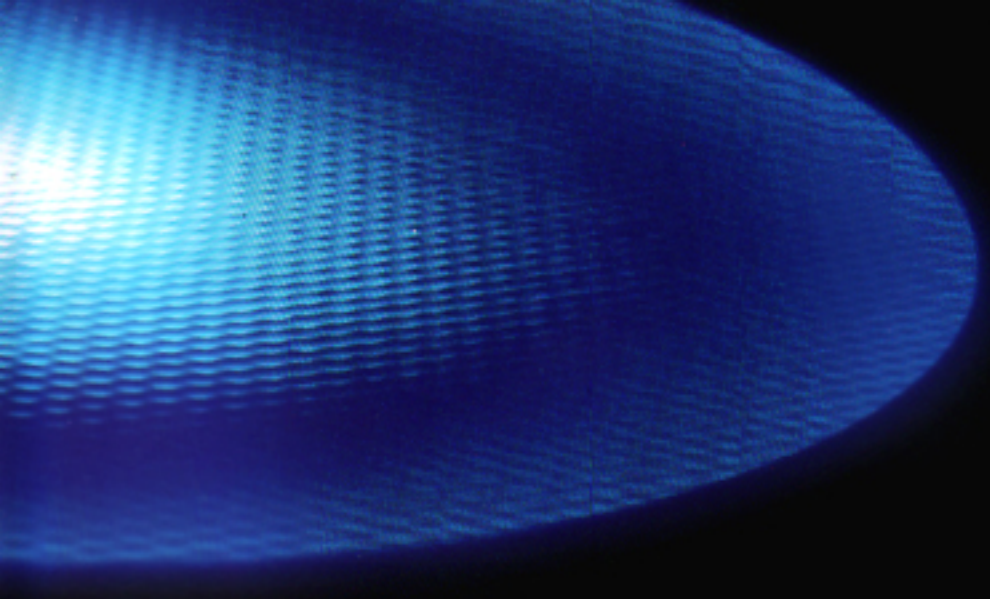
MINOLTA

# METERS

FLASH METER IV/SPOTMETER F
AUTO METER III/COLOR METER II
BOOSTER II/ACCESSORIES



## Minolta meters.
## For a full measure of creativity.

If you're a dedicated photographer, you already know the supreme importance of measuring light. The image you create on film depends on it. For this reason, it makes sense to select metering equipment considered the most sophisticated in the world: Minolta meters. Professionals around the world rely on Minolta's quality and precision—and you can too. This kind of technological exactness and performance is available in your choice of four Minolta meters and an array of Minolta meter accessories. When you truly care about the quality and precision of your photographic images, Minolta meters give you a creative advantage.

# FLASH METER IV


## Multiple-function exposure "analyzer" for metering flash and ambient light.

**The Minolta Flash Meter IV offers improved performance with new capabilities based on the proven design of the Minolta Flash Meter III. In addition to conventional exposure measurements, the Flash Meter IV also enables analysis of the flash-to-ambient lighting ratio, and thus permits greater control of exposure.**

**More an "illumination analyzer" than simply an exposure meter, the Flash Meter IV contains a variety of special functions, including, aperture-priority metering, and a unique guide-value (GV) display for flash metering.**

### Exposure Control Versatility

The Minolta Flash Meter IV is the world's most advanced exposure meter available for measuring light from flash or ambient sources. The Flash Meter IV enables taking precise incident- and reflected-light readings of electronic flash, flashbulbs, ambient light sources or even combinations of flash and ambient light.

With a built-in microcomputer and memory function, exposure calculations are extremely easy to make, even when biasing the exposure for highlights or shadows. And for added convenience, the liquid-crystal display shows exposure information in both analog and digital form.

### The Exposure Analyzer

The Flash Meter IV does more than just measure light. It features an "analyze" function which enables simultaneous metering of flash and ambient light sources. Pointers on the meter's analog LCD scale indicate the relative contribution to exposure from each light source. Exposure can then be adjusted to make either light source dominant. As explained on the following pages, the Flash Meter IV is an invaluable tool in a variety of practical situations.

# FLASH METER IV

## Aperture-priority flash measurement

Aperture-priority flash measurement is also simplified with the Flash Meter IV. Simply set the aperture desired and the proper X-sync speed on the LCD display. For photographers working with critical depth-of-field limits, this feature offers many advantages.

The example at left shows that flash power should be increased two stops to get correct exposure at f/5.6 and 1/60 sec. Alternately, the flash-to-subject distance can be decreased by one-half.

A.

B.

C.

## Quick visual analysis of both flash and ambient light

The Minolta Flash Meter IV frees photographers from complicated calculations. It meters continuous light and electronic flash light separately, computes the lighting ratio and displays them on an easy-to-read analog contrast scale.

**A.** The proportions of ambient light (i.e., tungsten) and flash light are almost equal.

**B.** Tungsten light exposure was increased by decreasing the shutter speed. The readout indicates that tungsten light is the dominant light source.

**C.** Amount of flash was increased by increasing the flash's power level. This readout shows that flash illumination is the dominant light source.

1. Portion of flash light (blinking pointer)
2. Portion of ambient light
3. Total exposure of ambient and flash light (zero position)

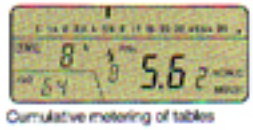
Highlight-biased exposure

## Exposure-calculation functions

The Flash Meter IV offers three exposure-calculation functions: highlight biasing, shadow biasing, and averaging.

By pressing the appropriate keys, the optimum exposure can be quickly calculated whether it be for the highlights, shadows, or an average of highlight and shadow areas. And exposure control is further enhanced by using the optional Viewfinder 5° for spot metering. When the exposure is calculated by pressing the biasing keys (marked H, A, and S), the exposure value shown on the digital display is locked and any additional measurements are indicated by pointers on the analog scale.

Exposure: 4 minutes at f/5.6



Cumulative metering of tables

Cumulative metering of building

## Cumulative reading in all modes

Cumulative readings can be taken in all of the Flash Meter IV's exposure modes. With shutter-priority metering (at TIME setting), the exposure is recalculated after each reading, and the meter displays both the aperture required and the number of exposures. With aperture-priority metering, just a single measurement calculates the number of flash bursts (or exposures) that are required for the selected shutter speed and aperture settings.

In the picture at left, a flash was fired eight times to expose the tables, then it was fired twenty-two times to expose the building.

## Names of Parts

**On/recall button**
The Flash Meter IV is powered by a single AA-size battery. An automatic-cancelling feature conserves power by clearing the display automatically four minutes after a measurement is taken or the last key is released. By pressing the on/recall button, memorized values can be recalled for rapid visual confirmation.

**Measuring button**
By pressing this button, measurements can be taken when the measuring mode is set to "AMBI" or CORD". When the measuring mode is at "NON C", pressing this button activates the flash-metering circuit.


**Two analog scales**
With the function selector at "TIME" or "GV" position and the analog-scale selector set at "F.No." position, the analog aperture scale will be displayed. With the analog-scale selector at the "CONTRAST" position, the contrast scale is displayed.

**Three measuring modes**
Broad measuring range and higher measuring accuracy are made possible by the three measuring modes of the Flash Meter IV. "AMBI" mode for ambient light, "CORD" for flash measurements using a sync cord, "NON C" for flash measurements without a sync cord.

**Memory button**
The Flash Meter IV can memorize flash and/or ambient-light measurements. Up to two measurements can be stored in the memory, then recalled on the LCD display by pressing the ON/RECALL key.


**F-number/AV numbers**
The readout on the LCD data panel can be switched between f-number and aperture value at any time. Measurements appear on the display as f-numbers to the nearest 0.1 stop. The f-number range is f0.7 to f90 + 0.9. Aperture Value (ExIN) numbers from −15.9 to 45.6 are displayed to the nearest 0.1 stop.


**Function selector**
Appropriate functions can be selected for each photographic situation by sliding the function selector: "TIME" for shutter-priority metering, "GV" for controlling the Guide Value, "ISO" for setting the film speeds, "F.No." for aperture-priority metering.

**Three exposure choices**
The Flash Meter IV does more than merely indicate a single measured exposure value. By pressing the appropriate key, readings can be calculated for proper exposure of shadow, mid-tone or highlight areas.


**Analyze function**
When the normal/analyze switch is moved to "ANALYZE" position, ambient light and electronic flash readings can be indicated separately by pointers on the analog scale. The pointers above the analog scale will indicate the proportion of light from each light source according to the aperture-shutter combination in use.

**Decrease/increase control**
All operations are extremely easy, even setting the shutter speed, film speed, aperture and guide value. Since the Flash Meter IV has so few moving parts, mechanical failure and wear are virtually non-existent.


**Memory clear button**
Press the memory clear button, to clear all memorized readings.


**Multi mode**
By using the flash meter's "MULTI" setting, cumulative readings may be taken to determine how many times a flash must be fired or how many exposures are needed at a specific aperture.

## Easy-to-read LCD panel

To illuminate the meter's display in low light, just press the on/recall button. The display will remain illuminated for about eight seconds so that the meter reading can be seen.

## Data Receiver DR-1000

## IR Receiver-Trigger

## Powered by one AA battery

The Flash Meter IV requires only a single AA-size battery for all metering and display functions. An alkaline-manganese, Ni-Cd, or carbon-zinc battery can be used.

When using the Data Receiver DR-1000 or IR Receiver-Trigger, a separate 6-volt alkaline-manganese or 6.2v silver-oxide battery is required for infrared transmission of data.

The Minolta Flash Meter IV is the world's first hand-held exposure meter to incorporate an on-board infrared transmitter which permits wireless data transfer and camera control from a distance. By attaching the Data Receiver DR-1000 to the Dynax 8000i*/7000i*, 9000/7000, the user can automatically transfer the correct meter-derived aperture and shutter speed to the camera, then trigger the flash and release the shutter...a tremendous time-saver in studio situations!

*Usable only with Dynax 8000i or 7000i with Flash Shoe Adapter FS-1100.

Wireless triggering of flash is made possible by using the optional IR Receiver-Trigger. This versatile accessory frees photographers from troublesome handling of the sync cord. Simply attach the IR Receiver-Trigger to the flash, then the flash can be test fired by pressing the measuring button on the Flash Meter IV.

# SPOTMETER F

## For precise, 1° spot readings of flash and ambient light, contrast measurements, exposure biasing, and more.

**Minolta's Spotmeter F is designed for professionals and advanced amateurs alike. It enables you to take precise 1° spot measurements of ambient or flash light. Liquid-crystal displays on the meter's side panel and in the viewfinder show a full range of exposure information in both digital and analog form. Furthermore, you can quickly check the lighting contrast of a scene while looking through the viewfinder. Exposure calculations for highlights, shadows, or midtone areas can be made at the touch of a button, and more.**

### Flash measurements

Flash measurements are extremely easy to make with the Spotmeter F. You just select flash mode, connect the flash sync cord, and set the X-sync speed from 1/1000 to 1 second. To take a measurement, center the 1° spot circle in the finder on the subject, and press the measuring button to fire the flash. The required f-number (with tenth-stop accuracy) is digitally displayed in the finder and the external LCD panels. Ambient readings are just as easy—just set the shutter speed and press the measuring button!

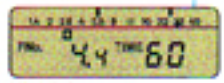
Required f-number

### Brightness-difference measurements

After determining the proper exposure settings, you can quickly check the lighting contrast between the metered area and other areas. When the highlight, shadow, or average key is pressed, a "star" mark appears along with the digital exposure readout. By holding in the measuring button, the meter displays the differences in brightness between the metered area and area currently being measured. When the measuring button is released, the digital exposure readout is displayed again.

Metered area

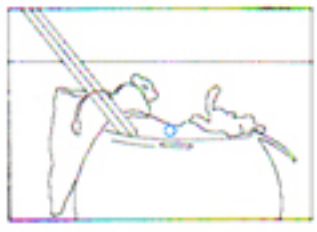
Shadow area

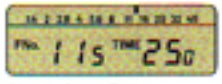


Highlight area

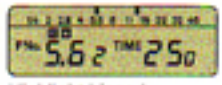
### Three exposure-calculation choices

The Spotmeter F can automatically calculate the exposure for highlight or shadow areas. Or by using the memory function, you can take the average of two readings for a midtone exposure. In the photo at right, a highlight area was measured, then the highlight key was pressed. The meter automatically increased the exposure by 2.3 stops so that the area would be reproduced as a bright highlight.





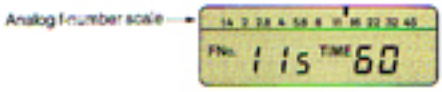
Normal reading



Highlight-biased exposure


## Digital and analog displays

Exposure readings are shown digitally in the meter's external and viewfinder displays. The external liquid-crystal display (LCD) also has an analog f-number scale. Pointers on this analog scale can indicate up to four exposure readings. This full range of exposure information makes it easy to determine the optimum exposure in nearly any situation.




## Designed for optimum versatility

**Bright viewfinder image**

The measuring spot in the viewfinder defines the meter's 1° angle of acceptance and indicates the area being metered. F-numbers, exposure values, and difference in brightness are all displayed digitally in the viewfinder.

**Optional close-up lens**

A close-up lens is available separately for the Spotmeter F. With the lens attached, you can take readings of subjects from 0.6 to 1.4 meters (2 to 5 ft.) away.

**Data storage function**

Even when the Spotmeter F is switched off, ISO film-speed and shutter-speed settings are stored by the meter. When the meter is switched on, the most recent digital exposure readout and any memorized data are displayed.

**Power source**

The Spotmeter F is powered by a single AA-size penlight battery. A 1.5-volt alkaline-manganese, carbon-zinc, or 1.2-volt nickel-cadmium battery can be used.

Low power is indicated automatically. All indications on the LCD panel will start blinking when the battery needs to be changed.

## Easy operation

**❶ Power switch**

Use to switch off the meter to prevent battery drain from accidental readings.

**❷ Shadow key**

To bias exposure for a dark shadow area, measure the dark area, then press shadow key.

**❸ Averaging key**

To calculate the average exposure of a scene, measure and memorize readings for both bright and dark areas, then press averaging key.

**❹ Highlight key**

To bias exposure for bright, highlight areas, measure a bright area, then press highlight key.

**❺ Measuring button**

In ambient mode, you can take continuous readings by holding the button in. In flash mode, the flash is fired and a single reading is taken when the button is pressed.

**❻ Memory clear key**

Press to clear memorized exposure readings.

**❼ FNo./EV key**

Press to select either the f-number (FNo.) or exposure value (EV) digital display.

**❽ ISO/TIME key**

Press to display film-speed settings from ISO 12 to 6400 or shutter-speed settings from 1/8000 sec. to 30 min. (and a 1/50 sec. cine setting) in ambient mode and 1/1000 sec. to 1 sec. in flash mode.


**❾ Recall key**

Press to recall an exposure reading to digital display.

**❿ Metering mode switch**

Set to "AMBI" mode for ambient light readings. Set to "FLASH" mode for flash readings. Memorized/displayed readings are cleared when switch is moved to either setting.

**⓫ ⓬ Increase and decrease keys**

These keys are used to set the shutter speed in full stops or the ISO film speed in one-third stop increments. Settings change continuously when a key is held down.

**⓭ Memory key**

Press to enter exposure reading in memory. Up to two readings can be stored, and will remain displayed on the analog scale.

**⓮ Display illumination button**

Press to illuminate viewfinder display for viewing the digital readout in low light.

**⓯ Sync terminal**

For flash readings, insert flash's sync cord into sync terminal. Terminal is threaded to secure the optional Sync Cord II.

# AUTO METER III

## Direct-reading exposure meter with microcomputer control and LCD display

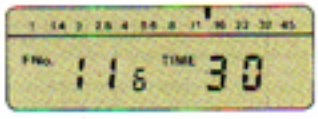
**Minolta's Auto Meter III is designed for ambient-light metering and features both analog and digital displays plus an exposure memory function. To further expand its application, a wide variety of accessories are available.**

### Ambient-light measurements

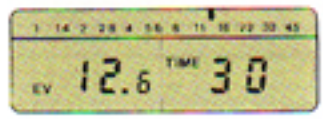
Exposure readings are shown simultaneously on both the analog scale and digital display. The digital display shows the aperture required for the shutter speed selected or the EV number. Pointers on the analog scale also indicate the required aperture. Up to two readings can be stored by pressing the memory key. And up to three readings (two in the memory plus a third measurement) can be indicated simultaneously on the analog scale. By comparing these readings, you can quickly determine lighting ratios or subject contrast.


### F-number/EV number displays

Simply pressing the FNo./EV key changes the large, bright LCD panel from f-number (FNo.) display to exposure value (EV) display.




When "FNo." appears on LCD panel, the numbers next to it indicate aperture (f-number) required. The large numbers correspond to the settings on a lens' aperture ring (e.g., 1.7, 2, 2.8, 4, 5.6...) and the smaller number to the right indicates tenths of a stop.

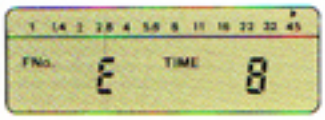



The exposure value is shown digitally when "EV" appears on the LCD panel. As with the f-number display, the larger numbers indicate full stops, and the smaller number indicates tenths of a stop.


## Exposure range indications

An "E" will appear on the digital display along with an arrow at the right side of the analog scale if the required aperture is greater than f/64 and 9/10 of a stop. Similarly, an "E" will appear along with an arrow at the left side of the analog scale if the required aperture is less than f/0.7. In either case, the increase and decrease keys can be used to adjust the shutter speed until an appropriate aperture-shutter speed combination is displayed.

If just "E" appears on the display, this indicates that the light level is too high or low for the meter's measurement range.




## Automatic battery check

When the measuring button is pressed, the entire LCD display will start blinking if the battery needs to be changed.

The Auto Meter III is powered by a 6-volt alkaline-manganese (4LR44) or lithium (2CR1/3N) battery, or a 6.2-volt silver-oxide (4SR44) battery.

## Pushbutton control for easy operation

**❶ ASA/TIME key**

Press once to switch from ASA to TIME display and again to switch from TIME to ASA. Available film-speed range is from ASA/ISO 12 to 6400 in 1/3-stop increments and shutter speeds range from 30 min. to 1/2000 sec. in 1-stop increments.


**❷ FNo./EV key**

This key is used to display the f-number setting (FNo.) or the exposure value (EV) reading on the digital display. Display selection can also be made after a measurement is taken.

**❸ ❹ Increase and decrease keys**

When TIME is displayed, the shutter increases one stop each time the increase key is pressed, and decreases one stop when the decrease key is pressed.


**❺ Memory key**

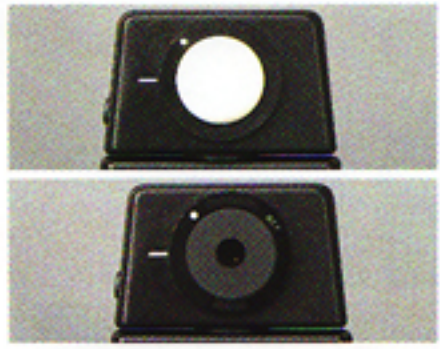
Press to store the current meter reading in the meter's memory. Up to two readings can be stored.

**❻ Memory Recall key**

**❼ Memory Clear key**

**❽ Receptor head**

A spherical diffuser is supplied and attaches to the receptor head to make incident-light measurements. For reflected-light metering, the reflected-light attachment with a 40° angle of acceptance can be attached. The receptor head rotates 270° for easier use.



**❾ Lock switch**

Slide in the direction of the arrow to switch off the measuring button. This prevents accidental battery drain when the meter is not in use and protects current readings.

**❿ Measuring Button**

Press to take an exposure reading. Meter measures continuously when button is held in.

# COLOR METER II

## Superior performance with easy operation.

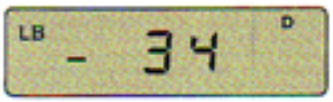
**The Color Meter II was developed using Minolta's advanced technologies for color and light measurement. A built-in microcomputer is used to analyze the simultaneous measurements of the three primary colors and also enables storage of readings for later recall.**

**Information including the light-balance and color-compensation indexes and the color temperature are all displayed in digital form on the LCD panel. Non-continuous light sources, such as electronic flash, can also be metered by using the optional Flash Color Receptor.**

### Digital display of all readings

**Light-balance index**

When the LB key ❶ is pressed in light-balancing mode, the meter indicates the difference between the light source and the film-type setting. This value is used to select the correct amber or blue light-balancing filter.




**Color-compensation index**

When the CC key ❷ is pressed in color-compensation mode, the meter indicates how much additional color correction is required after light balancing. This value is used to select the correct green or magenta CC filter.


**Color temperature**

The color temperature of the light source is displayed in degrees Kelvin when the K key ❸ is pressed.


Filters used: Wratten 80B + 82A + 5G

Illumination: Tungsten
Film type: Daylight-balanced (5500K)
Meter readings:


Filters used: Wratten 81A + 30M

Illumination: Fluorescent
Film type: Daylight-balanced (5500K)
Meter readings:


## Automatic functions

**Automatic battery check**

When battery capacity drops below a certain level, three dots appear in the display to indicate that the battery should be replaced soon.

**Automatic range indication**

The display starts blinking when illumination is 10 lux or less or if the color temperature is 1600K or below or higher than 40,000K.

**Automatic zero calibration**

The zero level is automatically recalibrated before each measurement to assure top accuracy at all times.

## Easy color-temperature selection

**④ Film preset selector**

Simply slide the selector to "B" for Type B 3200K tungsten, "A" for Type A 3400K tungsten, or "D" for 5500K daylight-balanced film.

**⑤ Preset switch**

Move to PRESET when selecting the film-type color-temperature settings with the film preset (B, A, D) selector. Set to VARI to manually adjust the color temperature to any value from 2000K to 7500K.

**⑥ Film-type selector**

When the preset switch is at PRESET, pressing the FILM key displays the film type and color temperature.

**⑦ ⑧ Increase and decrease keys**

## Special features

**Detachable receptor**

The receptor can be detached from the meter body for remote color metering with the Color Meter II.

A special adapter cord plugs into the meter and the receptor for taking measurements in confined locations.

**Reversible receptor head**

The optional Turn Adapter can be used when you want to face the receptor head in the opposite direction.

**⑨ ON/OFF lock switch**

This control locks the meter in the on or off position. With the button set to off, accidental battery drain is avoided.

**Low power consumption**

A single 9-volt battery (Eveready 216 or equivalent) powers the Color Meter II. Thanks to the use of microelectronic circuitry, power consumption is minimal—even when the LCD display is on.

**Slim, lightweight design**

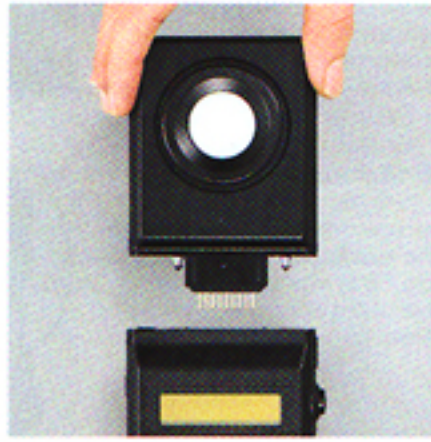
Slim and lightweight to fit comfortably in the palm of your hand, the Color Meter II weights just grams.

## Flash color receptor

Flash color receptor ⑩ is an optional accessory for the Color Meter II enables metering of "non-continuous" light sources such as electronic flash units. The Color Meter II is set to stand-by mode for fifteen seconds when its measuring button is pressed. The flash can then be manually fired, and the flash's color temperature will be measured. The ambient light is also measured at this time.

**Easy attachment**

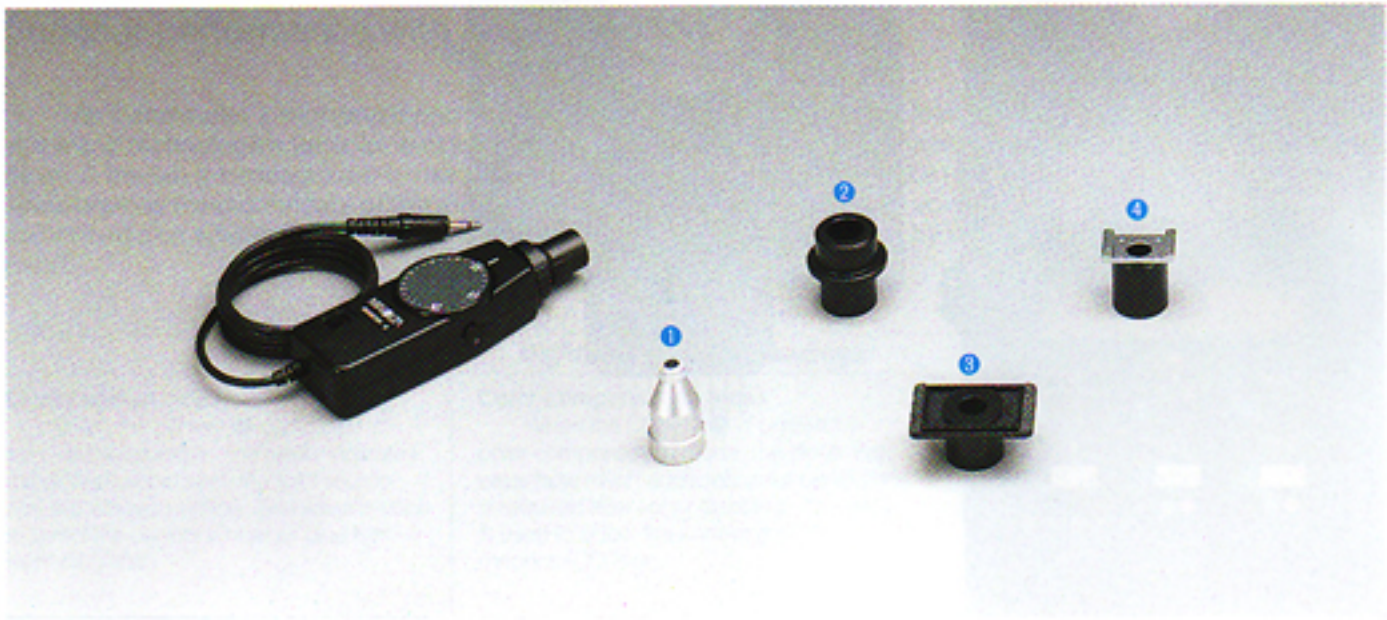
The Flash Color Receptor snaps onto the Color Meter II in place of the standard ambient-light receptor. A protective terminal cover is provided for storing or carrying the Flash Color receptor when it is not in use.



**ND Cap**

The ND (neutral density) cap should be used when the intensity of the light source is brighter than the Flash Color Receptor's measurement range: The ND cap decreases light input by approximately 4 stops, thus enabling color measurements even with powerful flash units used in many studios.

# BOOSTER II




**The Booster II is a high-sensitivity receptor for the Minolta Flash Meter IV and Auto Meter III. Among its many applications, professional photographers will find the Booster II most useful for metering subject brightness off the view camera's focusing screen.**

**Other applications include TTL exposure metering for flash photography, TTL metering for cameras that do not have built-in meters, exposure measurements for photomicrography, and more.**

**1 Spot-probe attachment**

Measurements off the focusing screen of a large-format view camera are possible when the spot-probe receptor is attached to the Booster II. This method of metering is very useful for close-ups and macrophotographs, since the metered exposure already includes any exposure compensation required for bellows-extension factors.

**3 35mm film-plane attachment**

Highly accurate measurements of flash or ambient light at the camera's film plane are possible with the 35mm film-plane attachment. This method is more accurate than measurements taken through the SLR eyepiece, because the Booster II measures the light that actually passes through the camera lens and strikes the film.

**2 Microscope attachment**

By using the microscope receptor, direct readings through the microscope's optics are possible. Flash exposures can be calculated when using the Flash Meter IV.

**4 SLR eyepiece attachment**

The SLR eyepiece attachment enables taking centered, circular TTL exposure readings through the camera's lens. This function is important if you own an SLR camera that does not have a built-in meter. It is also useful for taking TTL flash measurements.

# ACCESSORIES


**The following accessories are available separately for the Flash Meter IV and Auto Meter III:**

**1 Sync Cord II**

For use with the Flash Meter IV, the Sync Cord II is a 5-meter long cord that connects to the meter, flash unit, and camera's sync terminal simultaneously, making possible meter-flash and camera-flash synchronization without changing connections.

**2 Mini Receptor**

For photomacrography and close-up work, this remote receptor plugs into the socket on the meter's receptor head. The Mini Receptor can be used to measure incident light in places that are otherwise inaccessible to the meter's receptor head.

**3 4X and 8X Spherical ND Diffusers**

The maximum limit of the meter's measurement range is extended by two stops (4X) or three stops (8X) by attaching the appropriate diffuser. An ND diffuser should be used when the light level is too bright to be measured with the standard diffuser attached.

**4 Flat Diffuser**

This diffuser is used to measure the lighting ratio between main and auxiliary light sources, to determine illuminance values, and to take exposure readings for flat surfaces such as paintings.

**5 Spot Mask**

Minolta meters can double as enlarging meters. First determine the aperture setting and exposure time for a standard negative, then measure the illumination using the spot mask. With subsequent negatives, you can now eliminate the need for a test print by measuring an area on the negative of similar density to the metered area on the standard negative.

**6 Reflected-light Attachment**

The reflected-light attachment has a 40° angle of acceptance which corresponds to the angle of view seen with 50mm lens on a 35mm SLR camera. Supplied with Flash Meter IV.

**7 Viewfinder 10° II 8 Viewfinder 5°**

The Viewfinder 5° and Viewfinder 10° II feature 5° and 10° angles of acceptance, respectively, and enable spot metering of subjects from a distance. The meter can thus be used to accurately measure small areas of a scene.

- Displayed exposure value must be adjusted when using Viewfinder 5° with Autometer III.

**9 Meter Kit Case II**

The sturdy case holds your Minolta meter and has space for a wide variety of accessories for easier portability. With the meter and accessories together, nothing is forgotten when you go out to shoot.

Note: The Sync Cord II will not fit in this case.

# SPECIFICATIONS

## FLASH METER IV

| | |
|---|---|
| **Type** | Multiple-function exposure meter for measuring continuous and flash light |
| **Reception method** | Incident: Spherical diffuser (or other optional diffusers)<br>Reflected: 40° angle reflected-light attachment (or optional Viewfinder 5°, Viewfinder 10°<br>External receptors: Optional Mini Receptor, Minolta Booster II |
| **Receptor** | Silicon photocell; receptor head rotates 270° |
| **Measuring modes** | "AMB.": For continuous light readings<br>"CORD": For electronic flash, M-class flashbulbs with or without continuous light; using flash unit's sync cord or optional Sync Cord II<br>"NON.C": For electronic flash with or without continuous light; trigger cord not required |
| **Flash measuring ranges at ISO 100** | Incident: f/0.7 to f/90 + 0.9<br>Reflected: f/1.0 to f/90 + 0.9 with 40° receptor or Viewfinder 10° II; f/1.4 + 0.2 to f/90 + 0.9 with Viewfinder 5° |
| **Continuous light measuring ranges at ISO 100** | Incident: EV −2 to EV 19.5<br>Reflected: EV 1.0 to EV 22.5 with 40° receptor or Viewfinder 10° II; f/1.4 + 0.2 to f/90 + 0.9 with Viewfinder 5° |
| **Repeatability** | ± 0.1 EV |
| **LCD digital readouts/display** | F-numbers: f/0.7 to f/90 + 0.9 in 0.1-stop increments<br>Aperture value (ExIN) numbers: −15.9 to 45.6 in 0.1-stop increments<br>Shutter speeds: 30 min. to 1/8000 sec. in 1-stop increments<br>Frames per second for movie cameras: 8, 12, 16, 18, 24, 32, 64, shutter-sector opening of 180° |
| | Film speeds: ISO 6 to ISO 6400 in 1/3-stop increments<br>Number of cumulative exposures: 0 to 9 (displays last digit of accumulated readings over 9 exposures in shutter-priority mode)<br>Guide value (GV) numbers: −8 to 8 in 1-stop increments |
| **LCD analog readouts/displays** | F-number scale: f/1.0 to f/90 (in 1/2-stop increments)<br>Contrast scale: −4.0 to 4.0 in 1/4-stop increments (1/2-stop increments from −4 to −3 and 3 to 4)<br>Other: Over- and under-range signal, memory marks (two), analyze function indicator |
| **Special functions** | Analyze function for metering of mixed (ambient and flash) light; Aperture-priority measurement for ambient or flash light; Infrared remote control for any flash unit using optional IR Receiver-Trigger; wireless data transfer via optional Data Receiver DR-1000 for use with Minolta 7000 and 9000 cameras |
| **Other** | External-receptor jack, Measuring-level adjustment screw, tripod socket, LCD panel illumination |
| **Power source** | One AA-size 1.5v alkaline-manganese or carbon-zinc, 1.2v nickel-cadmium for measurement and display; one 6v alkaline-manganese (4LR44, Eveready 537 or equiv.) or 6.2v silver-oxide (4SR44, Eveready 544 or equiv.) for infrared data transmission |
| **Dimensions** | 28 × 66 × 153mm (1 1/8 × 2 11/16 × 6 in.) |
| **Weight** | 200g (7 1/16 oz.) without batteries |

## SPOTMETER F

| | |
|---|---|
| **Type** | Spot-reading reflex-viewing exposure meter for ambient or flash light |
| **Measuring method** | Reflected light by silicon photocell detector masked for 1° angle of acceptance |
| **Optical system** | Through-the-lens reflex type utilizing semi-silvered mirror and pentaprism;<br>Focus fixed for readings 1.3m to infinity; with optional close-up lens, 0.6 to 1.4m<br>Viewfield: 12 × 17° with 1° area marked by circle in finder<br>Magnification: 1.4X<br>Eyepiece adjustment: −2.5 to +1.2 diopters |
| **Measuring range at ISO 100** | Ambient: EV 1.0 to 22.5<br>Flash: f/2 to 90 + 0.9 stop |
| **Accuracy** | +/− 0.1 stop repeatability |
| **Electronic components** | Hermetically sealed microprocessor chip and two custom-designed liquid crystal displays: display on side of unit has separate 3-digit readout and 4-digit input sections (each with unit identifications) and analog array; LCD in finder shows EV, f-number, or brightness difference |
| **Controls** | Measuring button (operates only when "TIME" is displayed); key to alternate film-speed/shutter-speed display; increase and decrease keys for changing film speed and shutter speed; f-number/EV display selector key; memory, recall, and memory-clear keys; highlight, shadow, and averaging calculation keys; ambient/flash mode switch; power switch; viewfinder-display illumination button |
| **Digital readouts/displays** | F-numbers: f/0.7 to 90 + 0.9 stop in 0.1-stop increments<br>EV numbers: −4.3 to +28.5 in 0.1-stop increments<br>Brightness difference: −9.9 to +9.9 stops in 0.1 stop increments<br>ISO range: 12 to 6400 in 1/3-stop increments<br>Ambient exposure times: 30 min. to 1/8000 sec. in 1-stop increments (cine: 1/50 sec.)<br>Flash exposure times: 1 to 1/1000 sec. in 1-stop increments |
| | Note: F-number, EV number, and brightness difference shown in both external and finder displays |
| **Analog readouts/displays** | F-numbers: f/1.4 to 45 in 1/2-stop increments<br>(up to 4 indications possible when using memory/calculation functions) |
| **Other indications/displays** | Analog and digital display readouts change automatically to reflect ISO/time input changes; "S", "A", or "H" on external display indicates exposure is calculated for shadows, average (midtone), or highlight areas, respectively; "star" mark appears when reading on digital display is fixed for taking brightness-difference measurements; flash mark appears when using flash mode |
| **Brightness-difference indication** | When "star" mark appears in external/finder digital displays, difference in brightness between calculated measurement and subsequent readings is shown in 0.1-stop increments; calculated reading displayed again when measuring button is released |
| **Memory** | 2-measurement capacity, both indicated by pointers on analog display; digital recall possible |
| **Exposure-zone calculation** | Analog/digital readout and recall of highlight, shadow, or averaged (midtone) exposure automatically calculated for optimum correspondence of brightness range of subject with film latitude |
| **Power source** | One 1.5-volt AA-size alkaline-manganese (Eveready E91 or equivalent), carbon-zinc, or 1.2-volt nickel-cadmium (Ni-Cd) cell |
| **Other** | Threaded PC-type terminal for connecting flash sync cord, tripod socket, and strap eyelet; ISO table, "cine" table, luminance conversion table |
| **Accessories** | Neck strap, lens cap and belt case supplied with meter; close-up lens and Sync Cord II available separately |
| **Size** | 48 × 150 × 89mm (1 7/8 × 5 7/8 × 3 9/16 in.) |
| **Weight** | 240g (8½ oz.) without battery |

## AUTO METER III

| | |
|---|---|
| **Type** | Multiple-function exposure meter for continuous light |
| **Reception method** | Incident: Spherical diffuser (or other optional diffusers)<br>Reflected: 40° angle reflected-light attachment<br>(or optional Viewfinder 5°, Viewfinder 10° II)<br>External receptors: Optional Mini Receptor, Minolta Booster II |
| **Receptor** | Silicon photocell; receptor head rotates 270° |
| **Continuous light measuring ranges at ISO 100** | Incident: EV −2.4 to 19.1<br>Reflected: EV 1.0 to 22.5 |
| **Repeatability** | ±0.1 EV |
| **LCD readouts/ displays** | Digital:<br>F-numbers: 0.7 to 64 + 0.9 stop in 0.1-stop increments<br>EV numbers: −5.4 to 28.5 in 0.1-stop increments<br>Film speeds: ISO 12 to ISO 6400 in 1/3-stop increments |
| | Exposure times: 30 min. to 1/2000 sec. in 1-stop increments, 1/60 sec. for movies<br>Analog:<br>F-numbers: 1.0 to 45 in 1/2-stop increments |
| **Memory** | 2-measurement capacity, both indicated on analog array with digital recall |
| **Power source** | One 6v alkaline-manganese (Eveready 537) lithium (2CR-1/3N), or 6.2v silver-oxide (Eveready 544, 4SR44) battery |
| **Other function** | External-receptor jack; ISO (ASA/DIN) and exposure-time/cine conversion tables on back of body |
| **Dimensions** | 31 × 69 × 132mm (1¼ × 2¹¹/₁₆ × 5³/₁₆ in.) |
| **Weight** | 150g (5³/₁₆ oz.) without battery |

## COLOR METER II

| | |
|---|---|
| **Type** | 3-color-measuring light analyzer that digitally indicates filtration for color-photographic use |
| **Sensors** | 3 silicon photocells 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 switches; input/display, increase, and decrease keys for film-type settings; "LB", "CC", and "K" display keys |
| **LCD display/ readouts** | 5 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-/under-range 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 × 10⁶)<br>2) Color-compensation (CC) filter indexes in decamireds<br>3) Color temperature in K (degrees Kelvin) |
| **Independent *ranges** | 1) LB indexes: −762 to +999 mireds (covering indications far beyond range of available filters)<br>2) CC indexes: −99 to +99 decamireds (covering indications far beyond range of available filters)<br>3) Color temperatures: 1600 to 40,000K |
| **Minimum illumination required** | 10 lux (= EV 2 at ASA/ISO 100) |
| **Operable temperature range** | −10 to +50°C (14 to 122°F) |
| **Film-type settings** | 1) Preset: "B" = Type-B tungsten: 3200K<br>"A" = Type-A tungsten: 3400K<br>"D" = "photographic" daylight: 5500K<br>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<br>Available separately: Flash Color Receptor, Turn Adapter, Adapter Cord MA-1 (length: 2m or 6 ft. 6½ in.), MA-2 (1m or 3 ft. 3⅜ in.) |
| **Dimensions** | 33 × 72 × 170mm (1³/₁₆ × 2¹³/₁₆ × 6¹¹/₁₆ in.) |
| **Weight** | 230g (8¹/₁₆ oz.) without battery |

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

## BOOSTER II

| | |
|---|---|
| **Type** | High-sensitivity, reflected-light receptor for through-the-lens light measurement with Minolta Flash Meter IV, Auto Meter IIIF, Auto Meter III |
| **Receptor** | Silicon photocell |
| **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/Auto Meter IIIF (AMB): 0.001 to 20,000 lux (EV −7 to EV 17 at ASA/ISO 100)<br>Flash Meter III/Auto Meter IIIF (FLASH): 0.002 to 145 lux. sec. (EV −6.3 to EV 10 at ASA/ISO 100) |
| **Power source** | One 6.2v silver-oxide battery (Eveready No. 544 or equivalent) or 6v alkaline-manganese battery (Eveready No. 537 or equivalent) |
| **Accessories (included)** | Spot-probe attachment, eyepiece attachment, microscope attachment, film-plane attachment |
| **Dimensions** | 25 × 37 × 113mm (1 × 1⁷/₁₆ × 4⁷/₁₆ in.) |
| **Weight** | 95g (3³/₈ oz.) without battery and attachment |

*Specifications and accessories are based on the latest information available at time of printing and are subject to change without notice.



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|---|---|
| **Minolta Camera Co., Ltd.** | **3-13, 2-Chome, Azuchi-Machi, Chuo-Ku, Osaka 541, Japan** |
| **Minolta GmbH** | Kurt-Fischer-Strasse 50, D-2070 Ahrensburg, Germany |
| **Minolta France S.A.** | 365-367 Route de Saint-Germain, 78420 Carrieres-Sur-Seine, France |
| **Minolta (UK) Limited** | 1-3 Tanners Drive, Blakelands North, Milton Keynes, MK14 5BU, England |
| **Minolta Austria Gesellschaft m.b.H.** | Amalienstrasse 59-61, 1131 Wien, Austria |
| **Minolta Camera Benelux B.V.** | Zonneboan 39, 3606 CH Maarssenbroek, P.B. 264, 3600 AG Maarssen, The Netherlands |
| **Belgium Branch** | Kontichsesteenweg 38, B-2630 Aartselaar, Belgium |
| **Minolta (Schweiz) AG** | Riedhof V, Riedstrasse 6 8953 Dietikon-Zürich, Switzerland |
| **Minolta Svenska AB** | Brännkyrkagatan 64, Box 17074, S-10462 Stockholm 17, Sweden |
| **Minolta Portugal S.A.** | Av. do Brasil 33 a, 1700 Lisbon, Portugal |
| **Minolta Corporation** | |
| **Head Office** | 101 Williams Drive, Ramsey, New Jersey 07446, U.S.A. |
| **Los Angeles Branch** | 11150 Hope Street Cypress, CA 90630, 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.** | |
| **Head Office** | 369 Britannia Road East, Mississauga, Ontario L4Z 2H5, Canada |
| **Montreal Branch** | 3405 Thimens Blvd., St. Laurent, Quebec H4R 1V5, Canada |
| **Vancouver Branch** | 105-3830 Jacombs Road, Richmond, B.C. V6V 1Y6, Canada |
| **Minolta Hong Kong Limited** | Room 208, 2/F, Eastern Center, 1065 King's Road, Quarry Bay, Hong Kong |
| **Minolta Singapore (Pte) Ltd.** | 10, Teban Gardens Crescent, Singapore 2260 |




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