MINOLTA

METERS

A fast, accurate,
reliable way to measure light

THE RIGHT TIME TO CHOOSE A MINOLTA METER

In an age of increasing sophistication of built-in camera meters, what kind of photographer still chooses a *hand-held* meter? We offer that there is really only one kind. This photographer realizes that there are many important lighting situations that are simply beyond the scope of *any* built-in meter. He is careful, serious, involved — and he seeks perfection in everything he does. Whether a professional or an advanced amateur devoted to his hobby, this person also knows that a hand-held meter is a kind of insurance policy that eliminates second-guessing and gambling with exposure control, especially under the more difficult and extraordinary light conditions that are apt to confront the serious photographer. We should also add here that the photographer serious about his work, and about the way he measures light, will probably choose Minolta meters.

If you already know the worldwide quality reputation of Minolta cameras, it should not surprise you to know that the light measuring equipment we make is already considered to be the most sophisticated ever created for the working photographer, the motion picture technician, the television cameraman, indeed, every person whose professional reputation depends on the quality of the image that is placed on film. If you are a professional photographer, you may quickly discover that there is no other, no better choice. And if you are an advanced amateur, and increasingly interested in the kind of perfection that can be ensured by a hand-held meter, you will certainly want to learn more about the light-measuring products we make.

Whatever your interest in photography, it should interest you to know that a Minolta meter is a total product of Minolta-developed technology, from the custom-design displays to the dazzling microcomputer that enhance the use and value of these meters. This dedication to quality and exactness is part of the Minolta heritage, and has been honored by the choice of a Minolta meter to travel to the moon with the U.S. Apollo astronauts, and on the historic Apollo-Soyuz space link-up in 1975.

The time to choose a Minolta meter is when you truly care about precise solutions to exposure problems, when a built-in meter can no longer handle complicated lighting problems, when your involvement in photography is deep and growing. This is the time when your Minolta dealer can show you how Minolta meters are designed for specific uses, and how each will best serve your purposes.


MINOLTA
JAPAN
OFF ON
MINOLTA
FNo. 5.6
TIME 60
M-CLR
ASA/TIME
RECALL
FNo./EV
AUTO METER III
M

MINOLTA AUTO METER III

Direct-reading exposure meter with microcomputer and Liquid Crystal Display

The Minolta Auto Meter III combines a built-in microcomputer, memory function and Liquid-Crystal Display to provide the accuracy of a digital readout and the graphic indication of an analog meter. It gives continuous, readings of the f-stop and shutter-speed combinations, and these are made without further calculation. The microcomputer also provides a multiple-data memory to memorize, and then recall, up to two exposure readings for comparison with a third reading being taken. Manual dial alignment and needle reading are unnecessary, and no meter of this type works with such ease, speed and efficiency. These virtues make the Auto Meter III a perfect choice for general photographic work, especially studio work.

Easy-to-Read Display

In a single display, the user of the Auto Meter III gets the advantages of both analog and digital indications, shown on an advanced LCD (Liquid Crystal Display). The "Dot Array Display," another advanced Minolta feature, is convenient for visually checking the relative changes in the amount of light on the Auto Meter III. The digital readout display offers the advantage of accurate readout.

Multiple-Data Memory

The built-in microcomputer provides a memory for up to two measurements, either of which can be recalled at the touch of a button, one at a time, for comparison with a third, final measurement. Simultaneously, the "Dot Array Display" (indicated in photo) displays all three measurements in terms of the required f-number (aperture). This assures that the lighting contrast on the three measured spots on the subject can be visually — and very quickly — compared.

How does the memory system work? With the meter set to "Time," the user first sets the desired film speed and shutter speed on the meter with the data setting keys, indications which are then noted on the right-hand side of the LCD. He then chooses what he wishes to read: either the f-number (lens aperture) or the EV (Exposure Value). And then he takes the first measurement by pressing the measuring button. Instantly, the built-in microcomputer computes the f-stop or EV number required for proper exposure and displays it in the LCD window, both digitally and on the Dot Array Display (f-stop only).

The first measurement can be put into the memory by pressing the Memory Key. The user can then take another measurement, which is also instantly displayed. At this time, the digital display shows the second reading, but the Dot Array Display shows both the first and second measurements.

Again, the second measurement can also be memorized by pressing the Memory Key. Then, the

user, if he desires, can take a *third* measurement, which is instantly displayed. He can also recall the previous two measurements for comparison with the final, third measurement by simply pressing the Memory Recall Key. One touch of this key recalls the second measurement; another touch recalls the first measurement; and both are indicated only while the key is being pressed. (The final, third measurement remains on the display whenever the Memory Recall Key is not being pressed.) Also, all three measurements are shown at all times on the Dot Array Display for easy, fast comparison.

Auto Meter III's Memory Key provides multiple-data memory for up to two different measurements, either of which can be recalled by the touch of a button, one at a time, for comparison with a third, final measurement. All measurements are instantly displayed.

Digital Versatility
The user can choose either the EV or f-number to be indicated on the digital display, and is free to change the set film speed or shutter speed even after the measurements are taken. Versatility is the key here. When these set values are changed, the built-in microcomputer automatically adjusts the readings and indicates the new data on the display.

Simple, Reliable Operation
All operations are push button easy, even the setting of shutter and film speeds. Since there are so few mechanical moving parts, mechanical failure or wear is virtually non-existent.

Incident and Reflected Light Measuring Capability
The Auto Meter III is an incident light measuring meter, but special accessories that are easily attached can convert its capability to reflected light measurement at will.

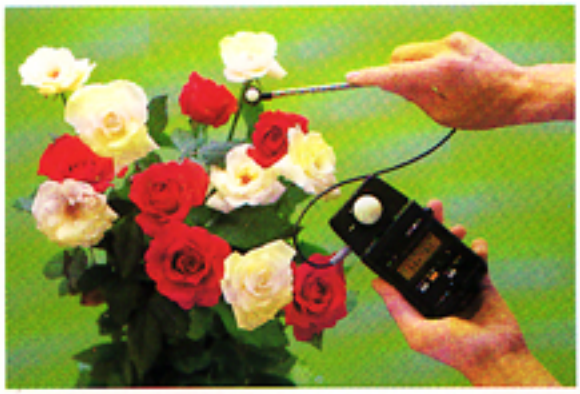
Viewfinder 10°
This accessory is for narrow-angle reflected light measuring. A 10° circle serves as a clear and accurate viewfinder that pinpoints the reading area. The meter can thus be used to accurately measure small subject areas or parts of a subject or within the approximate angle of view of certain telephoto lenses.

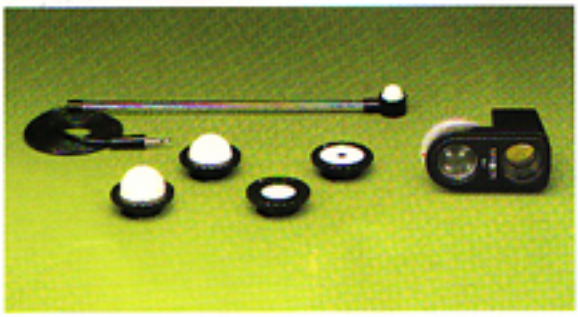
Mini Receptor
For photomacrography and close-up photography, this small remote receptor plugs into the socket provided on the receptor head of the Auto Meter III. It can be used to measure incident light in otherwise inaccessible positions.

Flat Diffuser
Attaching this diffuser enables the Auto Meter III to be used to measure the ratio between main and auxiliary light sources (light balancing), illuminance values or incident for flat subjects.

4X, 8X Spherical ND Diffusers
The Auto Meter III's upward sensitivity is effectively extended by two or three full f-stops by these spherical diffusers. Otherwise, they are attached to the meter for use when light is too bright to be measured.

Spot Mask II
This is used to measure exposure when making enlargements. After test printing a typical frame and determining proper aperture setting and exposure time, the spot mask aids in obtaining similar-quality exposure values.





AUTO METER III SPECIFICATIONS

Type:
Multiple-function exposure meter (for incident/reflected continuous light) with digital-analog readout and memory

Detector:
Silicon photo cell; receptor head rotates 270°

Light receptors:
Incident: Spherical diffuser, optional flat or 8X and 4X ND diffusers
Reflected: Optional 40°-angle reflected-light attachment or viewfinder 10°
Separate detectors: Optional Mini Receptor (for incident light) or Minolta Booster (for reflected light), connected through accessory-receptor jack

Measuring ranges at ASA 100:
Incident: EV −2 to 19.5
Reflected: EV 1 to 22.5

Controls:
Measuring button (operable only in "TIME" display mode); alternating film-speed/exposure-time input/display key with ASA/time increase and decrease keys; alternate f-number/EV-number display key; memory, recall, and memory-clear keys; power switch

Readouts/displays:
Digital:
F-numbers: 0.7 to 64 + 0.9 stop in 0.1-stop increments
EV numbers: −5 to 28.5 in 0.1-stop increments
ASA indexes: 12 to 6400 in 1/3-stop increments
Exposure times: 30 min. to 1/2000 sec. in 1-stop increments
Analog:
F-numbers: 1.0 to 45 in 1/2-stop increments
Both digital and analog/memory readouts change automatically to reflect ASA/time input changes.

Memory:
2-measurement capacity, both indicated on analog array with digital recall

Power source:
One 1.5v AA-size (penlight) alkaline-manganese (Eveready E91 or equivalent), sealed carbon-zinc, or 1.2v nickel-cadmium (Ni-Cd) cell

Other:
External-receptor jack on head, ASA/DIN and exposure-time/cine conversion tables on back of body, strap eyelet

Accessories:
Included: Spherical diffuser, neck strap, belt case
Optional: 40° reflected-light attachment, Minolta Booster, View-finder 10°, Mini Receptor, 4X ND spherical diffuser, 8X ND spherical diffuser, flat diffuser, Spot Mask II

Dimensions:
31×69×132mm (1¼×2¹¹⁄₁₆×5³⁄₁₆ in.)

Weight:
150g (5³⁄₁₆ oz.) without power cell

Specifications subject to change without notice


OFF ON
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M-CLR ASA/TIME
RECALL FNo./EV
M
MINOLTA

MINOLTA SPOTMETER M

Reflected light meter with microcomputer and Liquid Crystal Display

The Minolta Spotmeter M is a reflected-light meter that measures a spot on the subject to be photographed through a viewfinder having one degree of acceptance. Using the combined advantages of a built-in microcomputer, memory function and Liquid Crystal Display, it then determines the required aperture (f-number) to create either an "average," "highlight" or "shadow" exposure on the spots being measured. It does this with unfailing accuracy, providing for both the advanced and beginning photographer all necessary exposure information required for complex or highly advanced photographic techniques.

Easy-to-Read Display

The accuracy of a digital readout with the graphic indication of an analog meter are the advantages of the Spotmeter M, since this superb instrument combines both indications in a single display for greater convenience and precision. Both indications are then shown on an advanced LCD (Liquid Crystal Display). These features are complemented by the use of another feature resulting from modern electronics and optical engineering, the "Dot Array Display," which is convenient for visually checking the relative changes in the amount of reflected light on the Spotmeter M. Finally, the digital readout display offers the advantage of accurate readout at all times, while the digital display in the viewfinder has a reversed LCD that can be illuminated in the dark for easy reading.

Multiple-Data Memory

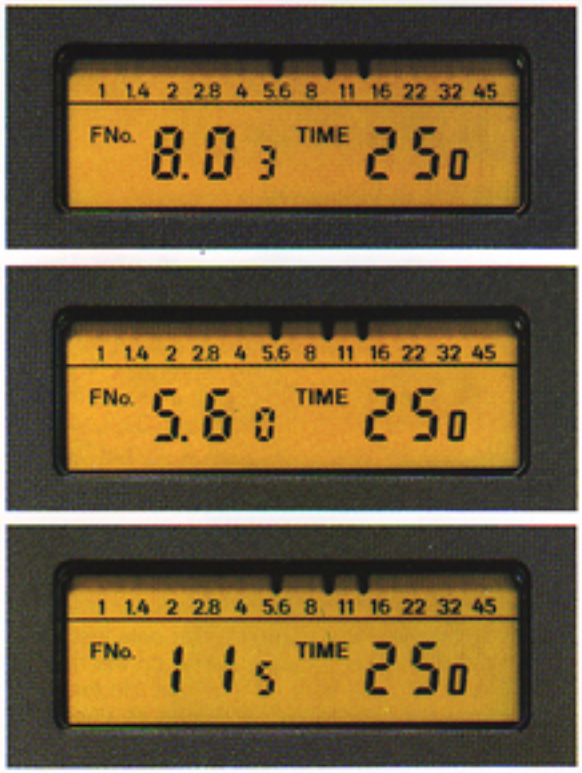
No other feature makes the Spotmeter M so easy to use as does the multiple-data memory, which is made possible by the built-in microcomputer. This device provides a memory for up to two different measurements, either of which can be recalled by the simple touch of a button, one at a time, for comparison with a third, final measurement. The serious photographer cannot help but benefit from the advantages of this memory device. Simultaneously with the measurement recall, a unique "Dot Array Display" shows all three measurements in terms of the f-number (aperture) required. This is the photographer's assurance that the lighting contrast on the three measured spots on the subject can be visually compared, with speed and accuracy.

The memory system of the Spotmeter M is a model of efficiency. The photographer sets the desired shutter speed and film speed on the meter with easily-accessible data setting keys. He then decides whether to read the EV (Exposure Value) number or the f-number (lens aperture), and then takes the first measurement by pressing the measuring button. With microcomputer speed and precision the f-stop or EV number required for

proper exposure is computed and displayed in the LCD window, digitally *and* on the Dot Array Display (f-stop only).

A further advantage of the memory function is that the first measurement can be put into the memory by pressing the Memory Key, the user can then takes another measurement, which is also instantly displayed. Now, the digital display shows the second reading of the f-stop or EV, but the Dot Array Display shows both the first and second reading of the f-stop.

Also, the second measurement can be memorized by pressing the Memory Key. This lets the photographer take a *third* measurement, if desired, and this too is instantly displayed. He can also recall the previous two measurements for comparison with the final, third measurement by simply pressing the Memory Recall Key. One touch of this key recalls the second measurement; another touch recalls the first measurement; both are indicated only while the key is pressed. All three measurements of the f-stop are shown at all times on the Dot Array Display for easy comparison.

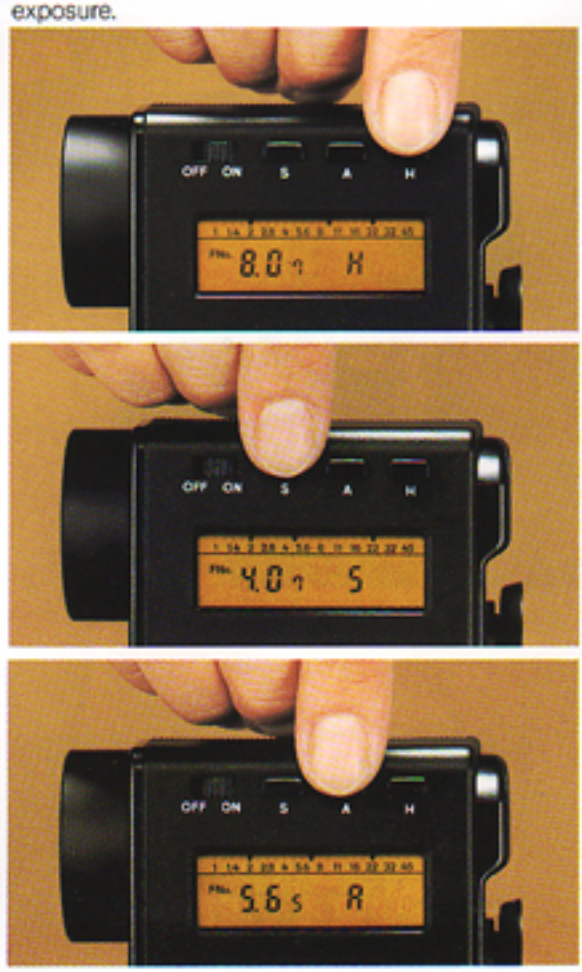


"Digital Display" assures rapid, easy visual confirmation for up to two measurements on the Spotmeter M, either of which can be recalled at the touch of a button, one at a time, for comparison with a third, final measurement. All three measurements are shown at all times on the Dot Array Display.

Three Exposure Choices

The Minolta Spotmeter M does more than merely indicate a single measured exposure value. It also is a total metering system that gives you the necessary readings for three choices of exposure for any measured scene. It thus puts the complex exposure knowhow of professional photographers within the reach of even the beginning photographer.

On the side of the meter body are three keys labelled "S," "A" and "H." When the "S" key is pressed, the meter's microcomputer computes the measured light amount and indicates the f-number or EV required to expose the measured spot in *shadow* (thus the designation "S" for shadow). Likewise, the "H" key will give the f-number or EV required to expose the measured spot in highlight, and the "A" key will give a reading that is the average of two measured spots, for average exposure.



Digital Versatility
The photographer can choose either f-stop or EV to be indicated on the digital display, and he may also change the set shutter speed or film speed even after the measurements are taken. At all times, the microcomputer automatically adjusts the readings when set values are changed and indicates new data on the display.

Simple, Reliable Operation
The Spotmeter M operates from a single penlight battery. There are few mechanical moving parts, thus operation is reliable over a long period. When measurements are taken in a dark area and the LCD (Liquid Crystal Display) is difficult to read, a lamp can be switched on inside the display window to aid the readout.

Eyepiece Adjustment
The built-in eyepiece of the Spotmeter M can be continuously adjusted to the user's vision, eliminating the need for a separate correction lens. You look through the viewfinder and rotate the eyepiece until the scene is perfectly clear. This eyepiece adjustment is from −2.5 to +1.2 diopters.

SPOTMETER M SPECIFICATIONS

Type:
Spot-reading reflex-viewing exposure meter with digital/analog readout and memory and exposure-zone calculation

Measuring Method:
Reflected light by silicon photo cell detector masked for approx. 1° angle of acceptance

Optical system:
Through-the-lens reflex type utilizing pellicle mirror and pentaprism
Focus fixed for readings 1.5m (4 ft. 11 1/16 in.) to infinity
Eyepiece adjustment: −2.5 to +1.2 diopters

Measuring range at ASA 100:
EV 1.0 to 22.5

Controls:
Measuring button (operable only in "TIME" display mode); alternating film-speed/exposure-time input/display key with ASA/time increase and decrease keys; alternate f-number/EV-number display key; memory, recall, and memory-clear keys; highlight, shadow, and average selection/calculation keys; display-illumination button; power switch

Readouts/displays:
Digital:
F-numbers: 0.7 to 64 + 0.9 stop in 0.1-stop increments*
EV-numbers: −4.3 to +28.5 in 0.1-stop increments*
ASA indexes: 12 to 6400 in 1/3-stop increments
Exposure times: 30 min. to 1/2000 sec. in 1-stop increments
Analog:
F-numbers: 1.0 to 45 in 1/2-stop increments (up to 3 indications possible with memory/computation)
Both analog memory/computation and external/finder digital readouts change automatically to reflect ASA/time input changes.

*F- and EV numbers read out in finder as well as on side of unit.

Memory:
2-measurement capacity, both indicated on analog array with digital recall

Exposure-zone capability:
Analog/digital readout and recall of highlight, shadow, and average exposure data automatically computed for optimum correspondence of subject-brightness range with film latitude

Power source:
One 1.5v AA-size (penlight) alkaline-manganese (Eveready E91 or equivalent), sealed carbon-zinc, or 1.2v nickel-cadmium (Ni-Cd) cell

Other:
Power switch, display-illumination button, ASA/ISO and time/cine (fps) conversion tables on side of unit, tripod socket and strap eyelet on end of handgrip

Accessories:
Neck strap and belt case included with unit

Dimensions:
48.2×89×150mm (1 7/8×3 9/16×5 7/8 in.)

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

Specifications subject to change without notice


ASA
B.C.
minolta

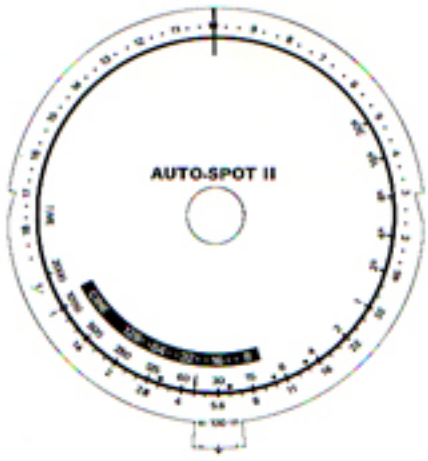
MINOLTA AUTO-SPOT II

Spot type exposure meter with power-scale

Working with a 1° angle of acceptance for critical spot measurement, this single-lens-reflex-type meter can make a careful reading of the individual areas of a photo subject. Since it does not average a variety of brightness levels, nor is it influenced by light from surrounding areas, it is especially ideal for metering unapproachable subjects. The Auto-Spot II uses motorized scales around the viewfinder which rotate to give the correct shutter-speed/aperture combinations and EV values.

All About the Unique Spot Meter SLR Viewfinder

The Auto-Spot II features a "spot" focusing viewfinder, a flareless optical system that assures totally accurate measurement of the subject in the finder's 1° angle of acceptance. This optical system offers a bright, normal-erect image, magnified 2.96 times, made possible by the use of a total-reflection mirror, and a narrow angle of view. The viewfinder can focus from one meter to infinity.



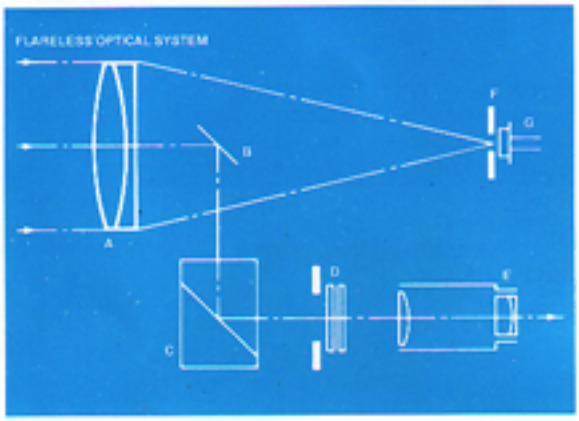
The Auto-Spot II features a total information viewfinder that indicates all necessary information at a glance for proper exposure. With this meter, the scales in the finder move continuously until the precise reading for the spot area is achieved. When the trigger is released, the scales remain stationary and preserve the reading.

Indicated in the Auto-Spot II finder is the following information:

Dots and numbers on the scales around the top half of the circular viewfield indicate exposure values of 2 to 18 EV (measuring range 3 to 17 EV at ASA 100). On the outermost scale around the bottom half of the circular viewfield are figures indicating lens aperture f-numbers with intermediate markings indicating third stops. The moving "time" scale on the inner side of the f-scale indicates exposure times. Figures on this scale indicate their reciprocals as shutter speeds in seconds — "250" equals 1/250 of a second. Figures and intermediate dots on the innermost "cine" scale represent frame rates from 128 down to 8 frames per second (fps).

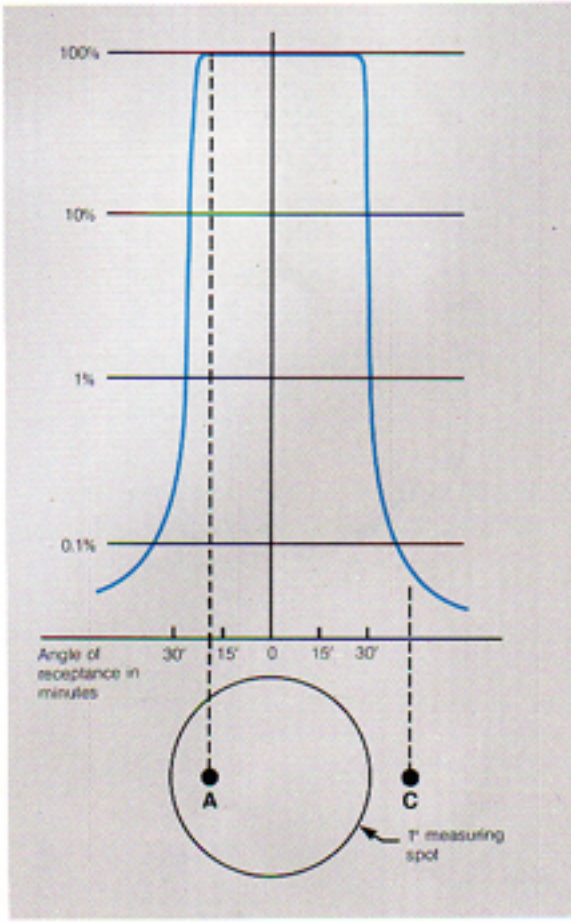
Flareless Optical System

This is how Minolta's Flareless Optical System works. Light reflected from the subject enters through the objective lens, marked (A). 25% of this light is deflected by the total-reflection mirror (B) to the Porro prism (C). This renders the light as an erect aerial image at the glass plate (D), on which the spot circle is silvered. This circle and the scales in the Auto-Spot II are viewed through the eyepiece's ocular lenses (E). The remaining 75% of the light is imaged directly at the same focal distance as the aerial image; and the part exactly corresponding to the viewfinder's 1° circle passes through a mask aperture (F) to the receptor, which is a silicon photo cell (G).

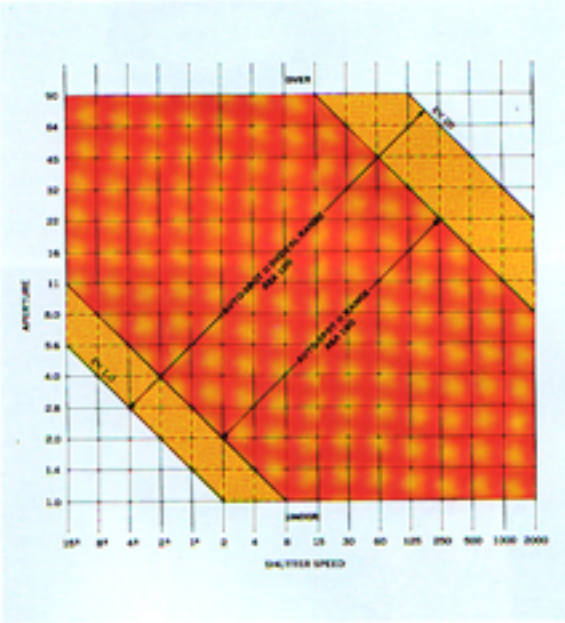


Flare Reduction Capability

One of the most important considerations in the construction of a spot-type luminance meter is the reduction of light influence from outside the angle of acceptance. Two important design features make the Auto-Spot II the most accurate spot meter available. First, the objective lens precisely focuses the light entering the meter so that only those rays within the indicated 1° measuring spot are measured. Then, indicated 1° measuring spot are measured. Then, instead of a pellicle-type mirror which could diffuse the light before it strikes the photo cell, Minolta utilizes a total-reflection type mirror to transmit the subject image to the viewfinder. These features, along with careful construction and quality control, result in a flare factor that is below 1.5 percent. When a small, bright area moves from point A to point C, its measured value at C is less than 0.1 percent of value measured at point A within the 1° measuring spot as shown in the graph below.



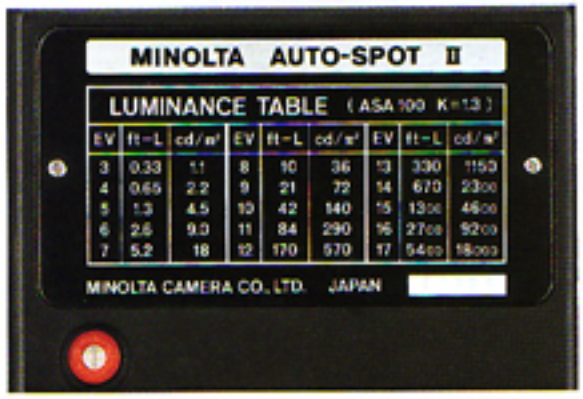
Sensitive, Precise, One-Range Measurement
The Minolta silicon photo cell assures accurate, stable measurement of a wide range of light levels, from dark to bright. Use of a monolithic IC in the computing circuit guarantees stable performance over long periods of use in wide ranges of temperature variations. The Auto-Spot II measures from 3 EV to 17 EV at ASA 100 steplessly. There is no need for switching between high and low ranges under widely different lighting levels.



Lightweight, Compact Design
The Auto-Spot II is compactly designed and lightweight to encourage one-hand operation. You aim the meter at your subject, release the measuring trigger, and all information for exposure is instantly indicated. As with all Minolta meters, there is no need to refer to separate conversion tables.

Measuring Level Adjustor
This control, located on the side of the meter, permits continuous fine exposure adjustment of up to plus/minus 1 EV, depending on the requirements of the photographer.

Illuminance Meter Capability
The meter can be used as an illuminance meter. This function is achieved by reading the EV number in the viewfinder, then consulting the conversion table on the side of the meter to read available illuminance either in ft-lambert or candela/square meter designations.



Power Switch
This switch turns the battery power on or off and prevents battery power waste when the meter is not in use. Simply sliding the power switch to "lamp" lights the viewfinder.

Eyepiece Adjustment
The built-in eyepiece of the meter can be continuously adjusted to your vision, eliminating the need for a separate correction lens. You look through the viewfinder and rotate the eyepiece until the center circle is perfectly clear. This eyepiece adjustment is from −4.58 to +2.73 diopters.

Flexible Rubber Hood
The lens barrel is provided with a flexible rubber hood that extends during use and can be folded back for storage. It serves to protect the lens.

Versatile Accessories
Two optional accessories may be used with the meter. A 16X (4 EV) neutral density filter is used to decrease light to the receptor sufficiently to allow readings to be made in conditions that otherwise would result in over-range readings. A close-up lens adapter ring lets you attach Minolta SLR close-up lenses to the meter for spot measurement of light in close-up, macro or other fine photographic work.

AUTO-SPOT II SPECIFICATIONS

Type:
Reflex-viewing spot-reading automatic photographic light meter

Measuring method:
Reflected light by silicon photo cell with 1° angle of acceptance

Viewing system:
Focusing, through-the-lens reflex type; angle of view: Circular 9° with central 1° marked circle; magnification: 2.96X focused at infinity

Focusing:
1m (3.3 ft.) to infinity by objective-component single helicoid; eyepiece adjustable from −4.58 to +2.73 diopters

Exposure indications:
By motorized moving scales visible through finder:
Film speed: ASA 3 to 25,000
Time: 1/2000 to 30 sec.
Aperture: f/1 to f/45
EV: 2 to 18
Cine: 8 to 128 fps (with 180° shutter-sector opening)

EV measuring range at ASA 100:
3 to 17 (up to 21 with standard accessory ND filter)

Film-speed settings:
ASA 3 to 25,000 in 1/3-stop increments by self-releasing knob with indication in finder

Exposure-time settings:
Unnecessary

Circuit components:
2 IC's, 13 transistors, 1 diode, micromotor, etc.

Power source:
One 9v battery: Eveready No. 216 or equivalent

Battery check:
Button-lamp type

Scale illumination:
Built-in lamp to illuminate viewfinder scales

Other:
Folding rubber lens hood, rubber eyepiece guard, EV-to-luminance conversion table panel, ASA/DIN conversion table and tripod socket on end of handgrip, screw for ±1 EV fine measuring adjustment, hand strap; filter screw

Accessories:
16X ND filter, close-up lens adaptor ring

Dimensions:
62×119×162mm (2⅜×4 11/16×6⅜ in.)

Weight:
560g (19¾ oz.) without battery

Specifications subject to change without notice


MINOLTA
JAPAN
MINOLTA
MODE
FNo. 5.6
TIME
125
60
30
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ASA
125
100
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ON
OFF

MINOLTA FLASH METER III

Advanced meter with LSI microcomputer and Liquid Crystal Display

The Flash Meter III, with LSI microcomputer and LCD (Liquid Crystal Display) is created to measure all types of flash *and* continuous light, making it the ideal meter for a broad range of uses and for both professional and advanced amateur photographers. It makes precise incident or reflected-light readings of electronic or bulb flash or continuous illumination, or even combinations of them. You simply push a button to register the applicable f-number or exposure index number directly on the liquid crystal display. Accuracy within 1/10-stop without calculations is assured. Displayed information lasts for 60 seconds. Overall, the Flash Meter III offers wider measuring range and higher accuracy. It is extremely valuable for flash-lit close-up photography. And its memory stores cumulative exposure measurements with any number of successive flashes, and provides a direct readout.

Broad Measuring Range, Higher Measuring Accuracy

Use of the digital memory system gives the Flash Meter III a much wider light-measuring range as well as greater accuracy. In either incident or reflected-light applications the unit gives a measuring range from EV 1 to EV 18.2 (ASA 100) with accuracy within 1/10-stop. This means that it can readout aperture values up to f/32 (ASA 25). Improved measuring sensitivity is indicated by its plus/minus 0.2EV accuracy, as well as display indication in 0.1EV steps.

Liquid-Crystal Display and Microcomputer

The combination of the Liquid-Crystal Display device and microcomputer provides outstanding readout capabilities for the Flash Meter III.

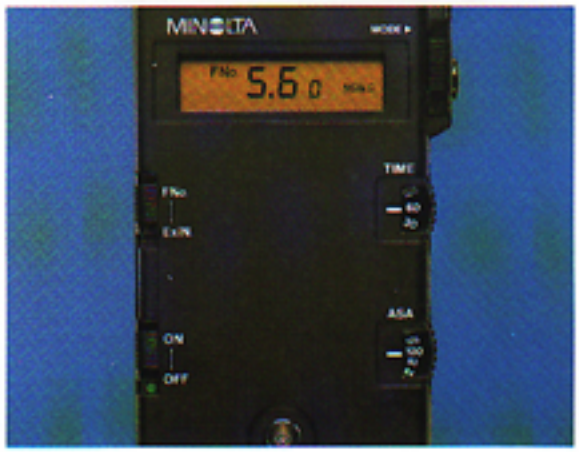
For one, either f-number or an Exposure Index Number is displayed on the front panel for 60 seconds. The latter indicates the amount of available light in terms of EV values for AMBI, and, otherwise, the AV values for CORD or NON. C. At any time the Flash Meter III's LCD readout can be switched to the Exposure Index display. It is most useful when lighting contrast is being measured, or when an external light receptor is used.

Besides measuring cumulative exposures for any number of successive flashes, the Flash Meter III also indicates how many times the measurements are taken.

Also, if each successive measurement is made within 60 seconds, it can be accumulated and displayed in such a way whereby it automatically resets itself for a new 60 second measuring period each time a flash burst is measured.

Ambient Light Measuring
The Flash Meter III uses the AMBI (Ambient) light measuring system exclusively for measuring continuous light. Like the Auto Meter III, it reads continuous light over a broad range — changing shutter speed and corresponding aperture value at will after the reading is made. For display accuracy to 0.1 steps or EV for incident or reflected readings, simply press the measuring button.

Total Information Front Panel Display
The Flash Meter III's front panel displays all necessary information for easy operation. Mode indications, set by the measuring mode selector, include AMBI, CORD, NON. C (for cordless) or MULTI. Measuring times from 1 second through 1/250 second are printed on the dial in yellow to indicate the usable speed range for CORD, NON. C, and accumulated flash exposure; an extended 30 seconds to 1/1000 in AMBI. Film-speed range is ASA 12 — ASA 3200 in 1/3-stop click increments set by dial with release. F-numbers and EV numbers are also prominently and logically displayed, as are the number of flashes that are accumulated in the MULTI mode. The over/under exposure warning indications are also displayed. Readings are thus as they should be for a meter this beautifully designed — rapid and obvious.



Incident or Reflected-Light Readings
Versatility is a keynote of the Flash Meter III. Light readings can be taken either by the incident or reflected method. Both incident and 40° reflected-light receptors are provided with the meter. And an optional accessory, the Viewfinder 10°, is available for narrow-angle reflected light measuring.

One-Hand Operation
Ease of operation of the Flash Meter III begins with the fact that its functions are possible with the use of one hand, and that all exposure information is registered on its face in a LCD display. The ASA of the film and the shutter speed are set, the measuring button is pushed and the reading made. There is no need to switch measuring ranges between high and low.

Rotating Head
The head of the Flash Meter III swivels 270°, and the light receptor may be pointed in any direction while the controls and information readouts face the photographer.

Measuring-Level Adjuster
This control, located on the back of the Flash Meter III, permits continuous fine exposure adjustment of up to plus or minus 1 EV, depending on the requirements of the photographer.

Viewfinder 10°
This accessory is for narrow-angle reflected-light measuring of flash and/or continuous light. The 10° circle serves as a clear viewfinder that pinpoints the reading area. The meter can thus be used to accurately spot-measure exposure on parts of a subject or within the approximate angle of view of certain telephoto lenses.

Mini Receptor
For photomacrography and close-up photography, this small remote receptor plugs into the socket provided on the receptor head of the Flash Meter III. It can be used to measure incident continuous and/or flash light in positions inaccessible to the entire Flash Meter III.

Flat Diffuser
Attaching this diffuser enables the Flash Meter III to be used to measure the ratio between main and auxiliary electronic flashes (light balancing), illuminance value of continuous light, guide number of electronic or M-bulb flash units, or incident light for flat subjects.

4X, 8X Spherical ND Diffusers
The Flash Meter III's upward sensitivity is effectively extended by two or three full f-stops by these spherical diffusers. Otherwise, they are attached to the meter for use when light is too bright to be measured.

Sync. Cord II
This special cord connects the Flash Meter III, the flash unit and the camera's sync. terminal simultaneously, making possible meter-flash and camera-flash synchronization without changing connections.

FLASH METER III SPECIFICATIONS

Type:
Multiple-function exposure meter for direct digital exposure readings with incident/reflected flash/continuous light
Receptor:
Silicon photo cell; head rotates through 270° angle
Reception method:
Incident: Spherical diffuser (or other optional diffusers)
Reflected: 40°-angle reflected-light attachment (or optional Viewfinder 10°)
External receptors: Optional Mini Receptor, Minolta Booster
Measuring range:
Flash light: Incident: f/1.4 — f/90+0.9 step
Reflected: f/1.4 — f/90+0.9 step
Continuous: (AMBI):
Incident: EV 1 to EV 18.2 at ASA 100
Reflected: EV 1 to EV 18.2 at ASA 100
Accuracy:
±0.1 step
Measuring modes:
"AMBI" for continuous light readings
"CORD" for synchronized electronic flash, M-class flashbulbs, with or without surrounding continuous light, using sync. cord of flash unit or optional Sync. Cord II
"NON.C" for single-burst electronic flash, with or without surrounding light, without cord
"MULTI" for non-synchronized multiple or cumulative electronic flashes with or without surrounding light, without cord
by selector slide with click stops
Display modes:
"FNo." in "AMBI," "CORD," "NON.C" and "MULTI," "ExIN." for measuring illuminance and determining lighting ratios in "AMBI," "CORD," and "NON.C"
Film-speed settings:
ASA 12 — ASA 3200 in 1/3-step click increments set by dial with release
Measuring times:
"AMBI": 30, 15, 8, 4, 2, 1, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/125, 1/500 and 1/1000 sec.
"CORD", "NON.C", "MULTI": 1, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/125 and 1/250 sec.
set by dial to correspond with applicable camera shutter speed
F-number indication range:
f/1 — f/90 digitally in full stops with intermediate 1/10 stop indication plus blinking under-and over-range signals on liquid crystal display (LCD)
Exposure Index (ExIN.) range:
1 to 23.2 digitally in 1/10 stop increments
Power source:
Six silver-oxide batteries (Eveready No. S-76 or equivalent)
Battery check:
Automatic low-battery indication by blinking "O" or "E" on display
Dimensions:
30×73×153mm (1⅛×2⅞×6 in).
Weight:
240g (8⅞ oz.) without batteries.

Specifications subject to change without notice


CC + 35 D
FILM
LB
CC
K
COLOR METER II
MINOLTA

MINOLTA COLOR METER II

Advanced high-performance three-color measuring meter

The most advanced and versatile of all color meters made today, the Minolta Color Meter II measures the ratio of three colors of a continuous light source or combination of sources, and then recommends appropriate correction filters to balance them with the film type set on the meter. By maximizing the many benefits of recent advances in electronic engineering and microelectronics, this specialized meter now provides accurate Color Compensation filter indexes and Light-Balancing filter indexes under almost *any* type of light source, including new types such as the tri-wavelength, high-efficiency color-faithful fluorescent lamp and other advanced light sources. Now color compensation for any film used can be accomplished under almost any light source. And like its famed predecessor, the Minolta Color Meter, this improved version is a valuable instrument for industrial and commercial photographers, photo laboratories, the movie industry, color film labs and almost all kinds of advanced film makers and photographers. It is especially easy to use.

Increased Measuring Range and Accuracy

Improvements in measuring circuitry have expanded the measuring range of the Color Meter II, and also enhanced its measuring accuracy. Now, not only regular light sources but also those with extreme spectral energy distribution can be measured with amazing accuracy, and precise Color-Compensation or Light-Balancing filter indexes obtained.

Importantly, the measured value is indicated digitally; there is thus no chance of misreading as in the case of a needle-type meter.

Easy Operation

A single button is pushed to make a measurement. One measurement is made for a combination reading of three colors, and data obtained is then stored in the built-in microcomputer. With the Color Meter II, it is not necessary to measure blue-red and green-red separately as with many other conventional color meters. The Color Meter II provides the entire broad measuring range, with no need to switch measuring ranges as with other color meters. Film type selection is also easy. A switch is provided for this, permitting you to choose between Daylight Type, Type A or Type B films. Other types of film can also be set.

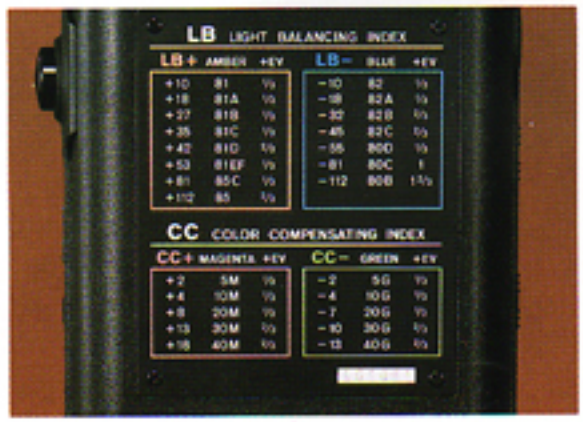
One-Touch Display of Desired Index
As noted above, the user needs only to push a single button to make a measurement, and then information is memorized in the built-in microcomputer. To obtain the light-balancing index, color-compensating index or color temperature of the light source, the user then presses the appropriate key (marked "K" for color temperature, "CC" for color-compensation, and "LB" for light-balancing). The necessary index value is instantly computed by the microcomputer and digitally displayed in the display window. Fumbling with calculating dials is eliminated. Also, since all measured information is clearly displayed in digits in a single display window, there's no possibility of misreading the results, as with analog meters.

Automatic Self-Check Capability
If light levels are less than adequate to provide accurate measurement of colors, or if the color temperature to be measured is beyond the meter's measuring range, the LCD of the Color Meter II automatically blinks to tell the user. Additionally, a built-in battery check displays three decimal points in the display window if battery strength dips below the level adequate for accurate measurements. Another self-check is available in the built-in microcomputer which automatically calibrates itself before every measurement for accurate zero point. This means there is no worry about deterioration of meter accuracy over extended periods of use.

ON/OFF Lock Button
This new feature locks the meter in the ON or OFF position, providing important advantages in each case. With the button set to OFF, accidental power drainage is avoided at all times. With the button set to ON, continuous measurements are possible without continuous button operation.

Light and Compact
Surprisingly for an instrument this complex, the Minolta Color Meter II weighs no more than 230 grams (8 1/16 oz.) and measures just 33 × 72 × 170mm (1 5/16 × 2 13/16 × 6 11/16 in.), largely thanks to the use of modern microelectronic circuitry. By any standards of meter design, it is perfectly portable and useful in a variety of situations.

Filter Conversion Table
A Kodak-Wratten Filter-Scale Index table is located on the back of the meter to assist in converting the measured Light-Balancing or Color-Compensating Index into the necessary filter numbers.



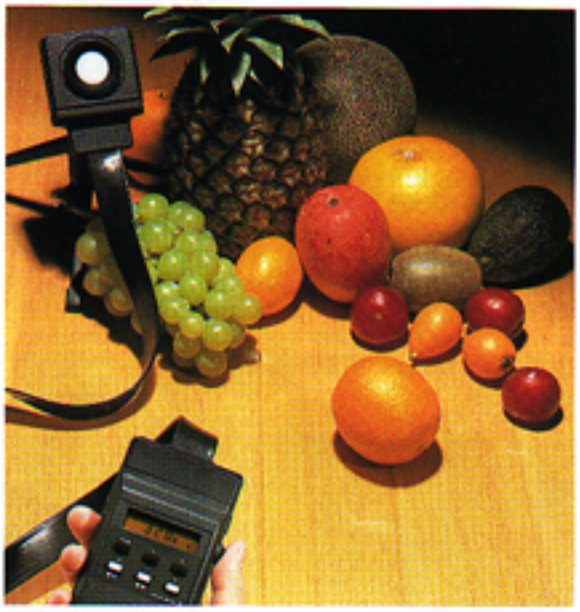
Detachable Receptor

The optional Adaptor Cord can be used to connect the detachable receptor of the Color Meter II with the meter body for convenient measurements in a crowded or narrow location, or for distant measurement.

A socket on the meter attaches the meter's detachable receptor to a photographic tripod to make distant measurements or continuous fixed measurements.

Flash Color Receptor

This accessory attaches in place of the Color Meter II's regular receptor head to provide color temperature measurement of flash. Readings may be taken at 1/60 or 1/125 sec., according to the sync speed of the camera.



COLOR METER II SPECIFICATIONS

Type:
3-color-measuring light analyzer that digitally indicates filtration for color-photographic use

Sensors:
3 silicon photo cells respectively filtered to detect blue, green, and red light under integrating flat opal diffuser; receptor head detachable

Electronic components:
Hermetically sealed microprocessor chip; custom-designed liquid-crystal display; 18 gold-plated plug contacts connect receptor head with meter body

Controls:
Measuring button with lock to prevent readings or make continuous ones; selector slides and input/display, increase, and decrease keys for film-type settings; "LB," "CC," and "K" display keys

Display:
LCD type; 6 digits with plus/minus prefix and unit identifications as applicable; desired readout selectable by depressing appropriate key before/after reading made; film type can be changed for new readout(s) without taking new reading; display blinks as over-/underrange warning, cancels approx. 4 min. after last control released; film-type input retained until changed

Function readouts:
1) Light-balancing(LB) filter indexes in mireds (micro-reciprocal degrees = 1/K × 10^6)
2) Color-compensation (CC) filter indexes in decamireds
3) Color temperature in K (Kelvins or degrees Kelvin)

Independent *ranges:
1) LB indexes: −762 to +999 mireds (covering indications far beyond range of available filters)
2) CC indexes: −99 to +99 decamireds (covering indications far beyond range of available filters)
3) Color temperatures: 1600 to 40,000K

Minimum illumination required:
10 lx. (luces) (= EV 2 at ASA 100)

Operable temperature range:
−10 to +50°C (14 to 122°F)

Film-type settings:
1) Preset: "B" (= Type-B tungsten): 3200K
"A" (= Type-A tungsten): 3400K
"D" (= "photographic" daylight): 5500K
2) Variable: 2000 to 7500K in 10K increments below 4000K, 50K increments above that

Power source:
One 9v battery (Eveready 216 or equivalent)

Other:
Automatic zero calibration; index/filter conversion table on back of body; tripod socket; strap eyelet

Accessories:
Included with unit: Neck strap, belt case
Available separately: Adapter Cord MA-1 (length: 2m or 6 ft. 6-1/2 in.; attaches between head and body for extension readings), Flash Color Receptor

Dimensions:
33×72×170mm (1 5/16×2 13/16×6 11/16 in.)

Weight:
230g (8 1/16 oz.) without battery

* Full LB and CC ranges available even if K reading out of range

Specifications subject to change without notice

MINOLTA BOOSTER II

A versatile accessory for specialized metering functions

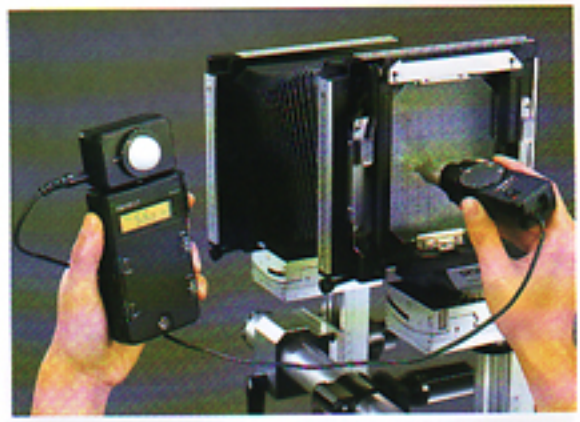
Specialized metering functions with the Minolta Auto Meter III or Flash Meter III are greatly enhanced with the use of this accessory, which is a high-sensitivity, reflected-light receptor for through-the-lens light measurement. Equipped with alternate power switches, the Booster II is designed to prevent unnecessary battery drain. Used for instantaneous readings, switch A automatically turns off power ten seconds after it is pressed; switch B stays on until moved to its off position. With its versatile complement of accessories, the Booster II permits direct, accurate measurement of actual brightness in situations where precise metering is not normally possible. Some examples: it can measure brightness at an SLR viewfinder eyepiece or at the film plane of a 35mm camera. It can do TTL measurement with flash photography. Used with a view camera, it can measure the light value on the groundglass. For photomicrography, it can be used both for electronic or bulb flash, or with normal light without flash attachment. Finally, the Booster II also may be used as a conventional reflected-light meter, without attachments.

Metering on View-Camera Groundglass

Used with the spot-probe attachment, the Booster II enables precise reflected-light readings of electronic or bulb flash or continuous illumination with a view-camera. It does this, in conjunction with either the Auto Meter III or Flash Meter III, by measuring the luminance of the small spot on the groundglass. Any professional photographer will find that this is an especially effective means of light measurement for close-ups or photomacrographs, even with electronic or bulb flash, with a view-camera because, with the light reading taken at the film plane, exposure corrections for bellows extensions are not necessary. Using the Booster II to meter view-camera groundglass is simple and extremely accurate, involving, first, calibration of the meter, and then the actual measuring of the light passing through the groundglass of the view-camera.

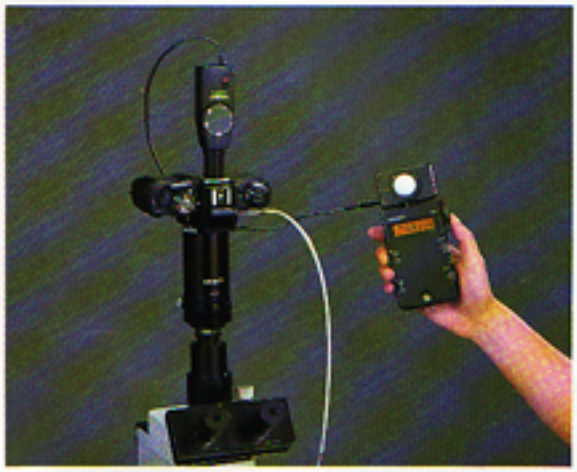
Metering on the Film Plane

When used with a 35mm SLR camera, the 35mm Film Plane Attachment permits an extremely accurate measurement of the amount of light reaching the camera's film plane. With this attachment, the Booster II enables the Minolta Auto Meter III or Flash Meter III to measure directly the light arriving at the film plane through the lens, and so the measurement is much more accurate than measurements of the light through the pentaprism and eyepiece. Use is simple: set the shutter speed dial of the camera to BULB, hold the shutter open, and take the reading on the meter.



Metering Through the SLR Camera Eyepiece
The special eyepiece attachment enables the Booster Ⅱ to make centered, circular, through-the-lens exposure readings of an SLR camera eyepiece. This function makes the Booster Ⅱ especially important if you own an SLR camera without a built-in TTL light-metering system. It is also valuable for TTL measurements of electronic or bulb flash when it is used in conjunction with Flash Meter Ⅲ. There are special calibration steps for cameras with and without manual stop-down mechanisms, and then a final metering procedure when the eyepiece attachment is screwed onto the Booster Ⅱ and then attached over the camera's eyepiece frame. Metering through the eyepiece is also possible when making close-up photos with a bellows and SLR camera.

Metering Through a Microscope
Photomicrography takes on new and important dimensions with the use of the Minolta Booster Ⅱ. Metering through a microscope is both rapid and accurate, in keeping with the versatility of this instrument. When coupled to the Flash Meter Ⅲ, the Booster Ⅱ enables flash measurement through the optics of a microscope which heretofore had been impossible. The Booster Ⅱ may be used with both full-frame 35mm SLR cameras and non-SLR cameras.



35mm Film Plane Attachment
This attachment, used on 35mm SLR cameras, permits the most accurate measurement of the amount of light reaching the film plane through the lens.

Eyepiece Attachment
When attached to the eyepiece of an SLR camera, the attachment permits light measurement at and around the center of the camera's focusing screen.

Spot-Probe Attachment
Measures the brightness of light on the focusing ground-glass of a view camera, permitting accurate TTL calculations of exposure or light contrast on the subject. It also eliminates the need for adjusting exposure calculations when greatly extending a bellows for close-up or macro photography.

Microscope Receptor
Used for light measurement at the eyepiece of a microscope, and also for flash measurement through the optics of a microscope.

BOOSTER Ⅲ SPECIFICATIONS

Type:
High-sensitivity, reflected-light receptor for through-the-lens light measurement with Minolta's Auto Meter Ⅲ and Flash Meter Ⅲ.

Receptor: Silicon photo cell

Reading Method:
On the focusing screen with spot-probe attachment; through an SLR viewfinder eyepiece with eyepiece attachment; at the film plane of a full-frame 35mm camera with film-plane attachment; through a microscope eyepiece with microscope attachment; without attachment and with hood extended for normal reflected reading of 60°

Measuring Range:
Auto Meter Ⅲ: 0.001 to 20,000 luces
(=EV −7 to EV 17 at ASA 100)
Flash Meter Ⅲ: 0.002 to 145 lux sec.
(=EV −6.3 to EV 10 at ASA 100)

Power Source:
One silver-oxide battery, Eveready No. 544 or equivalent, or alkaline-manganese battery, Eveready No. 537 or equivalent.

Accessories:
Spot-probe attachment, Eyepiece attachment, Microscope attachment, Film-plane attachment

Dimensions: 25×37×113mm (1×1 7/16×4 7/16 in.)

Weight: 95g (3⅜ oz.) without battery and attachment

Specifications subject to change without notice

Minolta Camera Co., Ltd.	**30, 2-Chome, Azuchi-Machi, Higashi-Ku, Osaka 541, Japan**
Minolta Camera Handelsgesellschaft m.b.H.	Kurt-Fischer-Strasse 50, D-2070 Ahrensburg, West Germany
Minolta France S.A.	357 bis, rue d'Estienne d'Orves, 92700 Colombes, France
Minolta (UK) Limited	1-3 Tanners Drive, Blakelands, Milton Keynes, Buckinghamshire MK14 5EW, England
Minolta Vertriebsgesellschaft m.b.H.	Seidengasse 19, A-1072 Wien, Austria
Minolta Nederland B.V.	Zonnebaan 39, Postbox 264, 3600 AG, Maarssenbroek-Maarssen, The Netherlands
Minolta (Schweiz) GmbH	Riedhof V, Riedstrasse 6, 8953 Dietikon-Zürich, Switzerland
Minolta Svenska AB	Brännkyrkagatan 64, Box 17074, S-Stockholm 17, Sweden
Minolta Corporation	
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Los Angeles Branch	3105 Lomita Boulevard, Torrance, CA 90505 U.S.A.
Chicago Branch	3000 Tollview Drive, Rolling Meadows, IL 60008, U.S.A.
Atlanta Branch	5904 Peachtree Corners East, Norcross, GA 30071, U.S.A.
Minolta Canada Inc.	
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