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back to my “Orphancameras” manuals /flash and light meter site

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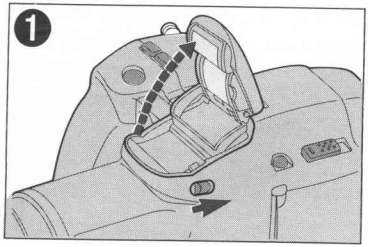
The large manuals are split only for easy download size.

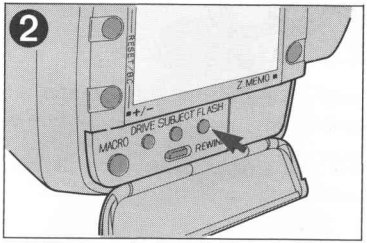
Auto-S flash photography

Auto-S flash significantly reduces "red-eye" phenomenon (when a subject's eyes appear red) in flash portraits and group photos. Red-eye phenomenon is most likely to occur in very low light, and at longer focal lengths (telephoto).

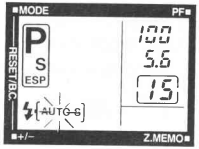


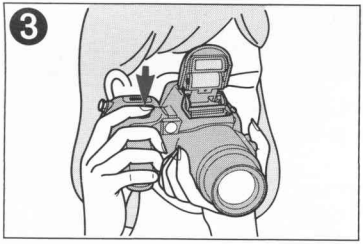
*Slide the flash switch to activate the flash.

—Flash will pop up.



*Open the mode cover and press the FLASH button until AUTO-S is displayed on the LCD panel.





*Compose your shot and press the shutter release button fully.

— The flash will emit a rapid series of pre-flashes before the main flash fires (refer to p. 61).

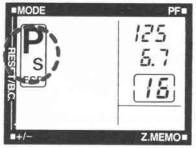
*Hold the camera firmly while pressing the shutter release button.

NOTE: Auto-S mode will not be cancelled when power is switched OFF or by reset operation. To cancel Auto-S mode, open the mode cover and press the FLASH mode button.

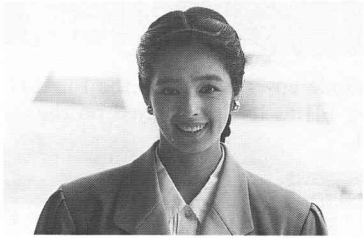
Fill-in flash

In this mode, the flash always fires regardless of available light. Use this mode for daylight shooting with backlit conditions to compensate for backlighting.

*Check to make sure that the exposure mode is set on P (Program) as indicated by the LCD panel.



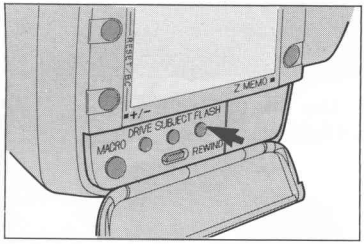
NOTE: Fill-in flash will not operate while in Night scene mode or Portrait zoom mode.



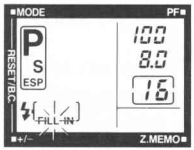
—Even with backlit conditions, proper exposure of the subject can be achieved by ESP metering. However the background will be overexposed.

*Slide the flash switch to activate the flash.

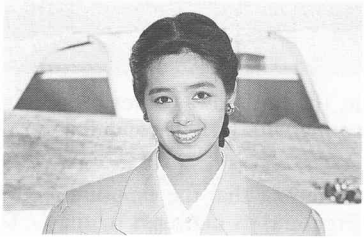
—flash will pop-up.



*Open the mode cover and press the FLASH button until FILL-IN is displayed on the LCD panel.



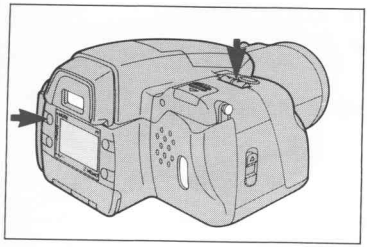
NOTE: The shutter speed will be set for 1/100 second.



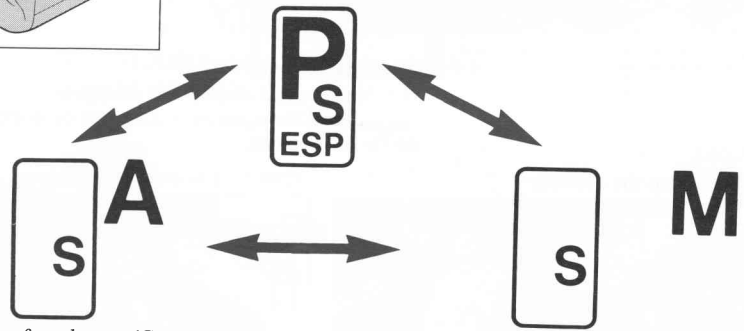
*Press the shutter release button halfway to focus.

*Press the shutter release button fully to take the picture.

Exposure mode switching

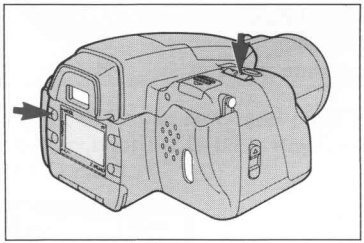


*While continuously pressing the exposure MODE button, pressing the shift button repeatedly changes the exposure mode in the following order.



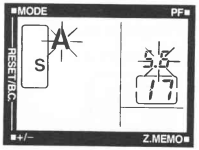
Aperture-preferred auto mode

Use this mode to manually adjust the aperture setting. Light metering will be based on center-weighted average.



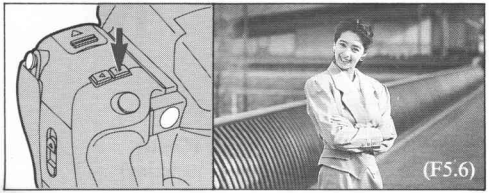
*While pressing the exposure MODE button, press the shift button to set A (Aperture-preferred auto) mode.

*Press the shift button to adjust the aperture.

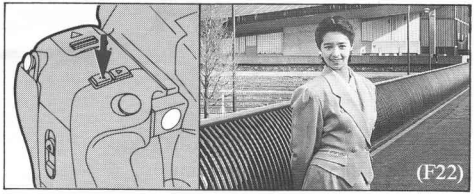


—The shutter speed display will disappear. An "A" and the aperture setting will be displayed on the LCD panel.

Press [>] to open the aperture

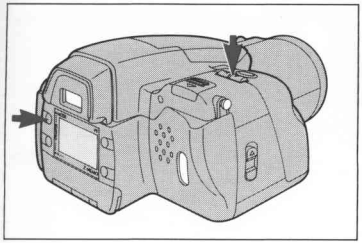


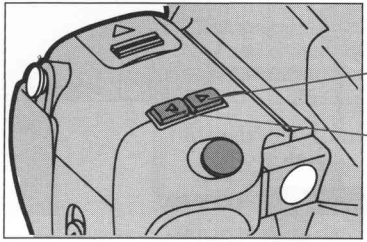
Press [<] to close the aperture



Manual exposure mode

Light metering will be based on a center-weighted average of the entire frame.

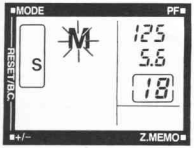




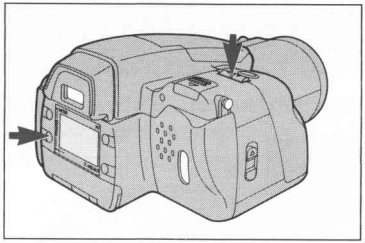
Press [>] to open the aperture

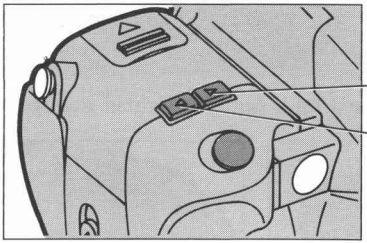
Press [<] to close the aperture

*While pressing the exposure MODE button, press the shift button to set M (Manual exposure) mode.



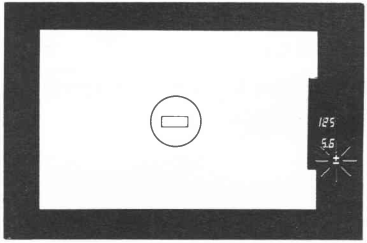
*Press the shift button to adjust the aperture.



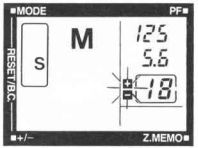


Press [>] for a slower shutter speed
Press [<] for a faster shutter speed

*While pressing + / − button, press the shift button to set the shutter speed.



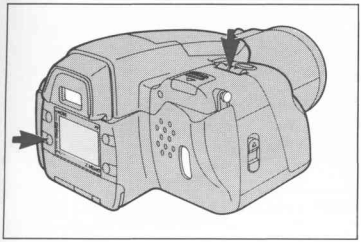
— The exposure level will be displayed on the LCD panel and in the viewfinder.
— LCD panel displays indicate the following:



+ (Blinking): Overexposure
+ Slight overexposure
± Proper exposure
− Slight underexposure
− (Blinking): Underexposure

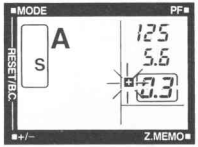
Exposure compensation

The exposure compensation levels can be set up to ±4EV with 1/3EV steps.
(refer to p. 60)



*While pressing + / − button, press the shift button to set the desired compensation level.

NOTE: During manual exposure, exposure compensation cannot be performed.



— While pressing the + / − button, the frame number display changes to compensation level display. An exposure compensation indicator will light up in the viewfinder and on the LCD panel.

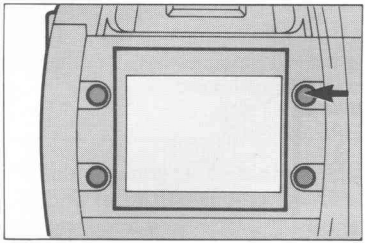
−2EV

±0EV

+2EV

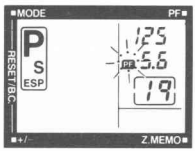
Power Focus photography

Use this mode to continue shooting without changing the focus or when the focusing is difficult.



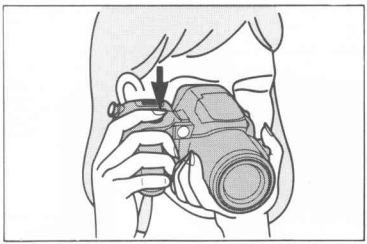
*Position your subject in the autofocus frame and press the shutter release button halfway to focus.

*Press the PF button to set PF (Power Focus) mode.



—The PF will blink on the LCD panel and in the viewfinder.

NOTE: AF function will be canceled. Focus is locked even when you remove your finger from the shutter release button.



*Press the shutter release button fully to take the picture.

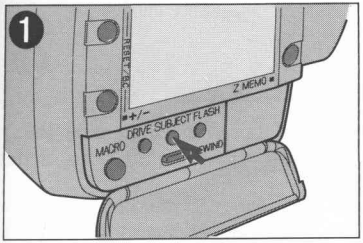
NOTE: Focusing can be changed by pressing the zoom button.

NOTE: Zooming cannot be performed while in PF (Power Focus) mode.

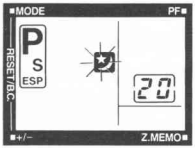
*Press the PF button again to cancel PF (Power Focus) mode.

Zoom exposure

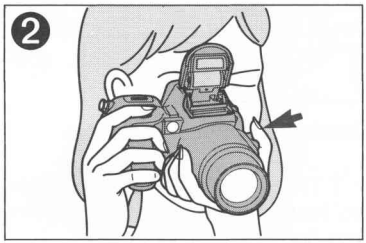
To create shots with a special movement effect.



*Open the mode cover and press the SUBJECT button to set Night scene mode.

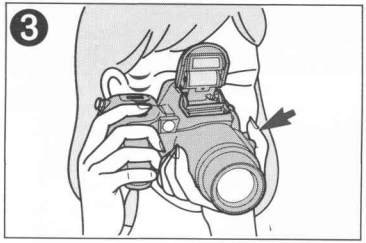


— will be displayed on the LCD panel.



*Press the Zoom button to set the focal length.

NOTE: It is easiest to set zoom at either 35 mm or 135 mm before taking the picture. Simultaneous use of the flash also creates an interesting effect.



*Press the shutter release button halfway to focus
*Press either T (Telephoto) or W (Wide angle) on the zoom button while pressing the shutter release button halfway.

T: Zooming in telephoto direction
W: Zooming in wide-angle direction

— The lens will not move until the shutter is fully pressed.

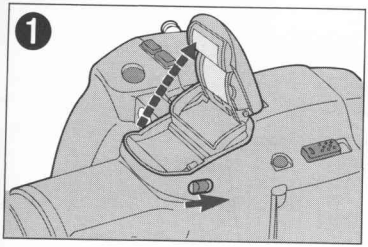
*While pressing the Zoom button, press the shutter release button fully to take the picture.

— Zooming will occur automatically once the shutter release button is fully pressed (when the shutter is open).

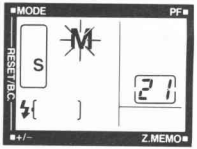
NOTE: For zoom exposure photography, confirm that the shutter speed is slower than 1/3 second in the viewfinder.
If the shutter speed is faster than 1/3 second, zoom exposure will automatically cancel and the camera will operate in standard Night scene mode.
The camera should therefore be securely positioned (with a tripod for example).

Manual flash operation

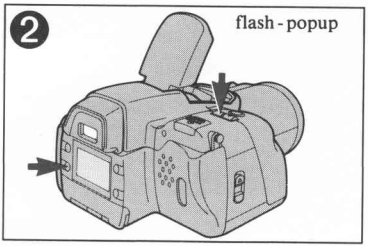
Use this mode for manual exposure while using a flash. For manual exposure photography, the flash becomes GN15 (ISO 100 · m) / GN50 (ISO 100 · ft) full emission.

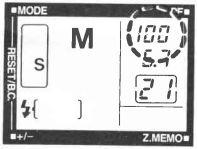


*Slide the flash switch to activate the flash.
— The flash will pop up.



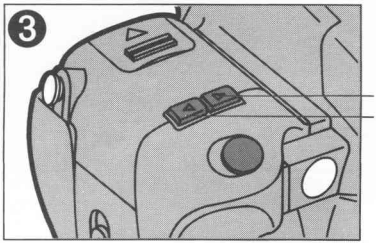
*Set the camera on M (Manual) mode.





*While pressing the + / − button, press the shift button to set the shutter speed at 1 / 100 second or slower.

NOTE: With a shutter speed faster than 1 / 100 second, the flash will not fire.



[>]: to open the aperture
[<]: to close the aperture

*Set the desired aperture level according to the distance between the camera and subject (see chart).

Aperture setting (color negative film):

Distance	1.2—1.5 m (3.9—4.9 ft)	1.5—2 m (4.9—6.6 ft)	2—2.5 m (6.6—8.2 ft)	2.5—3.2 m (8.2—10.5 ft)	3.2—4 m (10.5—13.1 ft)
ISO 100	F11	F8	F6.7	F5.6	F4.5
ISO 200	F16	F11	F9.5	F8	F5.6
ISO 400	F22	F16	F13	F11	F8

Calculation formula for ISO 100: Aperture setting = GN15 ÷ Distance (m)
Aperture setting = GN50 ÷ Distance (ft)

How to take better pictures

Effects of zoom and its advantages

A zoom is a lens with a focal length that changes when part of lens moves. In the case of the IS-1, any focal length between 35 mm and 135 mm can be selected.

35 mm Wide

Because the peripheral angle of view is wide and the depth of field is greater, sharp photographs with clear perspective and contrast can be obtained.

70 mm

With 70 mm zooming, subjects appear close up—two times closer than when the lens is positioned at 35 mm.

100 mm or more

When the lens is set to the maximum focal length of 135 mm, magnification is approximately four times greater than at 35 mm, enabling you to obtain genuine telephoto photographs. As you increase the telephoto effect, perspective becomes narrow, and depth of field becomes more shallow. That means that objects in front of and behind your subject are more likely to be out of focus. This can have an interesting effect on snapshots and portraits.

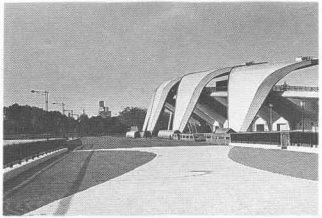
Maximum telephoto lengths are particularly useful for taking pictures at sporting events and for nature photography when you want to get closer to your subject.

(WIDE CONVERTER)

28mm 75°

35mm 63°

70mm 34°



*The five pictures below are samples taken by a photographer using the zoom lens. Notice the dimensions of the subject as the camera zooms in. The three pictures on the right were taken without changing the subject's size. Notice how the background and foreground tend to blur at increased focal lengths.

*Be sure to hold the camera firmly, as pictures tend to blur more easily at longer focal lengths.

Angle of view and depth of field

Angle of view is directly related to the focal depth of field. (the distance the camera is able to focus in front of and behind the subject). The greater the angle of view (wide angle), the greater the depth of field. When the angle of view is narrow (telephoto), depth of field decreases.

The use of a converter lens (optional)

It is possible to attach a converter lens for an even wider angle effect, or for additional telephoto power.

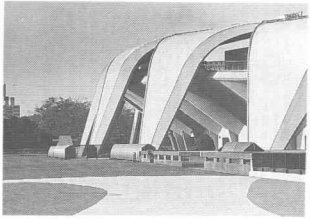
*Instead of 35 mm, a wide angle converter (0.8 ×) allows you to take shots at an even wider focal length of 28 mm.

*Instead of 135 mm, a telephoto converter (1.5 ×) allows you to take shots at an even longer focal length of 200 mm.

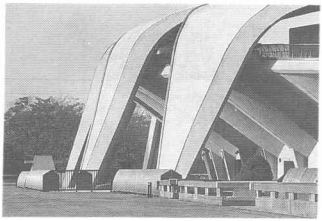
35mm

70mm

135mm 18°



200mm 12° (TELE CONVERTER)



135mm

Autofocus (AF)

The Autofocus (AF) mechanism automatically adjusts focus by measuring the distance-to-subject. Focusing is accomplished by a TTL (through-the-lens) phase-difference detection system. More simply, an AF sensor catches the light reflected off of the subject, calculates the distance, and activates the lens to focus. The IS-1 AF system is particularly advanced, because it even works in the dark by using an infrared beam of light.

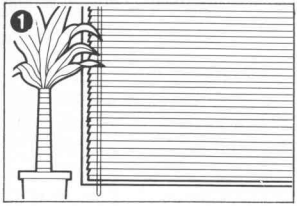
Autofocus is designed to focus on whatever appears in the center of the viewfinder. If you wish to position your subject outside the center of the frame you can use the focus lock (see p. 21). This will also lock the proper exposure (AE lock).

Subjects that are difficult to focus

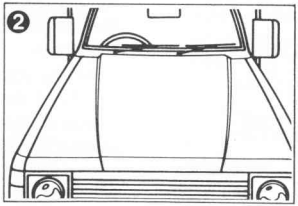
Although the IS-1 can focus on almost any subject, there are certain conditions, such as those shown in the illustrations, where it may not be possible to obtain correct focus. In such cases, the autofocus indicator in the viewfinder will blink to warn you. When the autofocus indicator blinks, try using the power focus (p. 47), or try using focus lock by focusing on a different subject at the same distance.

Please be careful in situations (4), (5) and (6), as the autofocus indicator in the viewfinder may light even though the lens is incorrectly focused.

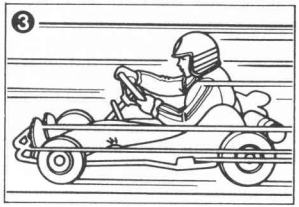
(1) Subject that does not include vertical lines



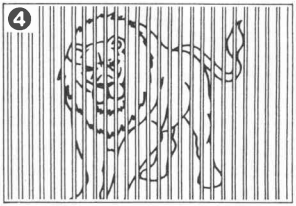
(2) Subject with low contrast



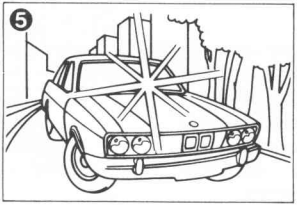
(3) A rapidly moving subject



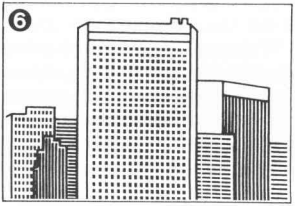
(4) Two subjects within the focusing frame, at different distances



(5) Subjects in Excessively bright light



(6) A subject with a repeated pattern



Exposure

Automatic exposure mode

Exposure refers to the amount of the light which strikes the film and is controlled by a combination of aperture size and shutter speed. The correct amount of the light, or correct exposure, is controlled according to the film speed (indicated on the film package, such as ISO 100 or ISO 200).

Automatic exposure function automatically sets the correct exposure. The IS-1 employs two types of automatic exposure modes: (1) programmed auto exposure, and (2) aperture-preferred auto exposure.

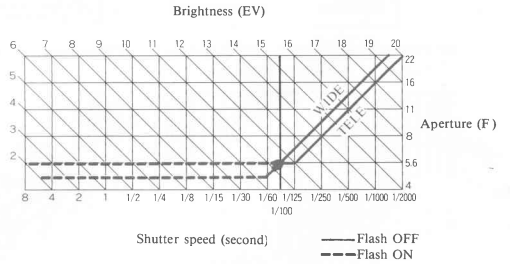
With programmed auto exposure, the camera automatically sets the most suitable combination of "F" stop and shutter speed for subjects with a certain brightness. It lets you concentrate on composing your shot and releasing the shutter at just the right time.

With aperture-preferred auto, you can select any "F" stop by yourself, then according to that aperture, the camera will automatically set the most appropriate shutter speed. Aperture-preferred auto allows greater manual control for more artistic freedom and expression.

Program chart (Standard photography mode)

The chart shown below is a program chart for 35 mm wide and 135 mm telephoto focal lengths. According to the focal length, the program itself changes. When the subject is bright, the "F" stop and shutter speed change simultaneously. When the subject is darker, the aperture opens fully and the shutter speed changes to the corresponding brightness.

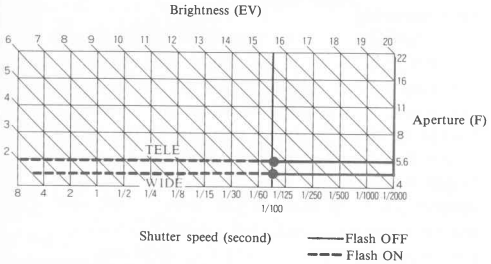
In the standard photography mode (refer to p. 13), if the built-in flash has been popped-up it will automatically fire in dark situations. The shutter speed will be fixed at 1 / 100 second.



Program chart (portrait mode)

The chart shown below is a program chart for portrait mode.

The shutter speed will automatically adjust up to 1/2000 second with the aperture fully opened. As the brightness increases from there, the aperture will begin to adjust. The reasoning behind this is that with a larger (more open) aperture, the depth of field is reduced. That means that the distanced background will be more out-of-focus. At the same time, shutter speed is increased to prevent camera blur.



Night scene mode

When shooting night scenes you may sometimes be disappointed with the result. That is usually because the camera's automatic exposure function works on a standard exposure ratio. In such situations a professional photographer will adjust for exposure compensation or select manual shooting mode. The exposure compensation level chosen by a professional is usually based on experience.

The night scene mode of the IS-1 will automatically adjust exposure compensation for suitable night scene photography. For example, when shooting a subject with a night scene as its background, the use of flash is often desireable. Should that be the case, the camera performs the most suitable exposure compensations for both the subject and the background. The shutter speed may be very slow (up to 4 seconds with ISO 100/15 seconds with ISO 25). To prevent blurring, the camera should be set firmly in position (with a tripod for example).

Fill-in flash

Under strongly backlit conditions the exposure may result in a subject that is too dark. The IS-1 prevents this unwanted result through ESP photometry and spot metering. However, should backlighting be extreme, this is not always effective enough to compensate. For that, the IS-1 employs a Fill-in flash whereby the subject is lighted by a flash emission. This lights your subject, while maintaining proper exposure for the background. Fill-in flash provides an iueresting "catchlight" effect where the color of your subjects eyes appear vivid and aglow.

Measuring the amount of light

Light metering

Light metering refers to measuring the brightness of certain parts of a picture. The IS-1 employs three meterings: (1) ESP light metering, (2) center-weighted average light metering, and (3) spot metering. According to your photographic purpose, the IS-1 allows you to select that which is the most suitable.

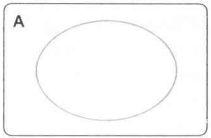
At the same time, the IS-1 uses TTL (through the lens) light metering to automatically measure the light that enters the lens. This allows you to obtain very accurate light metering without any influence due to distance changes between the subject and the camera.

ESP (Electro Selective Pattern) light metering (Exposure mode P)

ESP light metering measures the central portion and peripheral portion of the frame separately. In doing so, the camera determines the proper exposure. The calculation processing program itself is based on trial and error data to properly compensate for backlighting. ESP light metering takes place automatically while in P (Program) mode.

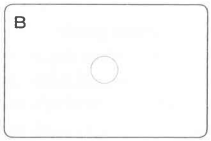
Center-weighted average light metering

Center-weighted average light metering is the most widely used light metering system (Fig. A). This system measures light within a wide range with special emphasis on conditions in the center of the picture. When in A (Aperture-preferred) or M (Manual) mode, this light metering system is automatically activated. Providing that differing contrast between brightness and darkness in the rest of the frame is not too extreme (a portrait with an extremely bright background for example) the system provides excellent results.



Spot metering

Spot metering (Fig. B) measures the brightness in the central section of the frame only. Because this metering system calculates the correct exposure of one point, it is convenient when the subject is backlit or there is strong contrast in the picture. When shooting a subject in front of an extremely bright background, you should spot meter the subjects face. To make white objects look very white, use spot metering and then operate exposure compensation button in the (+) direction. To make black objects look very black, use spot metering and then operate the exposure compensation button in the (−) direction.



Exposure compensation and film speed

Fixed proper exposure

Proper exposure refers to the balance of light and dark in a photo. When shooting a black and white wall, the exposure will be based on the average ratio of black and white—thus the overall exposure is set for grey. This is technically called "fixed proper exposure." A good example of this is a subject with a strongly lit background. The reason the subject turns out dark is because there is more brightness than darkness in the frame. Therefore, the fixed proper exposure is based on the total level of light in the photo, which is significantly brighter than the subject. In the case of strong backlighting, the exposure needs to be adjusted to compensate for brightness.

Adjusting exposure to accommodate lighting conditions is called exposure compensation. When ESP light metering is used, the camera automatically judges the light and compensates for the proper exposure, so manual exposure compensation is not needed.

Exposure compensation

With the IS-1, +/−4EV exposure compensation in 1/3 EV steps is possible. [+] compensation will make a subject appear brighter, while [−] compensation will make a subject appear darker. Under backlit conditions you'll want to make your subject appear brighter (+1 to +2EV). For shooting winter snow scenes, you may want adjust the exposure for additional definition (+2EV). Or, suppose your picture is composed of a black wall, (−2EV) compensation would most likely be appropriate.

Film speed

Film speed is listed on the back of the film package. ISO 100, ISO 200, ISO 400 are the most common. High-speed film (ISO 400), as implied by its name, is for taking photos of fast moving subjects, action shots for example. However there are other advantages to high-speed film. With high-speed film, such as ISO 400, you are able to take pictures in lower light. And the distance covered by the flash will be greater.

The camera is recommended for use of "DX" film cartridges, ISO 25, 32, 50, 100, 200, 400, 800, 1600 and 3200. In the case of non-DX coded film, film speed is automatically set to ISO 32. Also, films with middle speeds such as ISO 64, 160 and 1000 are automatically set to the next lower speed. When using middle-speed films, use the exposure compensation.

ISO 64: −0.3EV ISO 160: −0.7EV ISO 1000: −0.3EV

Flash

***Flash strength**

The flash on the IS-1 uses a new exposure control system. This flash system combines advantages of both "flashmatic," employed in compact cameras and "auto flash" which is employed in SLRs. Flashmatic emits full-strength flash while the camera automatically adjusts the aperture level for proper exposure. In most cases this is an effective system. However, when the subject is at extremely close range, subjects tend to be over exposed, and the background too dark because the aperture has been adjusted to its most narrow setting. On the other hand, auto flash controls the amount light emitted by the flash. This system decides exposure by measuring reflected light. But, depending on the background, exposure for the main subject can be affected. For example, with a white background, the subject may appear too dark due to the level of reflected light received through the lens. The reverse is true for a dark background.

The IS-1 employs a combination of aperture adjustment and flash strength to give you perfect exposure every time. That means that the effects of background lighting and distance-to-subject are both accounted for.

High Function Flash G40 (Optional)

The G40 is a dedicated flash for the IS-1 (GN131 ISO 100·ft). It is designed for professional flash photo-effects such as bounce, multi-flash and Follow-synchro.

Bounce photography uses indirect lighting of subjects by reflecting flash light off of a ceiling or wall. With straight flash photography a strong shadow often appears behind the subject. By bouncing, you can obtain a soft, well-balanced lighting effect on the entire subject. You can also use the built-in flash together with the G40 for additional affect.

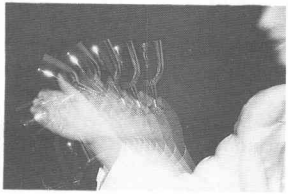
Multi-flash emits the light several times in one exposure. With this flash mode, continuous movement, such as a golf swing, can be photographed sequentially in one frame. It's a multiple exposure with flash.

With Follow-synchro mode, the flash fires at the final point of slow synchro. For example, the tail-lights of a moving automobile can be expressed.

When the IS-1 is equipped with the tele-converter lens (×1.5) or the wide-converter lens (×0.8), the built-in flash cannot be used. We recommend you to use the G40 for such cases.

Direct flash

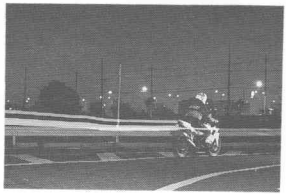
Multi flash



Normal slow-synchro
(Curtain-1 synchro)

Bounce (with simultaneous use of built-in flash)

Follow-synchro (Curtain-2 synchro)



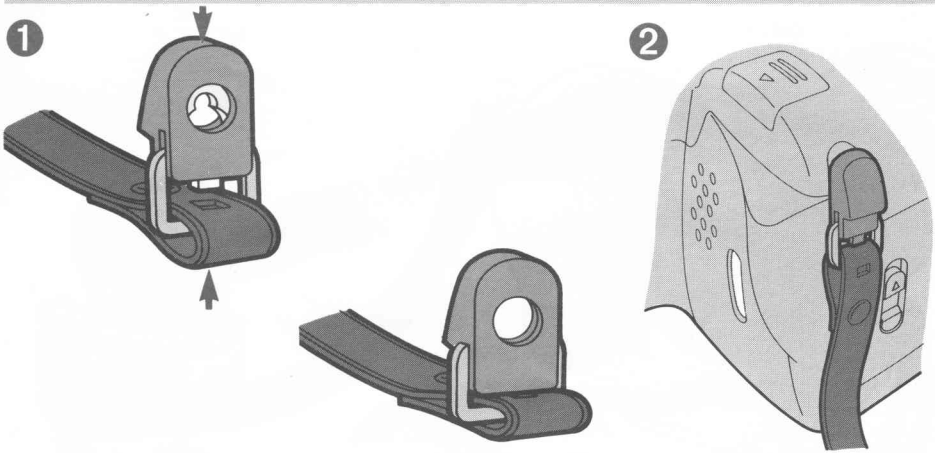
Macro photography

***Wide macro**
When you try to take a picture of someone sitting right next to you, the camera may not be able to focus properly. In this case, macro mode (wide) comes in handy. Wide macro allows you to take close up pictures on a wide angle setting (as close as 60 cm (2.0 ft) at 40 mm focal length). At the same time the autofocus flash can be used. It is convenient to use the zoom memory to memorize a wide macro setting. And it is particularly convenient if you usually use macro mode for snapshots.

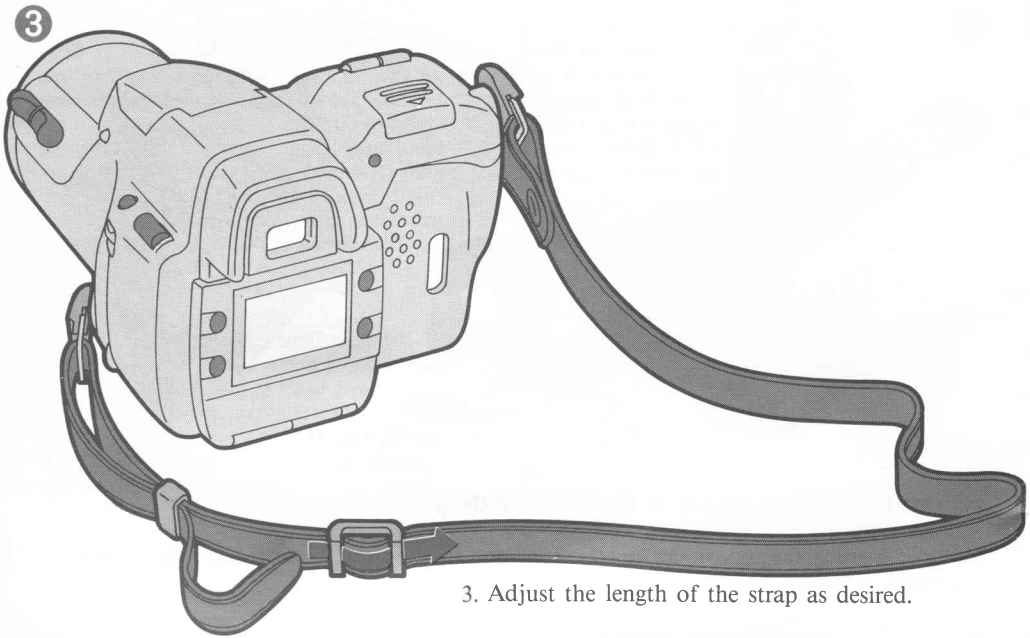
***Tele macro**
Use Tele macro mode to make small subjects appear large. With tele macro mode you can shoot at a focal length of 100 mm as close as 60 cm (2.0 ft) from your subject. At this range, the picture will capture an area of about 15 cm × 22 cm (5-7/8 × 8-11/16 inches). As with wide macro, autofocus and flash can be used.

IS/L LENS A-MACRO H.Q. CONVERTER f = 40 cm (optional)
The IS-1 is compatible with an optional Macro converter. At 60 cm (2.0 ft) distance-to-subject, the picture will capture an area of about 6 cm × 9 cm (2-3/8 × 3-9/16 inches). The built-in flash can also be used.

How to attach the strap



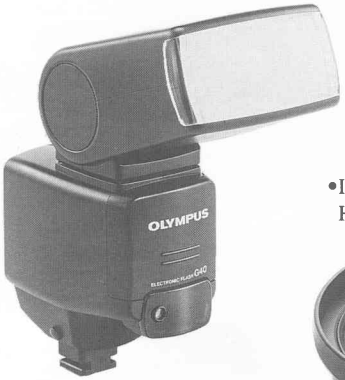
1. Insert the attaching portion of the strap into the guide hole as shown in the illustration.
2. While pressing the top of the attaching portion of the strap, connect the strap to the camera.



3. Adjust the length of the strap as desired.

Accessories (optional)

Electronic flash G40



•IS/L LENS A-200
H.Q. CONVERTER 1.5×

•IS/L LENS A-28
H.Q. CONVERTER 0.8×

•IS/L LENS A-MACRO
H.Q. CONVERTER f=40cm

Soft case A

Carrying case A

Variable dioptric adapter A

• −2 ~ −4

• 0 ~ −2

• +2 ~ 0

Troubleshooting

Battery power

*Battery life will last for about 25 rolls (24-exposure, half with flash). Less flash and zooming uses less battery power. We recommend that you use Panasonic CR 123A or Duracell 123A. Do not mix different types of batteries or new and old batteries together.

The camera does not work

*Make sure the power switch is ON.

*Check to make sure that the batteries are loaded and inserted correctly.

*When the battery warning mark appears on the LCD panel, replace batteries immediately.

Displays disappeared while shooting.

*When the camera power is ON, but no controls are operated for about 30 seconds, a power saving function will turn off all displays on the LCD panel and in the viewfinder. To resume displays, press the shutter release button lightly.

Shutter speed and aperture setting displays blinks.

*If there is not enough light when shooting, the shutter speed and aperture setting displays will blink to warn you. In such cases, a flash should be used. Also, in manual exposure mode, when the + / − display blinks, a flash should be used.

*While using the flash, the shutter speed and aperture setting displays will blink to warn you that the subject is out of flash range. You need to get closer.

The camera does not focus correctly.

*When the subject moves too fast or is not positioned within the autofocus frame in the center of the viewfinder, the camera may not focus properly. Try using the focus lock (see p. 21).

*It is sometimes difficult to attain an accurate distance measurement of subjects that have a low reflection ratio, such as navy blue or black or subjects outside AF illuminator range (1.2-4 m/3.9-13.1 ft), even though the autofocus indicator appears in the viewfinder.

The shutter will not release.

*The camera may not be in focus. Check for the "autofocus indicator" in the viewfinder.

*The shutter will not release if a rewound film cartridge is still inside the camera. Remove the cartridge.

Flash does not emit.

*If the ϟ mark has disappeared from the viewfinder, press the shutter release button halfway and the ϟ mark will reappear.

*Make sure the shutter speed is set at 1/100 second or slower.

*With continuous flash shooting, there is sometimes a delay in the time required to recharge the battery. Shoot after the flash indicator ϟ appears in the viewfinder.

When flash shooting, people's eyes come out red.

*Red-eye phenomenon is a common problem in flash photography. The phenomenon occurs because the retina behind the pupil of an eye reflects flash light. Shooting conditions such as the brightness or darkness of surroundings also affect red-eye phenomenon. Intensity of red-eye phenomenon will differ from person to person as it depends on dilation of the pupil. Generally, when the distance between the subject and the camera increases, so does the occurance of red-eye. To reduce this phenomenon, use Auto-S flash mode (refer p. 38).

The camera does not work in extremely cold weather.

*In low temperature conditions, batteries temporarily lose performance. Try to keep the camera warm.

When shooting, the scene was in the viewfinder, but on the picture the edge was cut off

*When printing, sometimes the edge of your photo may be cut off. When composing your shot, be sure to leave some space on the edges to compensate.

My photos look like the film is cracked

*Check the film compartment for dust. When a camera has been used for a long period of time, the film compartment may need to be cleaned. Do so carefully.

Specifications

Type: Full-automatic 35 mm autofocus single lens reflex camera with built-in 35—135 mm Zoom lens

Film Format: 35 mm standard DX coded film (24 mm × 36 mm)

Lens: Olympus lens (filter available, filter diameter of 49 mm) 35—135 mm F4.5—F5.6, 16 elements in 15 groups with extraordinary dispersion glass

Shutter: Electronic control system vertical focal plain shutter
Shutter speed 1/2000 sec.—15 sec. bulb

Focusing: TTL phase-difference detection system autofocus with focus lock, AF illuminator automatically lights up in low light. Manual focusing available (power focus).
Focusing range: 1.2 m (3.9 ft)—∞(infinity);
0.6 m (2.0 ft)—∞(infinity)
(in macro mode)

Viewfinder: Single lens reflex system, magnification ratio 0.75 (at 50 mm), Finder view-field: 85% of actual view-field

Viewfinder information: Autofocus frame, spot frame, autofocus indicator, flash indicator (to be used as flash use warning), shutter speed, aperture setting, exposure compensation/manual exposure indicator, spot metering indicator, power focus indicator

Light metering system: TTL light metering system ESP light metering, center-weighted average light metering, spot metering

Exposure modes: (1) Program AE (2) Aperture-preferred AE (3) Manual exposure, (4) Night scene program AE (5) Portrait program AE

Exposure compensation: + / − 4 EV compensation possible (1/3 EV step)

Exposure counter: Progressive type, displayed on LCD panel

Film speed range: Automatic setting with DX coded film (ISO 25, 32, 50, 100, 200, 400, 800, 1600, 3200, other intermediate film speeds will be automatically set for the next lower speed)

Film loading: Automatic loading (automatically advances to first frame when camera back is closed)

Film advance: Automatic film winding, consecutive winding available, double exposure possible

Film rewind: Automatic film rewind (automatic rewind activated at end of film, automatic rewind stop), rewind is possible at any point with rewind button

Selftimer: Electronic selftimer with 12 sec. delay

Flash: Built-in IVP (Intelligent Variable Power) flash system with dual emitting tubes. Manual activating system, recycling time of about 3.5 sec. (at normal temperature), Light emission ISO 100·m of GN20/ISO 100·ft of GN66 (at automatic), ISO 100·m of GN15/ISO 100·ft of GN50 (manual),
Flash range:
WIDE 1.2 m—4.6 m (3.9—15.1 ft)
(ISO 100 negative color film)
TELE 1.2 m—5 m (3.9—16.4 ft)
(ISO 100 negative color film)
WIDE 1.2 m—9.2 m (3.9—30.2 ft)
(ISO 400 negative color film)
TELE 1.2 m—10 m (3.9—32.8 ft)
(ISO 400 negative color film)
With Macro photography the flash is available

Flash mode: AUTO (automatic flash activation in low light and backlight)
AUTO-S (Red-eye reducing, in low light and backlight)
FILL-IN (forced activation)
Manual

Battery check: Display on LCD panel

Power source: Two 3V lithium batteries (CR123A or DL123A) (Replaceable)

Dimensions: 117(W) × 90(H) × 153(D) mm (4-5/8 × 3-9/16 × 6 inches)
(excluding protrusions)

Weight: 875 g (30.8 oz) (without batteries)

Description of controls (2)

Viewfinder
Exposure mode button
Exposure compensation (+/−) button
PF (Power Focus) button
Strap attaching portion
LCD panel
Spot button
Mode cover
Zoom memory button
Film window
Battery cover
Back cover release
Tripod socket

LCD panel