

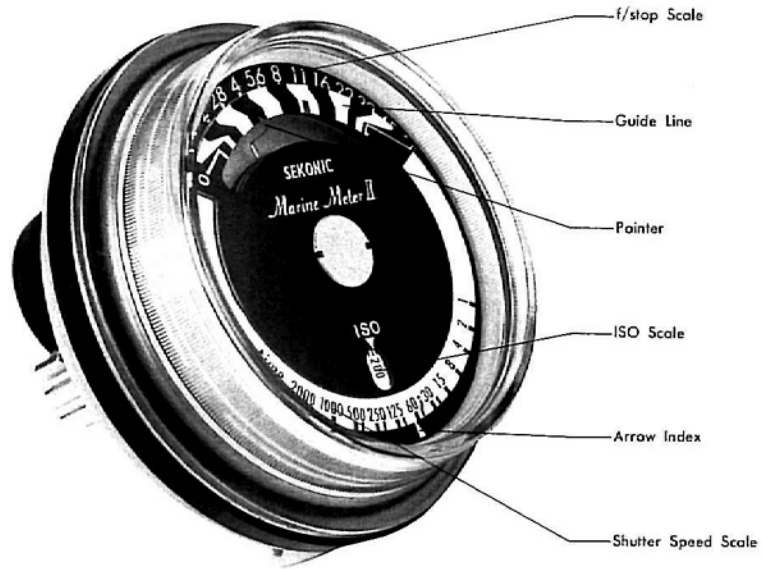


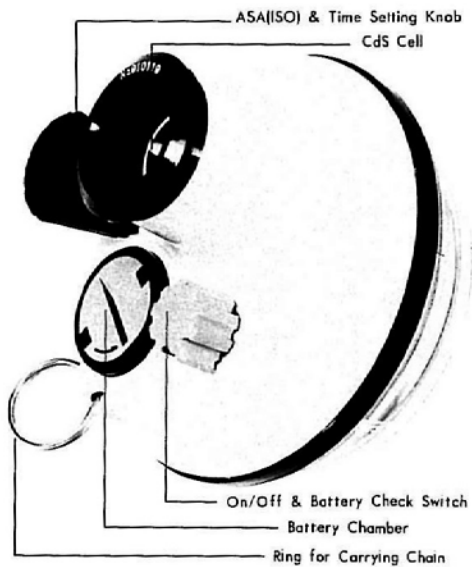
**SEKONIC**

*Marine Meter II*

**MODEL L-164C**

## COMPONENTS





#### SPECIFICATIONS

Measuring system : Reflected light type  
 Accuracy :  $\pm 0.5$  EV  
 Measuring range : EV 5 ~ EV 17 (ISO 100)  
 Acceptance angle : 30° (a half of this figure equals Specific Acceptance Angle)  
 ASA scale : ISO 6 ~ ISO 12,000  
 f/stop scale : f/1 ~ f/64  
 Shutter speed scale : 1 sec. ~ 1/2,000 sec.  
 Limited depth of measuring : 60 meters under water  
 Permissive temperature :  $-10^{\circ}\text{C}$  ~  $+45^{\circ}\text{C}$   
 Dimensions : 86mm in diameter  
                   : 67 mm in thickness  
 Weight : 240 grams  
           : (under water : 27 grams)

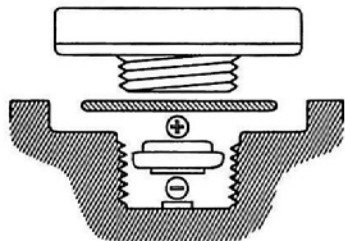
## BEFORE USING SEKONIC MARINE II



### 1. Zero Setting:

The pointer should indicate zero when the switch is turned off. To set the pointer to the zero point, remove the battery and slowly turn the zero adjusting screw on the bottom of the battery chamber.





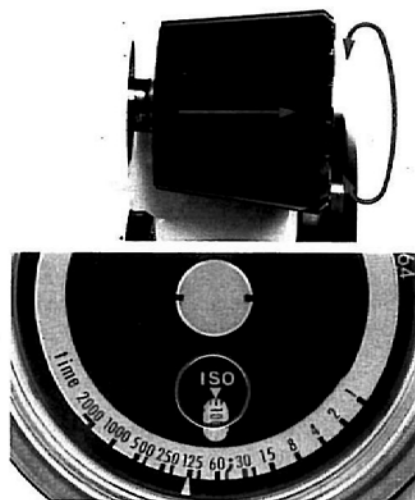
## 2. Mercury Battery:

This meter requires a piece of 1.35 volts mercury battery such as Mallory PX-13, Eveready EPX-13 or equivalent.

To test the battery for sufficient strength, turn the switch to "BC" and see if the pointer swings up to the red mark on the Guide Line plate. If it does not move to this mark, please replace the battery. This type of battery normally lasts for about a year and a half.

When you change the battery, pay special attention to waterproofing. The battery chamber is made waterproof by means of O-Ring fitted in the groove between the chamber and its cover. Before sealing the battery cover, clear the O-Ring from dirt, and coat it with some grease. Then, screw the cover with the screw-driver (O-Ring grease and screw-driver are attached in the package).

## HOW TO USE SEKONIC MARINE II



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### 1. Setting the Film Speed:

Pull out the ISO setting knob and turn it to set the correct film speed of your film aligned with the white line by the ISO index window. After setting the film speed, the knob should be completely pushed down as far as it stops.

When you pull out or push down the knob, there might be slight interference. It is because the inside gears interlock, and so please turn the knob slightly to either direction.

Then, the knob can be readily pulled out or pushed down.

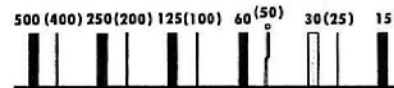


## 2. Setting the Shutter Speed:

To make easier operation of the meter under water, it is advisable to decide and set the shutter speed before diving.

By turning the time setting knob, the arrow index will rotate along the shutter speed scale. Set the arrow index at the shutter speed you want.

VALUES OF UNNUMBERED LINES on the shutter speed scale are shown in the following illustration.





### 3. Reading the *f*/stop Scale:

Aim the meter toward the subject and set the on/off switch at "ON" to permit the pointer to move and indicate a certain point on the guide line plate.

Then, read the figure on the *f*/stop scale within the guide line indicated by the pointer. The combination of this *f*/stop figure and the shutter speed you selected beforehand gives you a correct exposure.



## BASIC METHODS FOR CORRECT EXPOSURE



### 1. Near the Surface of Water:

For photographs to be taken in shallow water, i.e. 3-4 meters (about 10-13 feet) deep, an exposure element is very important. When the sun's rays penetrate into the water, the surface ripples flicker the light to various patterns. When a picture of the surface is being taken, the pointer of the meter will move erratically and quickly influenced by flickering on the surface. To determine the correct exposure in such case, it would be better to take an average reading between the maximum and minimum values of f/stop indicated by the pointer, or a reading slightly to minimum from the average. Since the rippling surface affects considerably the exposure value, it is important to aim the meter correctly according to the picture to be taken; whether or not the water surface should be included in the picture and meter measuring.

2. At a Depth of 5-20 Meters:

At a depth of 5-20 meters (about 16-65 feet) in the water, a situation of light dispersion will be most stable.

A proper exposure value can easily be decided by reading the value indicated by the pointer, and just applying the reading to the camera.

But, if you want to take a photo which includes the surface at the depth of less than about 10 meters, it is very important to take care of catching the moment for shooting with the same brightness as measured by the meter, as in such depth a condition of light varies according to the swell of the surface.

3. At a Depth of 30 Meters or More:

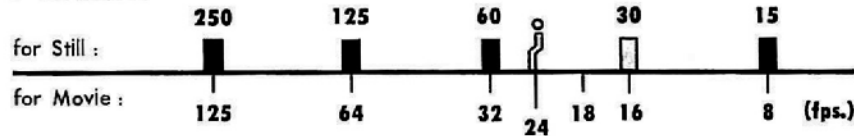
At a depth of 30 meters (about 100 feet) or more, the quantity of light is considerably low and the light falls always straight down from the surface. Of course, the surface of water cannot be seen, and there is no influence from the rippling surface.

Accordingly, in such a depth under water, it is not particularly necessary to measure the brightness in every portion of the subject. But, when you want to take a photograph with your camera directed upwards or downwards, it is necessary to read an exposure value respectively.

It is advisable to use an electric flash apparatus in places deeper than 40 meters (about 130 feet).

#### 4. Motion Pictures:

Any of the methods for determining exposure previously explained for still camera can be used for movie camera. The relationship between the filming speeds of movie camera and the shutter speeds of still camera are as illustrated below. Find the filming speed of your camera and read the corresponding figure on the f/stop scale. Then, you can get a correct exposure for your motion pictures.



#### 5. Colour Photography:

There is a problem in colour photography under water which needs special attention. Sun rays which enter the water are absorbed with various ratios according to the depth and the frequency of colour itself. The reddish rays will be absorbed by 70-80%, even in the clear water at a depth of 3 meters (about 10 feet), that means only 20-30% of the reddish rays remain in such a depth under water. At a depth of about 10 meters (about 33 feet) almost none of the reddish rays are sensitive onto the film.

To prevent your picture from becoming too bluish and give a good colour effect, it would be better to use some flash bulbs as an auxiliary illumination, when you take a colour-photo in water more than 5 meters (about 16 feet) deep.

## GENERAL CAUTIONS

1. After the meter has been used in the water, especially in salt water, clean it with cold freshwater. Then, wipe off the water and dry the meter completely, but please keep it away from any heat.
2. When the meter is not in use for long time, keep the battery out of the meter in order to avoid possible damage from corrosion of the battery.
3. Do not expose the meter directly to the sun for many hours in an outdoor.

**SEKONIC CO., LTD.**

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