an immediate and accurate reading.

THE CALCULATOR OR COMPUTER DIAL
This consists of three dials. The manipulation of the dials is very simple. You will find it easy to rotate them to any setting, using your thumb.

FILM SPEED
This may be set by the calculator dial, Film Speed Setting Dial for the ASA or DIN value. You obtain either of these values from the film Manufactures leaflet accompanying the film. Turn the dial so that the small block mark an the edge of the ASA or DIN window is opposite the corresponding speed rating. Note that there ore small divisions between the ASA or DIN numbers for intermediate values.

After setting the relative index (red, blue or black) triangles aver the red dot on disc, the calculator dial gives you automatically all the exposure factors needed for still, movie cameras, and LVS or EVE shutters.



LVS AND EVS SCALES

This is shown by the numbers within the window marked "E. V." and "L. V." EVS is another name of LVS.

This scale is used if your camera is fitted with a special lens which incorporates a shutter for the light value or exposure value system.

After setting the dial to the relative ASA or DIN value, locate the appropriate marker and then read the L. V (or E. V.) number from the dial.

Now set this value on the lens of your camera.

CONVENTIONAL FACTORS

These are the shutter speed and f/number (lens stop) that apply to an index setting. They are the series, I through 22 (f/numbers) and 1000 through 8. (shutter speeds). Unnumbered line next to 1000 represents 2000.

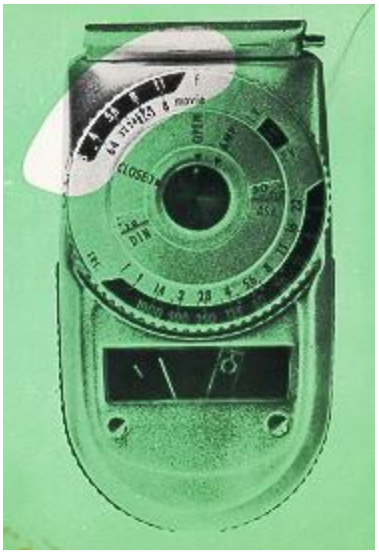
In the latter series the black figures 1,2,4,8,within white squares represent seconds; the remainder, fractions of seconds. You use the sections of these two series that ore in juxtaposition to ascertain the shutter speed and lens stop combinations.

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 on the other hoed, your subject has to be photographed to show considerable depth of field, you select the suitable lens stop.

To give you an example how this combination works, set the ASA speed of 100, center the red triangle (Closed) over the red dot on disc, rotate the dial clockwise so that the chaser bar stops at the right end.

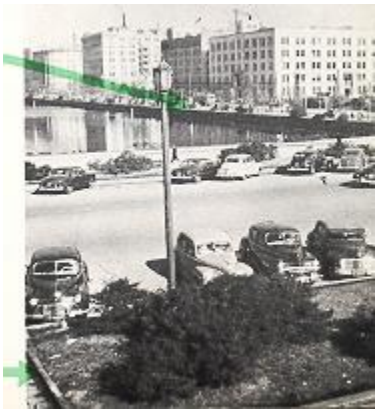
Note that for the highest shutter speed, 1/2000 th sec., the lens stop is f/1.

All the combinations down to f/22 will permit the some amount of light to foil on the film.



MOVIE CAMERAS
Since the shutter speed of the movie camera is a constant value, it becomes merely necessary to select the correct f/number for the number of frames per second (8 thru 64). The movie lens series is shown on red band 1 thru 22. Set the dial to the ASA or DIN value, locate the appropriate index against the red dot on disc, stop the chaser bar above the reflected pointer, and then read the f / number in the series that opposes the number of frames per second you intend to operate your camera. Since the normal operating speed is 16 frames per second, it is indicated by a bold white figure within a red square.

PRACTICAL PHOTOGRAPHY WITH THE METER PRACTICAL



GENERAL SCENE
Outdoors, the light from the sky often prevails when the meter is pointed directly at the center of a scene. It is better to point the meter downwards to exclude the sky lighting.

This will give a slightly slower exposure time and improve the tonal balance of your picture. For black and-white films, better balance is often obtained by using a light yellow filter. Do not forget to compensate far the factor of the filter used.

If you are a beginner in photography make same experimental exposures to gain confidence.

CLOSE-UP METERING
This is always the most satisfactory method but not always possible. Taking your meter close up to t he subject entails some care. Four to six inches distance is about right but be careful not to let the meter cast its shadow on the surfaces you are metering.

Measure the intensity of light from various parts of the subject. You will then appreciate the considerable differences between the reflected light from differently colored objects or surfaces.

Expose for the average value of the various readings you make. Refer to the notes under "Color Photography,"

INACCESSIBLE OBJECTS
A compromise exposure value con be determined by, measuring the light reflected from the palm of your hand. .

See that the palm of your hand is facing the direction of the light falling on the subject before making a reading.

Human skin has a reflectance value of 35 % and is therefore reliable 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 a bracket. With black and-white films expose at the f/stop you estimate first and then make two more exposures using 0 full stop above and below that far the first exposure.

With color film the difference should be not more then one half stop.

SNOW SEA AND WATER
Here you have to de concerned with average value The general rule is to the extremely high reflectance value increase your shutter speed by 50 to of these subjects Almost invariably, a 100% % or close down the lens by one meter reading of the mid-portion of the or one and one-half stops to compensate scene will result in overexposure Take for extremely high reflectance. The two or three readings from different use of filters is recommended for these objects nearby and expose for the scenes

COLOR PHOTOGRAPH!

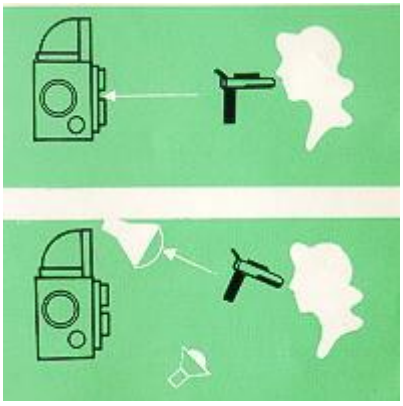
The photographer has to consider several factors, the quality of the light, the type of film being used and the composition. You must be guided by the film manufacturer's recommendations to compensate for changes in the quality of light relative to the type of film used. Again, the processing of color film involves a reversal method which produces different results from the making of black-and-white print.

In exposing for black-and white pictures, you should take core in metering the shadows. Shadow detail is more important for these pictures, the high lights will look after themselves. The opposite applies far color transparencies tray special attention to measuring the highlights of your subject. However do not forget important shadow parts such as person's face shielded from the sun. Bracket your exposures, using one half stop or one full stop changes for important color photographs.

COPYING

This is usually done with artificial lighting. Generally the illumination is about the level for the meter to be used with the cover open where you will of course use the blue index. Hold the meter window parallel to the surface of the subject being copied and about six inches away. Be sure that the meter and your hand cast no shadow aver the part being measured, Meter several portions of the subject and adjust your illumination so that the pointer shows that subject is uniformly lighted.

If your copying is done with a long extension of the lens be sure to make allowance for increase of exposure in accordance with standard tables based on the image magnification of the subject.



VERY DIM ILLUMINATION
At times you may want to make an exposure under lighting conditions whereby the pointer is not appreciably deflected with the flip-up boaster in operation. in this case, a fairly good exposure may be obtained by measuring the light intensity of the source, say an open window or distant artificial lighting. From the position of the subject, point the meter with the cover open and the flip-up boaster switched in, at the principle source of light falling on the subject The exposure combination that you select with the block index should be multiplied by 10. For example, if far a lens opening of f/11 1, the shutter speed is one fifth second, the correct exposure time is then two seconds (10 times one-fifth).

You may find the factor ten not to be always correct. This factor may vary between 8 and fifteen or more. Use a tripod for exposures for a twenty-fifth of a second and longer

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

For Reflected Light T = K. A over B. S.

T: Exposure time in Second

A: Relative Aperture (f/stop)

B Brightness, reflected light, in Candles per sq. ft.

S: ASA. Film Index.

K: ASA Calibration Constant Reflected light

SEKONIC AUTO-LEADER L 38

K = 1.16

WARRANT!
The Sekonic Autoleader L-38 has been carefully inspected before shipment. Should it prove to be defective within 90 cloys after date of purchase, it will be repaired or replaced free of charge.

This guarantee does not apply to meters which have been mishandled or tampered.

CARE OF YOUR SERONIC AUTO- LEADER L- 38
The Sekonic AUTO LEADER L 38 is a high-class precision instrument.
Treat it carefully and it will give you years of service. The very sensitive -microammeter is protected from normal shack by special ruggedization. The photo-electric cells will not, for reason of the free electron phenomenon run dawn or become weak. The following points should be observed

ZERO ADJUSTMENT

Check the meter periodically to see that the painter exactly opposes the zero mark when all light is excluded from the window of the main cell and the flip-up booster is retracted within the body of the meter. Should it be 'off zero, turn with a small screw driver, left or right, the screw located at, the back of the meter near the catch for the flip-up booster. A small turn is sufficient to center the pointer correctly at zero.

1. Do not subject the meter to rapid changes of temperature or humidity Never place the meter on a magnetized material. In case this condition lasts, it is quite possible that the meter becomes inoperative.

2. Be careful not to drop it or jar it suddenly as this will cause a displacement of the bearings of the microammeter or more serious dam age.

3. When not in use, keep it stared in its carrying case in a cool, dust free place.

CONSISTENT OVER OR UNDEREXPOSURE

This sometimes happens. In this case make the necessary compensation by seating the ASA or DIN value slightly over or below (as the case may be) the valve given by the film manufacturer Do not be afraid to experiment. This is the stamp of a serious photographer.