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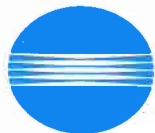
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MINOLTA

# SPOTMETER M

(n)



OWNER'S MANUAL  
BEDIENUNGSANLEITUNG  
MODE D'EMPLOI  
MANUAL DE INSTRUCCIONES

(a)

$\Delta$ EV	*RATIO OF LUMINANCE (MAIN/SUB)
1	2 : 1
1½	3 : 1
2	4 : 1
3	8 : 1
4	16 : 1
5	32 : 1

\* Beleuchtungs-Verhältnis oder  
kontrast (Haupt-/Nebenwert)

\* Rapport d'éclairément  
(Principal/Sub)

\* Relación de iluminación  
(Principal/sec.)

\*\* EV (Ganzzahl)

\*\* Nombre entier EV

\*\* EV-entero

\*\*\* EV (Nachkomma)

\*\*\* Decimal EV

\*\*\* EV-decimal

(b)

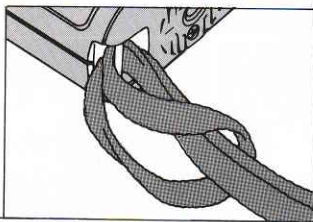
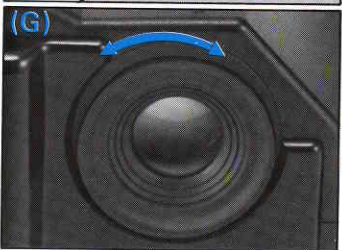
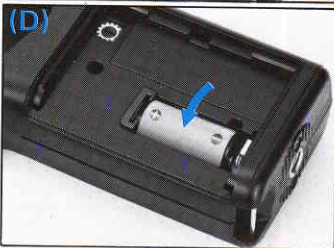
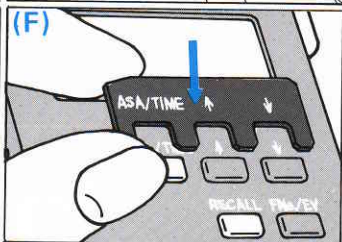
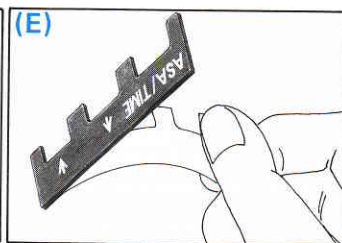
** Ev. Integer	cd/m <sup>2</sup>	ft-L
1	0.28	0.082
2	0.56	0.16
3	1.1	0.33
4	2.2	0.65
5	4.5	1.3
6	9.0	2.6
7	18	5.2
8	36	10
9	72	21
10	140	42
11	290	84
12	570	170
13	1100	330
14	2300	670
15	4600	1300
16	9200	2700
17	18000	5400
18	37000	11000
19	73000	21000
20	150000	43000
21	290000	86000
22	590000	170000

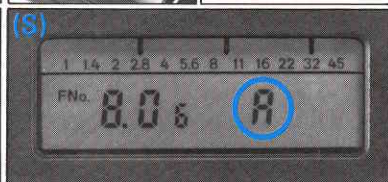
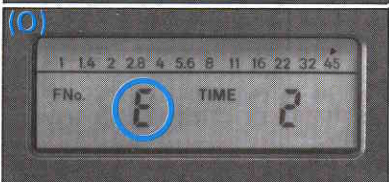
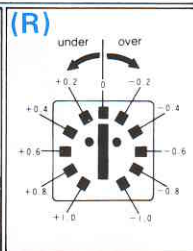
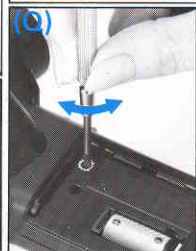
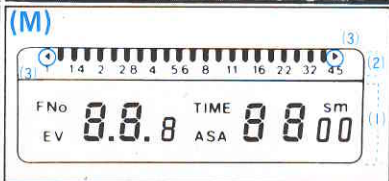
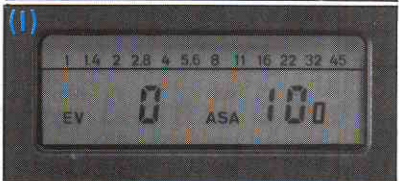
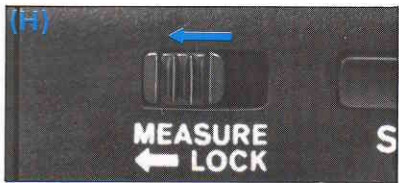
(c)

*** Ev. Decimal	
.0	1.00
.1	1.07
.2	1.15
.3	1.23
.4	1.32
.5	1.41
.6	1.52
.7	1.62
.8	1.74
.9	1.87

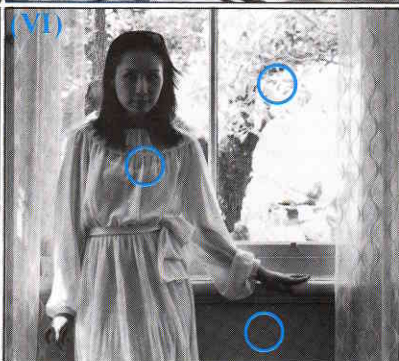
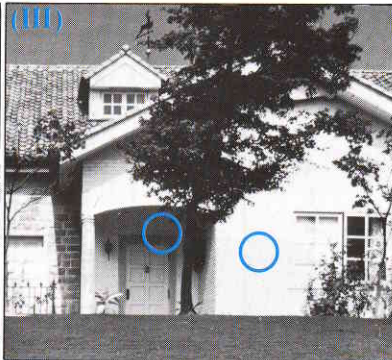
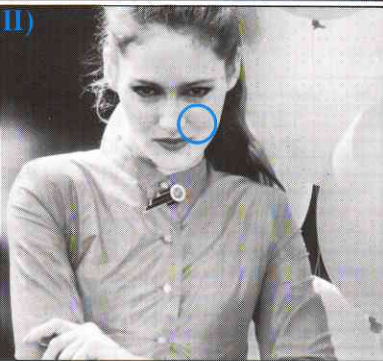
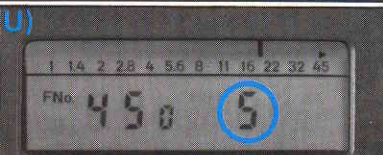
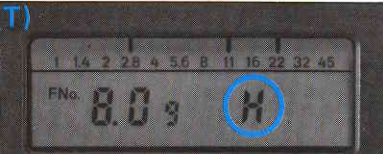
(d)

ISO (ASA/DIN)	CINE	TIME	$\Delta$ ASA
12/12°	8	15	0
25/15°	12	30	+1/3
50/18°	16	30	0
100/21°	18	30	-1/3
200/24°	24	50	0
800/30°	64	120	0
1600/33°	128	250	0
3200/36°			
6400/39°			









## ENGLISH (pp. 1 – 19)

The Minolta Spotmeter M represents the greatest single advance in years for photographic spot-metering equipment.

Use of the latest microprocessor technology and the world's first liquid-crystal digital/analog display, give the Spotmeter M the most sophisticated measuring abilities available to date. This includes the first processor-calculated exposure-zone control system that adjusts display indication to bias exposure towards highlight or shadow areas of a scene or average them for best overall exposure. This plus multiple display and memory function, makes the Spotmeter M a true exposure meter and not just a simple light meter.

For all its sophisticated capabilities and features, the Spotmeter M is exceptionally easy to operate. All data is inputted or displayed by simply pressing a key or button for instant results. Its high-sensitivity silicon photo cell provides an extremely wide measuring range, and the Minolta optical system gives a bright, clear image for precise measurement of the central  $1^{\circ}$  spot.

The Spotmeter M's extensive use of rugged and dependable electronic components, make it as at home outdoors as in the studio.

To obtain the best results and to get maximum use from your new Minolta meter, please read this manual thoroughly.

Throughout the text you will find a series of numbers. Each of these refers to a picture on the fold-out pages at the front.

**NAMES OF PARTS**

- (A-1) Lens
- (A-2) Memory-clear key
- (A-3) ASA-TIME key
- (A-4) Measuring button
- (A-5) Display-illumination button
- (A-6) Tripod socket (on grip end)
- (A-7) Strap eyelet (on grip end)
- (A-8) Battery-chamber cover
- (A-9) Measurement-lock switch
- (A-10) Shadow key
- (A-11) Averaging key
- (A-12) Highlight key
- (A-13) Display window
- (A-14) Increase key
- (A-15) Decrease key
- (A-16) Eyepiece guard
- (A-17) Eyepiece
- (A-18) FNo./EV key
- (A-19) Recall key
- (A-20) Memory key
- (A-21) Key guard

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## PREPARATION AND BASICS

### Installing the battery

The Spot Meter M is powered by a single 6v alkaline-manganese (4LR44, Eveready 537 or equivalent), 6v lithium (2CR-1/3N or equivalent) or 6.2v silver-oxide (4SR44, Eveready 544 or equivalent) battery (B).

To install the battery:

1. Remove the battery-chamber cover by pressing down on it, and then sliding it in the direction of the arrow as shown (C).
2. Insert the battery, positioning it as illustrated inside the battery chamber (D).
3. Replace the cover by realigning it, then sliding it towards the meter until it snaps into place.

After the battery has been installed, it will take several seconds for the display to initially appear and stabilize. The meter will then show the display seen in (I).

### NOTE

- If the battery is not installed properly, the meter will not operate.

### Power consumption

Although there is a constant power supply to the memory, the meter's power consumption in the non-measuring mode is minimal, so a power switch is not necessary. Instead, the meter employs an automatic cancelling feature that clears the display approximately two minutes after a measurement has been taken or the last key has been released. To activate the meter when the display is off, press the recall key (the most recent measurement will appear in the display), or press the measuring button (the most recent measurement will appear if the meter is in the ASA-setting/display mode; a new measurement is taken and displayed if the meter is in the time-setting/display mode).

When the battery's power level drops to a level almost insufficient for operation, the display will blink for approximately eight seconds when the measuring button is pressed. If this happens, replace the battery with a fresh one. When the battery is completely exhausted, the display will remain blank after pressing the measuring button or recall key.

NOTE

- If the meter is not to be used for two weeks or more, it is advisable to remove the battery.

**Installing key guard**

Supplied with the Spotmeter M is a key guard, which can be installed to help prevent accidentally pressing the input or display keys if the meter is laid on its side.

To install the guard, peel off its protective backing (E) and carefully align the guard around the increase, decrease, and ASA/TIME keys as shown (F). Press the guard into place with a firm pressure.

NOTE

- Even with the guard installed, it is not recommended to set the meter face down, as the keys and display window might be damaged.

**Adjusting the eyepiece**

The Spotmeter M uses a fixed-focus objective lens that provides correct focus from 1.5 meters (5 ft.) to infinity.

To allow for individual eyesight variations, the meter's eyepiece is adjustable through a range of  $-2.5$  to  $+1.2$  diopters.

To make this adjustment, look through the eyepiece and turn the eyepiece guard to either the right or left until the 1<sup>o</sup> indication spot appears in sharp focus (G).

NOTE

- Light entering the eyepiece could cause incorrect readings. When taking a reading without viewing through the eyepiece, cover it with your hand or other opaque object.

### Setting the film speed

When the battery is installed, the meter will already be in the ASA setting/display mode, and a film speed of ASA 100 will appear (I). When the meter is turned on by pressing the measuring button, a new measurement is taken and displayed or by pressing the recall key, the most recent measurement will appear in the display. If the meter is in the time-setting/display mode, press the ASA/TIME key to put the meter into ASA-setting/display mode.

To set either a higher or lower film speed, press the increase (↑) or decrease (↓) key repeatedly until the desired ASA appears. Each press of either key changes the display in 1/3-stop increments until the upper limit (6400 ASA) or the lower limit (12 ASA) of the meter's display range is reached.

### NOTE

- IN THE ASA-DISPLAY MODE, THE METER CANNOT TAKE A READING, and only the increase, decrease, and ASA/TIME keys will operate.
- The meter can only be set for ASA. If you use film with a DIN rating, consult the conversion table on the back of the battery-chamber cover to find its ASA equivalent. The table reflects the change of the ASA and DIN film ratings into the combined ISO standards that are now being used by film manufacturers.

### Setting measuring time (shutter speed)

After the film speed has been set, press the ASA/TIME key to put the meter into its time-setting/display mode. The display will then show the most recently set shutter speed. If the battery has just been installed, "60" (1/60 sec.) will be displayed (J).

To set a higher or lower shutter speed, press the increase (↑) or decrease (↓) key repeatedly until the desired shutter speed is displayed. Each time either key is pressed, the display will be changed by one full stop. The meter's shutter-speed display range is from 1/2000 sec. to 30 minutes, plus 1/50 sec. (which comes after the 30 min. when pressing the decrease key) for taking movies at 24 fps.

If the displayed shutter-speed figure is followed by a small letter "S", this denotes a speed in full seconds, and a small "m" designates speeds in minutes. If there is no letter designation, the shutter speed is the reciprocal in seconds of the number displayed (e.g., "30" represents 1/30 sec.).

After the ASA/TIME key has been pressed and a speed has been set, the meter is ready to take a measurement.

NOTE

- The third and fourth digit of the ASA and shutter-speed display can show only zeros. Therefore, the ASA and shutter-speed setting of "125", will appear as "120", and ASA "1250" will be displayed as "1200". Despite this, the meter is correctly calibrated for these settings.

Selecting display mode

The Spotmeter M has two display/measurement modes, f-number and EV (exposure value). To select either mode, press the "FNo/EV" key until the desired mode designation ("FNo" or "EV") appears in the display window.

When a measurement is taken in the f-number mode, a digital aperture figure will appear in the display window. Next to this figure there is a small one-place decimal display that shows necessary exposure decrease in 1/10 stops. For example, if the digital aperture display is f/8.0 and the decimal figure is "0", the lens should be set at exactly f/8. If the display shows f/8.0 and a decimal figure of "5" (K), then exposure should be decreased by 5/10 or 1/2 stop. The lens should be set halfway between f/8 and f/11 (L).

In this mode, the ASA and shutter-speed settings will have a direct effect upon the f-number displayed. After a measurement has been made, the ASA and shutter speed can be reset and the displayed aperture figure will change accordingly.

The EV-display mode is used to check luminance levels (p. 15), subject contrast (p. 15), and other lighting conditions. In this mode the display readout will be in EV steps, and only changes in the ASA setting will affect the EV-digital display.

NOTE

- You can alternate between these two modes at any time after a measurement has been taken.

### Analog display

In addition to the digital display (M-1), the Spotmeter M has an analog aperture-scale display along the top of the display window (M-2). This display, when used in conjunction with the memory function, will show up to three separate readings so that exposure or contrast calculations can be easily made.

When a measurement is made in either of the meter's display modes, a pointer will appear above the aperture figure that corresponds to the one shown by the digital display in the f-number display mode. The analog scale is marked in half-stop increments, so the pointer may also appear between two aperture figures depending upon the digital display's decimal figure. For example, if the digital display is from  $f/8.0_8$  to  $f/11_2$ , the analog pointer will appear directly above  $f/11$ . If the digital display is from  $f/11_3$  to  $f/11_7$ , the pointer will be between  $f/11$  and  $f/16$ .

After a measurement has been taken, any changes in ASA or shutter-speed settings will also be reflected by the analog pointer.

### Memory function

To use the memory function of the Spotmeter M, take a measurement and press the memory key. The display will briefly go blank and then reappear if the reading has been inputted to the meter's memory. You can now take a second reading, and another analog pointer will appear on the display, as well as a new digital readout. This second reading can also be entered by pressing the memory key again, and then a third reading can be made. Unless there is an overlap, as many as three analog pointers can be displayed (N). The digital display will show the final measurement taken, and previous readings inputted to the memory can be displayed one after another by repeated pressing and holding down of the "RECALL" key.

If more than two readings are inputted to the memory, a large letter "E" will appear in the display (O). Pressing the recall key will clear the "E" and return the display of your last measurement.

To clear the memory, either press the memory-clear (M-CLR) key.

### NOTES

- If the memory is clear, "O" will appear when the recall key is pressed.
- The analog display has triangular indicators (M-3) that will appear at either end of the scale if the digital display goes below  $f/1.0_2$ , or above  $f/32_8$ . These indicators are also part of the meter's over- and under-range warning display.

- Even when the display goes off, inputted measurements remain in the memory.
- After measurements have been taken and inputted to the memory, any subsequent change of ASA or shutter-speed settings will be reflected in both analog and digital displays.
- Measurements calculated by the averaging method, highlight priority, and shadow priority cannot be inputted to memory.

#### Measurement-lock switch

When the meter is not being used, slide the measurement-lock switch in the direction of the arrow (H) to prevent accidentally taking a measurement and wasting battery power. No further measurements can then be taken, and the display will clear approximately two minutes after the last measurement was taken or the last key has been released.

#### NOTE

- The ASA/TIME key, increase key, and decrease key are also locked when the measurement-lock switch is engaged. Pressing any other key when the display is off will cause the display to come on and the keys to function as usual.

#### Over- and under-range warnings

When a measurement is made that is over or under the meter's display or measuring range, a large letter "E" will appear in the display window (O).

If the "E" and a triangular indicator on the analog scale appear when a reading is taken with the meter in the f-number display mode, the reading is out of the meter's display range. In this case, changing the ASA and/or shutter-speed setting of the meter will allow you to obtain a display without taking another measurement.

When the "E" appears without a triangular indicator, the reading is over or under the meter's measuring range. In this case, take another measurement.

#### Viewfinder LCD display

In addition to the analog and digital LCD displays on the side of the meter, there is a digital viewfinder display (P) that allows you to monitor exposure data and changes in lighting as you take a reading.

Information shown is identical to the readout of the main digital display on the side of the meter.

The viewfinder display (P) can be lit for easier reading in low-light situations by pressing the display-illumination button located on the meter's grip.



### Measuring-level adjustment

The brightness-reading level of the Spotmeter M is properly adjusted to Minolta's standard during manufacture. However, a continuous adjustment of up to approx. 1 EV over or under the standard setting is possible to meet individual needs.

This is done by turning the measuring-level adjustment screw (Q), located under the battery-chamber cover, with a small screwdriver to either the left or right until the slot is aligned as desired. The graduation marks surrounding the adjustment screw represent approx. 0.2 EV steps as shown by the diagram (R). With the same level of illumination, turning the adjuster to the right will produce a lower reading; to the left, a higher one.

### CAUTION

Do not attempt to turn the screw pass its plus or minus 1 EV limits.

### NOTE

- The measuring level should only be adjusted after the meter's characteristics have been determined from experience.

## OPERATION

### Basic information

To realize the full potential of your Spotmeter M, certain basic information about it and spotmeters in general should be understood.

A spot meter is basically a reflected-light meter, much like the built-in meter of a camera. The advantage of a spot meter is its ability to measure an extremely small and precise point of a scene without reflected light from other areas influencing the reading. This permits metering for those areas that are of the most importance.

However, like all reflected-light meters, the spot meter is calibrated to give a reading that falls on the mid-point of the film's characteristic curve, and will be reproduced as a medium density on the film. More simply put, the meter gives a reading that will result in a "normal" exposure for an "average" subject. An average subject generally being defined as one that reflects about 18% of the light that strikes it. For many subjects, this mid-tone reading will provide proper exposure, but over- or under-exposure will result when a very dark or very light point is measured. This happens because the meter reads these points and being unable to make a subjective evaluation of the light, still gives a reading that will produce a medium density on the film. To obtain a correct exposure, compensation must be made and the exposure point shifted to fall on the highlight or shadow portion of the film's reproduction curve.

The Spotmeter M, at the push of the appropriate key, can calculate and display the necessary highlight and shadow compensation that will place exposure at the proper point on the film's characteristic curve. It does this instantly without the need for mental calculations, and with an accuracy to within 1/10 of a stop. In addition, it will also precisely average two readings.

The meter's ability to measure, calculate exposure points, and display multiple data, allows the photographer to simulate and previsualize exposure results. Which point will wash out; what area will show shadow detail; what will reproduce as a medium density. All this information is immediately and visually available in the digital- and analog-display window.

The Spotmeter M computes its highlight and shadow calculations based upon the 5-stop latitude of color reversal film. Slide film was chosen because its narrow range demands the most critical exposure, and because of its wide use among professional photographers. While the meter's shadow and highlight calculations are based on slide film's characteristics, excellent results will also be obtained with negative films because of their wider latitude and flexibility in development and printing processes. Straight mid-tone readings and averaging calculations are the same for all films.

The following sections outline the basic measurement operation of the Spotmeter M, as well as the basic four spotmetering methods, and techniques to monitor and precheck a scene.

### Taking a basic measurement

1. Turn on the meter by pressing the measuring button or recall key, and set the desired film speed (p. 4), shutter speed (p. 4), and select a measurement/display mode (p. 5).
2. Look through the eyepiece and place the 1<sup>o</sup> indication circle directly on the point you wish to measure.
3. Press and hold in the measuring button until a reading appears in the viewfinder's LCD display (P).
4. Release the measuring button to hold the reading.
5. Set your camera according to the readout shown in the display window.

### NOTE

- The meter will continue to take readings as long as the measuring button is held in.

### CAUTION

Never point the meter directly at the sun. This could damage your eye, or the meter's measuring cell.

### Mid-tone measurement

The simplest and quickest measuring method with the Spotmeter M is to take a reading of a mid-tone in the most important area of a scene and ignore the darker and brighter areas. For example, the person's face in the example photo (II), or the largest area in a landscape.

Since with this method you are most concerned with a single area, only one reading may be necessary. However, as this method measures in mid-tone only, best results will be obtained the closer the point being measured corresponds to a mid-tone, or when there is little contrast and the film has sufficient latitude.

After the measurement has been made, set your camera according to the information shown in the display window.

### Averaging method

To obtain an average exposure value for a scene, first measure a bright highlight and enter this reading into the meter's memory (p. 6). Then measure a dark shadow point of the scene and input it into the memory. Now, press the averaging key (A-11) to calculate the average exposure value. When the averaging key is pushed, your last reading will be replaced by a large letter "A" and the computed exposure setting (S). A pointer on the analog scale (M-2) will also appear between those of the memorized readings.

This method of measurement is most useful for scenes, such as the example photo (III), that contain a subject with a variety of reflected light points. In the example photo (III), the white wall was measured for the highlight and the tree for the shadow reading. Best results are obtained when the highlight and shadow points of the scene are within the film's latitude range, or if critical reproduction of them is not important.

This method ensures that the center of the film's reproduction range will be used to record the widest range of tones.

### NOTE

- To calculate an average exposure, two readings must be memorized. If only one measurement has been entered, a large "E" will appear when the averaging key is pressed. This can be cleared, and your last reading returned by pressing the recall key. Pressing the recall key will also clear the average-reading display and return your last measurement.

### Highlight priority

If it is most important to correctly record the bright highlight areas of a scene, then priority must be given to them and the shadow areas allowed to black out.

This is done by measuring a bright highlight and entering it to the memory. In our example photo (IV), the snow area was metered for and memorized. Then the highlight key (A-12) is pressed to calculate an exposure setting that will reproduce the measured spot on the highlight point of the film's characteristic curve.

When the highlight key is pressed, a large letter "H" and the computed exposure setting will appear and replace your last reading (T). A corresponding analog-scale pointer (M-2) will also appear. The camera can now be set according to the readout shown in the display window. The highlight displays can be cleared and your last reading returned by pressing the recall key.

#### NOTES

- To make a highlight calculation, at least one reading must be memorized. If no reading has been entered to the memory, a large letter "E" will appear (O) when the "H" key is pressed. This can be cleared and your last reading returned by pressing the recall key.
- If two readings have been entered, the highlight calculation will be based on the higher of the two.
- The calculated highlight-exposure point gives an additional 2.3 stops of exposure to the measured point so it will record as a highlight.

#### Shadow priority

This method of measurement is exactly opposite to the highlight-priority method, as the shadow area of a scene is given preference and the highlights allowed to wash out.

A reading is taken of the dark shadow area of the scene, such as the shadow area at the base of the tree or foliage in our example photo (V). This reading is then memorized and the shadow key pressed. A large letter "S" and the computed shadow exposure will appear and replace your last reading (U). A corresponding analog pointer will also appear. The camera can now be set according to this data.

Pressing the recall key will clear the shadow reading and return your last reading to the display window.

#### NOTES

- To obtain a shadow calculation, at least one reading must be memorized. If not, a large letter "E" will appear when the "S" key is pressed. Pressing the recall key will clear this and return your last reading.

- If two readings have been memorized, the shadow calculation will be based on the lower one.
- The calculated shadow-exposure point reduces exposure 2.7 stops so your measured point will be reproduced on the shadow point of the film's characteristic curve.

## PRECHECK AND MONITORING TECHNIQUES

### Prechecking exposure

The Spotmeter M's multiple display, memory, and exposure calculation capability can be used to accurately and fully precheck a scene to aid in determining exposure.

If for example, you wish to photograph a person standing near the bright window of a dimly lit room, the precheck procedure would be as follows:

1. Take a reading of the scene's brightest highlight and enter it into the meter's memory. In the case of our example (VI), this would be the brightly lit window.
2. Take a reading of the darkest shadow area and also enter it into the memory.
3. Now take a reading of the main subject. In this case, the person standing near the window.

Three analog-scale pointers will now appear in the display window. In addition, three corresponding digital readouts can also be displayed one after the other by repeatedly pressing and holding the recall key. This information now shows you the contrast range of your scene, where your main subject lies within this range, and if the film being used has sufficient latitude to cover the range of contrast.

If in our example (VI), the highlight reading was  $f/22$ , the shadow reading  $f/2$ , and the main subject reading  $f/5.6$ , then the scene has a contrast range of seven stops. If slide film is being used, the contrast range of the scene exceeds the film's latitude, and mid-tone exposure for the main subject lies closer to the shadow reading than it does to the highlight reading.



To further precheck the scene, remember the main subject's reading, and then press the "averaging" (A-11), "shadow" (A-10), and "highlight" (A-12) keys, and compare their readouts with the main subject's reading to determine your choice of exposure.

For our above example (VI), pressing the averaging key will give a readout of  $f/5.6_5$ . Comparing this reading to the previous ones shows that if an "average" exposure is made, the main subject will be underexposed slightly by one half a stop, and that the shadow area will black out and the highlight area will wash out.

Pressing the "shadow" key will give a readout of  $f/4.0_7$ , which if used, will slightly overexpose the main subject by one third a stop, correctly expose for the shadow areas, and greatly overexpose the highlight area.

Pressing the "highlight" key will give you a reading of  $f/8.0_7$ . If this reading is used, the main subject will be underexposed by nearly two stops, the highlight area correctly exposed for, and the shadow area blacked out.

With all this information available to you, a decision can be made as to which exposure point will give you the results that you want, or what changes can or should be made to achieve your desired result.

### Monitoring a scene

Another exposure technique that allows you to make full use of the Spotmeter M's many features is the monitoring of a scene to establish a mid-tone exposure point related to the highlight or shadow area.

If for example, you are photographing a person or object against a bright background, such as snow in a winter or mountain scene, you would first take a reading of the bright background and enter it into the meter's memory. Now press the "highlight" key to obtain a readout. If a reading taken of the snow was  $f/11$ , pressing the highlight key will produce a readout of  $f/4.0_7$ .

With this highlight exposure point established, you can now take measurements of other points in the scene, and any that also give a reading of  $f/4.0_7$  will be reproduced on the film as a mid tone.

**Measurement of contrast ratios**

To aid in the lighting of a subject or scene, the Spotmeter M can be used to determine contrast or luminance ratios by the following procedure.

1. Turn on the meter by pressing the measuring button or recall key leave it in the EV-display mode.
2. Take a reading of the highlight point and enter it into the meter's memory.
3. Take a second reading of the darker shadow point. It is not necessary to memorize this reading.
4. Now find the difference in EV steps between the first and second reading. This can be done by either noting the number of steps between the analog-scale pointers (M-2), or by using the recall key and subtracting the EV digital figure for the second reading from the EV digital figure of the first reading. For example, if the first readings was 10 EV and the second 8 EV, then there is a two EV difference.
5. Take the difference between the two readings, and find the corresponding figure in the left-hand column of the accompanying table (a). To the right of this figure will be the ratio of contrast or luminance between the first and second reading. In our example above, reading the table (a) for a two EV step difference would show the ratio to be 4 to 1.

**Measurement of luminance**

The Spotmeter M can, with the use of the following tables (b-c), be used to obtain a luminance measurement in candelas per square meter ( $\text{cd/m}^2$ ), or foot-lamberts.

To obtain this measurement, proceed as follows:

1. Turn on the meter by pressing the measuring button or recall key, and set a film speed of ASA 100.
2. With the meter in the EV-display mode, take a reading of the point you wish to measure.
3. Take the integer EV figure displayed, and find the corresponding figure in table (b). Now take the decimal EV figure displayed, and find its corresponding figure in table (c). To the right of each of these figures in the tables ("b and c") are another set of numbers, which are then multiplied together, and their product is the luminance measurement in candelas per square meter or foot-lamberts.

For example, if the meter displays a reading of EV 10.7, find the number next to the figure 10 in table (b) and multiply it by the number next to the figure .7 in table (c). For this example the numbers used would be; Luminance =  $140 \times 1.62 = 230 \text{ cd/m}^2$        $42 \times 1.62 = 68.0 \text{ ft-L}$

$$\text{Luminance} = b \times c$$

## NOTE

- If the meter's measuring level has been changed (p.8), luminance calculation will be incorrect. Measuring-level adjustment screw must be at its "0" setting.
- For precise measurement of luminance, use the Minolta Luminance Meter 1°.

**Cine measurement**

The Spotmeter M can be used to meter light for exposure with movie cameras having shutter sector opening of 180°.

The table (d), which is also on the back of the battery-chamber cover, indicates the meter settings and compensation necessary for various frames-per-second rates.

To use the meter and table for cine measurement, proceed as follows:

1. Turn the meter on by pressing the measuring button or recall key, and set the applicable film speed.
2. When using a filming rate of 24 frames per second (fps), set the shutter speed on the meter to 1/50 sec. (no ASA compensation is necessary). For other filming rates, find the frames-per second speed in the "Cine" column of Table (d), Reading across to the right, find the shutter-speed setting and ASA compensation needed (in ASA-display/setting mode, each press of the increase or decrease key changes the ASA by 1/3 stop).

Set the camera's lens aperture according to the meter's f-number readout, and make your exposure.

3. Take the reading in the normal manner, and set the camera's lens aperture according to the meter's f-number readout and make your exposure.

## NOTE

- Cameras having shutter sector openings of 160° and 220° can also be used by adjusting exposure -0.2 stops, and +0.3 stops, respectively.

## CARE AND STORAGE

- Do not press on or damage the indication-display window.
- Do not subject the meter to shocks or vibration.
- The meter should never be placed or left in the glove compartment or other places in a motor vehicle, or elsewhere, where it may be subject to temperatures higher than  $55^{\circ}\text{C}$ , or lower than  $-20^{\circ}\text{C}$ , as it may be permanently damaged. Particular care should be taken not to leave the meter in sunlight or near sources of heat such as strong lights, etc. Do not store it in humid places, or near corrosive chemicals.
- The Spotmeter M is designed for use at temperatures between  $50^{\circ}$  and  $-10^{\circ}\text{C}$ . If the unit becomes hotter or colder than this, operation will be more or less unsatisfactory.
- If the meter is left or placed in direct sunlight for any long period, the indication-display window will turn black.
- When the meter is to be stored, place it in its original packaging, and put it in an air-tight container with an appropriate amount of dehumidifying agent, such as silica gel.
- Never attempt to disassemble the unit. Any repairs necessary should be undertaken only by an authorized Minolta service facility.
- The meter body may be wiped with a silicone-treated cloth to clean it. Do not allow alcohol or chemicals of any other kind to touch its surface.
- If the meter is not to be used for two or more weeks, it is advisable to remove the battery.
- Avoid touching glass lens and finder-eyepiece surfaces with the finders. If necessary, blow away loose matter from them or use a bellows lens brush. Then use special photographic lens tissue or a soft clean cloth to remove smudges or fingerprints with a gentle circular motion. Only if absolutely necessary, the tissue may be moistened very slightly with not more than one drop of a satisfactory quick-evaporating fluid cleaner specially compounded for photographic lenses. *Like other fluids, this must never be dropped directly on the glass surface.*
- Other external parts of the meter may be wiped with a silicone-treated cloth. Alcohol or other chemical solvents should never be allowed to contact it. Never lubricate any part of the meter or lens.

## SPECIFICATIONS

- Type: Reflex-viewing spot-reading automatic photographic light meter with liquid crystal digital-analog display, memory function and calculation
- Measuring method: Reflected light by silicon photo cell with  $1^\circ$  angle of acceptance
- Viewing system: Fixed-focus, through-the-lens reflex type; angle of view: Vertical:  $12^\circ$ ; Horizontal:  $17^\circ$  with central  $1^\circ$  marked circle; magnification: 1.4X
- Focusing: Fixed, 1.5m (5 ft.) to infinity; eyepiece adjustable from  $-2.5$  to  $+1.2$  diopters
- Measuring range  
at ASA 100: EV 1.0 to 22.5
- Repeatability:  $\pm 0.1$ EV
- Calibration constant:  $K = 1.3$ (in feet), 14(in meter) (Measuring-level adjustment at 0)
- Exposure indications: By direct liquid crystal display (LCD) digital readout:  
In finder: Aperture:  $f/0.7_0$  to  $f/64_9$  in 0.1-stop increments  
EV:  $-4.3$  to  $28.5$  in 0.1-stop increments
- On side of unit: Film speed: ASA 12 to 6400  
Time: 1/2000 sec. to 30 min.  
Aperture:  $f/0.7_0$  to  $f/64_9$  in 0.1-stop increments  
EV:  $-4.3$  to  $28.5$  in 0.1-stop increments  
Analog:  $f/1.0$  to  $f/45$  in 0.5-stop increments; three indications possible with memory
- Film-speed settings: ASA 12 to 6400 in 1/3-stop increments by repeated pressing of increase ( $\uparrow$ ) or decrease ( $\downarrow$ ) keys
- Exposure-time settings: 1/2000 sec. to 30 min. in one stop increments by repeated pressing of the increase ( $\uparrow$ ) or decrease ( $\downarrow$ ) keys

**Memory:** Two measurement capacity, indicated by marks on analog display that change position with resetting of ASA, TIME; keys for input, recall and clear

**Highlight-shadow**

**Averaging:** By depressing keys marked "H" (Highlight), "S" (Shadow), and "A" (Average) after taking respective readings of brightest and darkest part of scene; Display indications; Analog readout of all three values plus recall of digital readout by pressing "H," "S," or "A" keys

**Power source:** One 6v alkaline-manganese (4LR44, Eveready 537 or equivalent), 6v lithium (2CR-1/3N or equivalent) or 6.2v silver-oxide (4SR44, Eveready 544 or equivalent) battery

**Other:** Measurement-lock switch, display-illumination button, ASA/DIN conversion table, CINE table, tripod socket on end of hand grip, neck strap, case, lens cap, measuring-level adjustment screw, luminance conversion table, key guard

**Size:** 48 x 89 x 150 mm (1-7/8 x 3-9/16 x 5-7/8 in.)

**Weight:** 230g (8-1/8 oz.) without battery

Specifications subject to change without notice