

This manual is for reference and historical purposes, all rights reserved.

This page is copyright© by M. Butkus, NJ.

This page may not be sold or distributed without the expressed permission of the producer

I have no connection with any camera company

On-line camera manual library

This is the full text and images from the manual. This may take 3 full minutes for the PDF file to download.

If you find this manual useful, how about a donation of \$3 to: M. Butkus, 29 Lake Ave., High Bridge, NJ 08829-1701 and send your e-mail address so I can thank you. Most other places would charge you \$7.50 for a electronic copy or \$18.00 for a hard to read Xerox copy.

This will allow me to continue to buy new manuals and pay their shipping costs.

It'll make you feel better, won't it?

**If you use Pay Pal or wish to use your credit card,
click on the secure site on my main page.**

in the event of damage, send your instrument to the Repair Service Division of the Weston Electrical Instrument Corp., Newark, N. J. Please do not include carrying case or instruction book with meter.

**Additional copies of this
Instruction Book**

**FIFTEEN CENTS
EACH**

THE WESTON
Master Cine
EXPOSURE METER

Model 720

**WESTON ELECTRICAL INSTRUMENT CORP.
NEWARK, NEW JERSEY**

THE WESTON
Master Cine
EXPOSURE METER

INSTRUCTION BOOK
for
Model 720

Weston Electrical Instrument Corporation
Newark, New Jersey

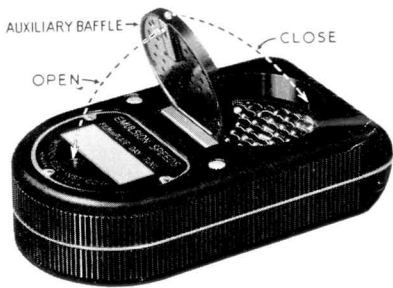
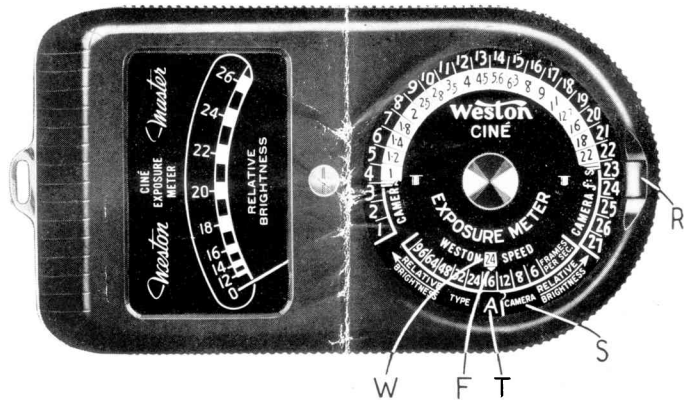


FIG. 2.



Low
Range
Scale



High
Range
Scale



FIG. 3.

HOW TO USE YOUR MASTER CINE EXPOSURE METER

1. SET FOR TYPE OF CAMERA

For the purpose of simplification, Weston has divided cine cameras into two types—"A" and "B"—according to the angle of shutter opening. Look through the table below and determine under which type your camera is listed.

TYPE "A"		TYPE "B"	
Agfa Model B	Filmo 121	Filmo 141	Keystone (8 mm.)
Bolex	Keystone (16 mm.)	Filmo Golf	Simplex
DeVry	Paragon	Filmo 71's	Stewart Warner 8
Eastman (all models)	Univex	Filmo 75	Stewart Warner 532-A
Filmo, all 70's Reg.	Victor (all Models)	Stewart Warner Hollywood	
Filmo 8 mm.	Zeiss Kinamo S-10-16		

Press the dial release "R" (see Figure 1) and move the segment "S" until either of the letters "A" or "B" appears in the opening "T", depending upon the type of your camera.

2. SET FOR EMULSION RATING

Determine the Weston Film Emulsion Rating of the film with which your camera is loaded, by referring to the Weston Film Emulsion Rating Sheet packed with your meter. Hold the middle dial stationary and rotate the top dial until this value appears in the window "W".

3. SET FOR CAMERA SPEED

Rotate both the top and middle dials as one until the index "F" directly below the window "W" is opposite the figure representing the frames per second at which the camera is to be operated.

Once you have made the above settings you are now ready to measure the scene to be photographed. You do not have to change any of these settings until you use a different type camera, a different film or a different camera speed.

4. AIM THE METER

When aiming the meter at the scene or subject, hold it as shown in Figure 4 and sight across the top of the case. When making measurements from the camera position, particularly in the case of landscape scenes, direct the meter downwards to a point approximately midway between the horizon and the camera. This will eliminate the possibility of including the sky in the measurement which will result in an inflated reading. Sunlight, whether direct or reflected, should not be permitted to strike the light measuring cell as this would cause an erroneous reading resulting in incorrect camera settings.

For close-up measurements, hold the meter so that only the light reflected from the subject being measured is received by the meter. In general, the meter should be held not farther from the subject than twice its width. For example, in the case of a person's face, about 15 to 20 inches away. Be careful that you do not cast a shadow on that part of the subject being measured.

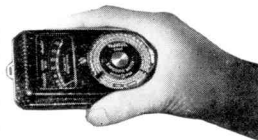


FIG. 4.

5. READ THE SCALE

Note the pointer deflection on the scale. If it is below 16 when the auxiliary baffle is in its closed position (see Figure 2), open the baffle and swing it over against the back of the case. You will now note that the low range scale has moved into place permitting relative brightness readings of from 0 to 17. The low range scale is for dim light and the high range scale is for bright light giving readings of from 0 to 27.

6. SET YOUR CAMERA

After you have obtained a reading of the relative brightness of the scene, look along the outer scale of the calculator until you find this reading. Directly opposite will be found the correct aperture setting for your camera for a set of given conditions.

7. TAKE THE PICTURE

A TYPICAL EXAMPLE

Let us assume for the purpose of illustration, that you are using a film having a Weston rating of 32 in a type "A" camera which is set for a speed of 16 frames per second.

Set the movable segment so that the letter "A" appears in the opening. Set the figure 32 in the window marked "Weston Speed". Set the index under the film speed window opposite the figure 16 on the "Frames Per Second" scale. (See Figure 5.) The calculator is now set so that you can immediately determine the correct camera aperture setting to give correct exposure for any light measurement.

When measuring the relative brightness of the scene to be photographed, an overall reading taken from the camera position will usually be satisfactory. However, if the interest centers around a particular portion of the scene, a close-up reading should be taken from that portion of the scene. When taking a close-up reading, hold the meter close to the object or objects to be photographed as explained on page 4.



FIG. 5.

Let us now assume that the relative brightness reading obtained from a particular scene is 14. Having already set the calculator to take care of the above conditions, all that is now necessary is to look along the "Relative Brightness" scale until you find the figure 14. Opposite this figure will be found the *f*: stop value of *f*:6.3, which is the proper aperture setting for your camera for photographing that particular scene. If the relative brightness reading had been 18, the proper *f*: stop value would have been *f*:12.7, etc.

Due to the fact that color film has less latitude than black and white film, it is necessary that greater care be exercised in making measurements for color photography. For best results, it is advisable to take close-up readings from the principle objects in the scene. In the case of landscapes or distant scenes where this procedure is not practical, an overall camera position measurement will be satisfactory. When taking close-up readings, measure the darkest and brightest COLORS (black and white are not considered colors). Then take the average of the two readings and use this value to obtain the proper camera setting. For example, if the two readings are 16 and 24, the average would be 16 plus 24, divided by 2 or 20, etc.

Flat lighting is recommended at all times when using color film. Although contrast lighting will produce pleasing effects in black and white photography, excessive contrast for color work will result in poor rendition of some of the colors. Outdoor color pictures should be taken on clear, bright days. For indoor work carefully plan the lighting so that it is diffused evenly and flatly over the subject.

Tests on color film have proven that exposures must be correct to within one f: stop in order to obtain correct color rendition. However, the accuracy of even the highest grade photographic equipment, including lens diaphragms, camera shutters and exposure meters, may vary in each case as much as 1/3 of an f: stop. If all the errors are such that they cancel, no harm is done. But when they all tend toward over-exposure or under-exposure, some means of compensation should be applied. Changing the film speed setting of the exposure meter will in the majority of cases compensate for these equipment errors. If, with your camera, under-exposure or over-exposure is consistently obtained, change the emulsion speed setting as follows: For under-exposure (dense blues) try the next lower speed value. For over-exposure (weak, thin colors) try the next higher speed value.

These changes in film values artificially correct the exposure to compensate for equipment errors. They should not be interpreted as representing actual changes in the film speed rating.

FOR STILL CAMERAS

A cine camera is essentially a still camera which takes a number of still pictures in rapid succession with a definite exposure for each frame. The type "B" camera, for example, when operated at a speed of 16 frames per second, exposes each frame for $1/50$ of a second. Hence, if you adjust the calculator of the exposure meter for type "B" cameras and set the index below the film speed window to 16 on the "Frames Per Second" scale, the f: stop shown opposite any particular relative brightness reading can be used for a still camera operated at $1/50$ of a second shutter speed.

For example, if you are using a film having an emulsion rating of 24 in a still camera whose shutter is set for a speed of $1/50$ of a second, set the figure 24 in the window marked "Weston Speed", set the movable segment for type "B" camera, and place the index below the film speed window opposite the figure 16 on the "Frames Per Second" scale. Let us assume that the relative brightness reading obtained is 12. Opposite this figure on the "Relative Brightness" scale will be found the f: stop value of f:3.5, which is the correct aperture setting to use with a shutter speed of $1/50$ of a second.

For shutter speeds other than $1/50$ of a second proceed as follows: If you wish to use a shutter speed of $1/100$, carry out the same procedure as above for $1/50$ and then rotate the middle dial of the calculator 2 divisions in a clockwise direction. Opposite the relative brightness reading of 12 will then be found the f: stop value of f:2.5. For a speed of $1/200$, rotate the middle dial 4 divisions in a clockwise direction. In this case the aperture setting would be f:1.8, etc. If you wish to use a shutter speed of $1/25$ of a second, rotate the middle dial 2 divisions in a counterclockwise direction. In this case the f: stop value is f:4.5. In general, the exposure, expressed in length of time, is halved every time you move the dial two spaces in a clockwise direction and doubled every time you move the dial two spaces in a counterclockwise direction.

PANORAMING WITH A CINE CAMERA

Panoraming over areas where there is a wide variation of brightness requires considerable care when using color (or black and white) film. For best results it is advisable to take separate readings of the bright and dark areas. Then when actually taking the pictures, change the camera f: stop, as indicated by the meter, for each different set of conditions.

CAUTION

Keep glass lens over the cell opening clean.

During dry cold weather the glass on the instrument is likely to become electrified by contact with the hands or clothing. This attracts the pointer and gives erroneous readings, but the charge on the glass can be easily eliminated by breathing upon it.

ZERO SETTING OF INSTRUMENT POINTER

When no light reaches the "electric eye" the instrument pointer should rest directly over the zero position on the scale.

If this is not the case, and there is no electrostatic charge on the glass (see paragraph above) then the pointer can be readily set to its zero position by slightly turning the zero corrector located between the scale and the calculator.

When making this correction place the meter back downward on a card or a book so as to exclude all light from the photo-electric cell, and hold it at an angle of about 45°.