

INSTRUCTION BOOK

WESTON

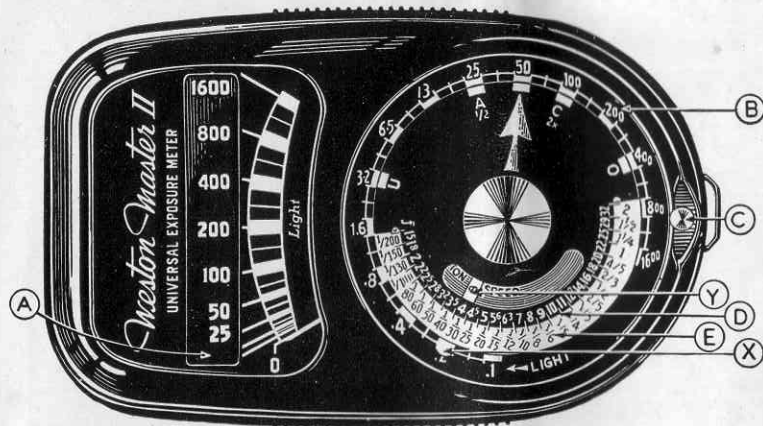
Master II

Model 735 UNIVERSAL
EXPOSURE METER

Weston Electrical Instrument Corp.
Newark 5, N. J., U. S. A.

METER DESCRIPTION

www.orphancameras.com



A. Light Scale . . . This is where the light value of the scene is indicated. The two scales on this instrument are calibrated 0-50 and 0-1600. (candles per square foot.)

B. Light Value Settings . . . The outside row of figures on the exposure control dial correspond to the light values on the light scale.

C. Film Speed . . . To set the exposure control dial for film speed, ascertain the film speed from booklet enclosed with the meter, depress button "C" and move tab "X" until the Weston speed of the film in use appears in window "Y."

D. f/stop Settings . . . The row of figures at the bottom of the top dial shown at "D" are f/stop values.

E. Shutter Speeds . . . The row of figures directly below f/stop settings at "E" are shutter speeds. After setting the exposure control dial to the light value obtained on the light scale, any of the combinations of f/stop and shutter speed directly opposite each other are correct. The combination to use depends upon the requirement of the scene. (See # 4, introduction.)



F.



G.



F. High-Light Scale

On the rear of the meter a hinged baffle will be found. The light sensitive photo cell is directly beneath this baffle. When the baffle is closed, the scale range is 0-1600. Keep the baffle closed if the light is 25 or higher.

G. Low-Light Scale . . .

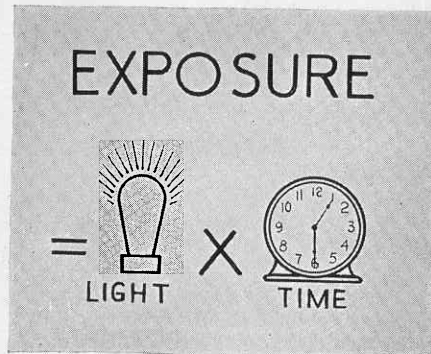
When the light reading of the scene is less than 25, open the baffle. With the baffle open, the scale range is 0-50. To open the baffle simply slide the latch and swing open against the case until the latch engages in the socket, holding it in the open position.

INTRODUCTION TO METERED PHOTOGRAPHY



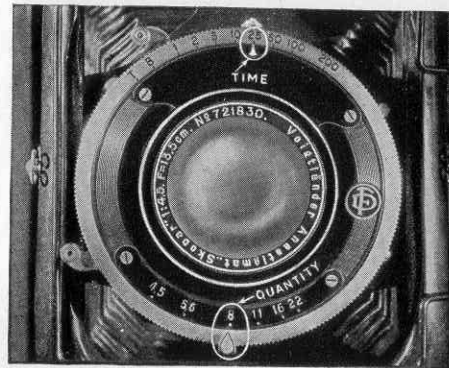
Light Affecting the Film

The light striking the film in your camera will vary not only because the light falling on the scene being photographed varies, but also because the reflecting ability of the scene changes from one scene to another. Therefore your exposure meter is designed to measure reflected light, or brightness rather than incident light.



Exposure

Exposure is the product of the length of time the light from the scene acts on the film, multiplied by the amount of light striking it. At all times this product should be approximately the same for the same film. If the amount of light is small, the time would be long; if the amount of light is large, the time would be short.



Controls of Exposure

The controls of exposure are the f/stop and the shutter speed. The f/stop controls the amount of light and the shutter speed the length of time light acts on the film. The smaller the f/stop number, the larger the aperture. Shutter speeds written as 2, 5, 10 are fractions of seconds, 2 being 1/2, etc.

1. The Exposure Control Dial . . .

The exposure control dial on your exposure meter translates the light readings indicated by the meter, into camera settings. It is simple to use and designed to give you the best possible exposure for every type of scene.

2. Film Speeds . . .

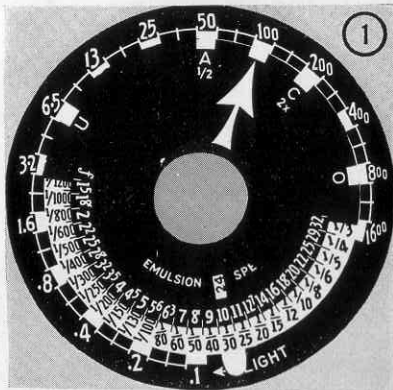
Film speeds differ from one film to another; and for different kinds of illumination. Use the daylight speed of the film listed in the enclosed pamphlet when photographing in natural light, the tungsten value for photoflood and mazda lamps. Set the film speed dial in accordance with instructions "C", page 1.

3. Holding The Meter . . .

Hold the meter any way natural to you, but be sure not to obstruct the cell with your fingers. Also be sure the neck cord does not lie across the cell opening, for this too would result in an incorrect reading.

4. After Setting Dial . . .

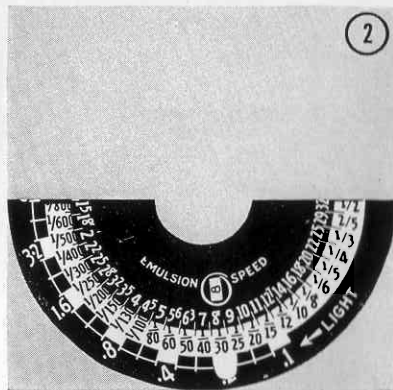
After setting the dial to the light value of the scene, any combination of f/stop and shutter speed directly opposite each other will result in correct exposure. If the scene is an action one, a fast shutter speed should be chosen, and hence the f/stop directly opposite is used. If maximum depth of field is needed, then a small aperture is required, (large f/stop number), hence the shutter speed directly opposite is used.



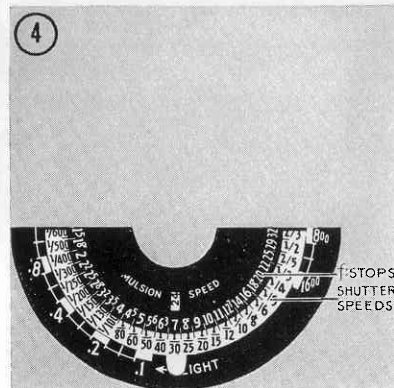
1



3



2

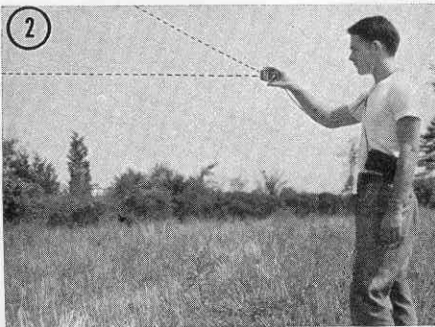
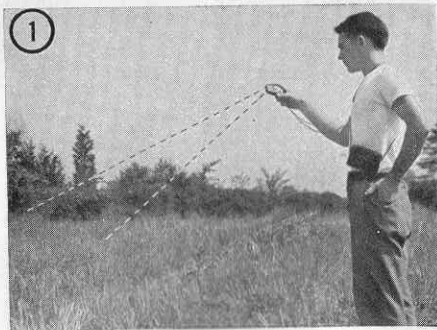


4

BLACK and WHITE

CAMERA POSITION METHOD

The camera position method is so named because the meter is used at the location of the camera. It is a simple method and the one used most frequently by photographers. Do not measure sky areas. This method should not be used for back-lighted snow, sand or water, since the sparkling reflections will result in under exposure of the shadow areas. But for landscapes, and other types of photography where a quick reading is wanted, the camera position method will be quite satisfactory.



1. Make a Light Reading . . .

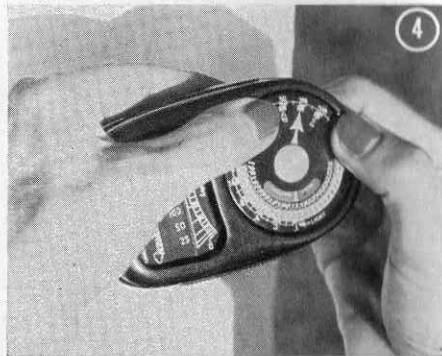
Make a light reading by aiming the meter at the scene, pointing the instrument downward. Consider a spot midway between your feet and the horizon line as the aiming spot.

2. Do Not Measure Sky . . .

Do not measure any sky when making a reading. The sky being very much brighter than the rest of the scene will "inflate" the reading and thus result in under exposure.

3. Note The Light Value . . .

Note the light value when making the reading. You will notice that only every third block is numbered thus resulting in a simpler scale. To remember the unnumbered blocks, consider the one above a numbered one to be "plus" that number and the one below, "minus." For example, plus 25 would be the block above 25, and minus 25 the one below.



4. **Set The Dial** . . .

Set the dial by revolving the disk on which the large Arrow is located until the Arrow, A, or C position is opposite the light value indicated. An explanation of which one to use follows.

5. **The Flat Scene** . . .

Distant scenes, where the nearest important object is $\frac{1}{2}$ mile away, which are usually lacking in contrast, will give flat, dense negatives, if given full normal exposure, and frequently lack sharpness, due to halation. Likewise views through arches, doors, windows, or other dark openings forming a framework, will give a lower average light reading than would result if measured outside. In such scenes, use the "A" position, for $\frac{1}{2}$ normal exposure, instead of the normal arrow.



6. **The Normal Scene** . . .

The Normal scene has a contrast range midway between the flat and the contrast one. Being Normal, normal exposure should be given by setting the Arrow opposite the light value measured. Eighty percent of all scenes require normal exposure. When in doubt, use the Arrow position.

7. **The Contrast Scene** . . .

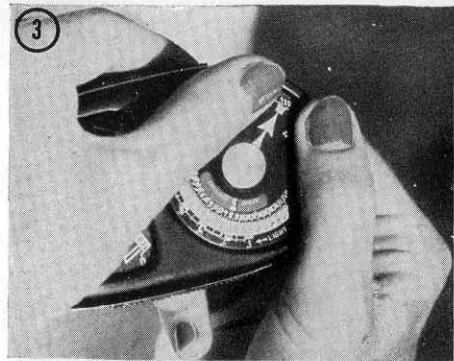
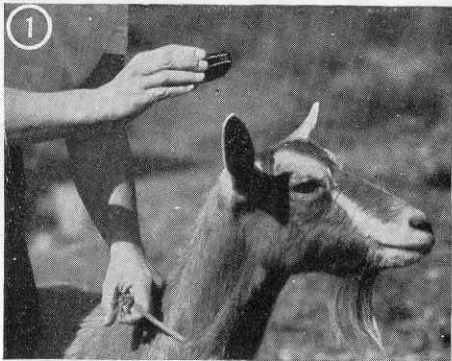
Back lighted and street scenes frequently exhibit excessive contrast. Likewise in snow scenes where dark objects are important, light reading will be unduly increased by the intense reflection from the snow.

Such scenes should be given double normal exposure to bring out the darker objects. Use the "C" position instead of the normal arrow.



THE CLOSE-UP METHOD

The close-up method is so named because the meter is held close to the object being photographed. With this method, only one object is measured and hence the film will be exposed particularly for the one object, all other objects falling where they will. It is used when there is but one object of interest in the scene and where the other objects are background and have no importance.



1. Take Close-Up Reading

Take a close-up reading of the object of principal interest. Hold the meter close to the object, about as far away as the object's smallest dimension. The meter can be held closer than this distance, but not farther away.

2. Do Not Read the Shadow Cast by the Meter

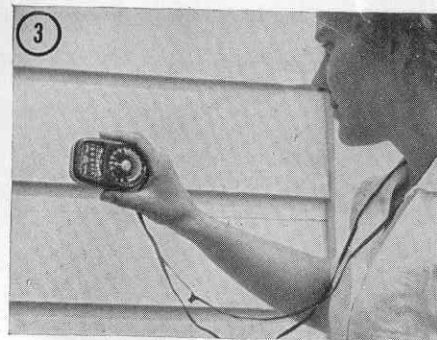
Your meter and hand may cast a shadow on the object being measured. If so, be careful not to read the shadow. To do so would cause an erroneous reading. It may be necessary to hold the meter at an angle to the direction from which the light is coming, but be sure the object being measured is not shadowed by the meter.

3. Set Normal Arrow

The normal Arrow should be set opposite the light value obtained from the close-up reading. Then any of the camera settings shown on the dial will be correct. DO NOT FORGET TO SET THE CONTROL DIAL TO FILM SPEED BEING USED!

THE BRIGHTNESS RANGE METHOD

The Brightness Range method is so named because the brightness or light values are determined from the darkest and brightest objects, thereby determining the range of the scene. Exposure is balanced midway between the two extremes. It is the most accurate method known for the determination of correct exposure, and is recommended for the best possible negative from the exposure viewpoint.



1. Consider the Scene . . .

Let us consider an average scene. There are various objects in it reflecting different amounts of light. The dark objects reflect little light, the bright objects much light. In a fine photograph, all objects are correctly exposed. To be sure of doing so, the extremes of dark and light should be measured.

2. Make a Close-Up Reading . . .

Make a close-up reading of the darkest object in the scene i.e. that object which yields the smallest light reading. If you are not sure which object is the darkest, measure several that appear to be the darkest, and use the lowest value.

3. Make a Close-Up Reading . . .

Make a close-up reading of the brightest object in the scene, i.e. that object which yields the greatest light reading. Here again, if you are not sure which is the brightest, measure several that appear to be so.



4. **Do Not Read the Shadow Cast by the Meter . . .**

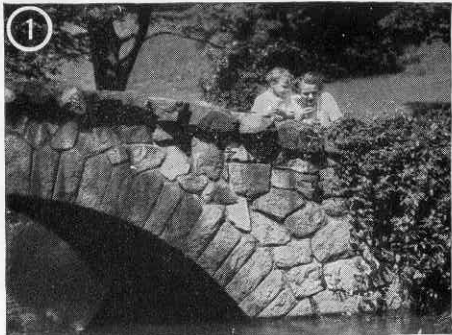
Your meter and hand may cast a shadow when making close-up readings. If so, be careful not to read the shadow. To eliminate the shadow, the meter can be held at an angle to the direction from which the light is coming.

5. **Set The Arrow . . .**

Set the Arrow on the dial midway between the darkest and brightest object light values. By "midway" is meant that the Arrow should be the same number of blocks from the darkest object light value, as it is from the brightest. All combinations of f/stop and shutter speed directly opposite each other are then correct.



SUBSTITUTED READINGS



It is not always possible to measure the actual objects in the scene. Yet the photographer might need the greater accuracy the brightness range method yields. Where the actual objects are inaccessible or where it is inconvenient to measure them, substituted readings of nearly similar objects can be made.

For example when making the accompanying picture, (1) it would have been inconvenient to cross the stream to make actual readings. Instead, nearby trees were substituted for the actual trees (2) in the scene, a white handkerchief substituted for the young lady's blouse, (3) and close-up readings made of them. Then the exposure meter dial was set with the two substituted values.

It is frequently possible to substitute objects. But be sure that the objects are similar, a tree for a tree, grass for grass, etc. And be certain that the objects are lighted the same. If the actual object is in full sunlight, then the substituted one should be in sunlight also. The palm of the photographer's hand makes an excellent substitute for a person's face. Only be sure that the hand is lighted the same as the face for which it is substituted and that no shadow is cast onto the hand.

THE U AND O POSITIONS

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Photographic film has a range or limits within which it reproduces the brightnesses of the objects in the scene in tones of gray. A knowledge of these limits enables the photographer to expose so that the negative has the overall density most desired by him. The U and O positions are the limits of correct exposure for black and white film. For a given setting of the dial, all objects whose light values fall on or between these two limits

will be correctly exposed. Any object having a light value below the U position will be underexposed and any object having a light value above the O position will be overexposed.

If, then the U position is set opposite the darkest object light value, the minimum correct exposure will result. If the O position is set opposite the brightest object light value, the maximum correct exposure will be obtained. And if the normal Arrow is set midway between, a midpoint exposure can be had.

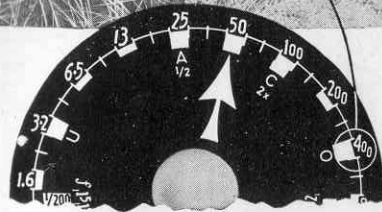
The different light values on the exposure control dial represent the light values of actual objects found in the scene. Since the different light values in the scene result in different densities in the negative it is obvious that the values on the dial can also be visualized as densities.

Since the minimum correct exposure results from matching the lower limits of the scene and film, the densities on the negative will be as thin as is possible and still be correctly exposed. And the exposure will be as short as is possible and still be correct. This fact is worth remembering when the action in a scene dictates minimum exposure.

Maximum correct exposure on the other hand results in the densest possible negative consistent with correct exposure. Since maximum exposure is based on matching the O position to the brightest object in the scene, correct exposure can be measured in a location where

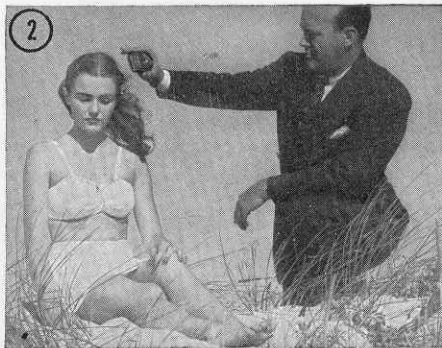
the light is insufficient for other types of measurements. In a dark hall or cave, it might be impossible to obtain a reading from anything but the brightest object.

The U and O positions not only allow the photographer to control the overall average density in his negatives, they also enable him to make correctly exposed pictures under extreme conditions of movement and lighting.



COLOR PHOTOGRAPHY

Correct exposure for color photography is no more difficult than for Black and White. The brightness range method of using the meter is the most accurate, as it enables the photographer to correctly expose that part of the scene which is of principal interest. The "A" and "C" positions indicate the range of color film, therefore objects having a light value falling between these limits will be correctly exposed. Remember that blacks and whites are not considered, and are therefore not measured.



1. A Scene for Color . . .

Here is a scene ideally suited for color photography. The contrast range is low, flatly illuminated, and the object of interest is in full sunlight where the color of the light is that for which the film is balanced.

2. Make Close-Up Reading . . .

Make a close-up reading of the darkest color in the scene by holding the meter close to it. Remember to hold the meter at least as close to the object as its smallest dimension, closer if you wish, but not farther away.

3. Make Close-Up Reading . . .

Disregarding the white in the scene, make a close-up reading of the brightest color. Be sure not to cast a shadow of your hand or of the meter onto the object being measured.