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The large manuals are split only for easy download size.


This drive mode has a total of three drive modes as shown.

Types of Drive Modes


Single-Frame Mode

[] : One picture is taken each time the shutter release button is depressed.

Consecutive-Frame Mode

[] : Pictures can be taken consecutively while holding down the shutter release button.
See page 44.

Self-Timer Mode

[] : A picture will be taken with a 12-second-delay.
See page 44.

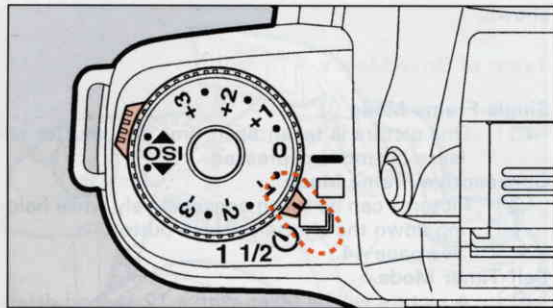
Auto Bracketing Exposure in 1/2 EV step

[1/2] : Three pictures are taken consecutively with different exposure levels in 1/2 EV step increments. See page 46.

Auto Bracketing Exposure in 1 EV step

[1] : Three pictures are taken consecutively with different exposure levels in 1 EV step increments.
See page 46.

III. ADVANCED OPERATIONS



1. Consecutive-Frame Mode

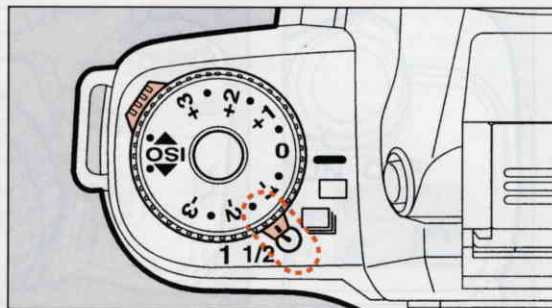
Consecutive pictures can be taken by holding down the shutter release button.

How to set

Set the drive mode dial to [1 1/2].

- The camera focuses on the subject frame by frame in this mode.
- The shutter cannot be released while the built-in flash is being charged.

1



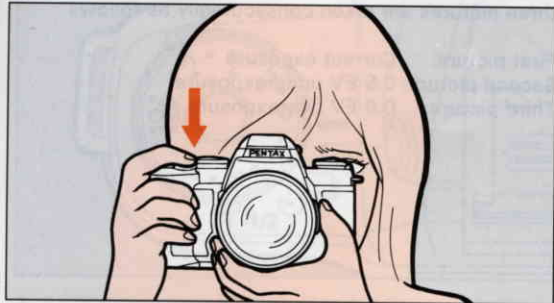
2. Self-Timer Mode

The self-timer mode delays the shutter release, and is useful for taking group shots that include the photographer. The shutter will be released about 12 seconds after the shutter release is depressed.

How to set

1. Set the drive mode dial to [12].

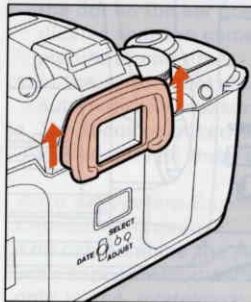
2



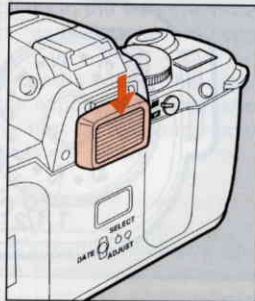
2. Focus on the subject first using the autofocus frame and by depressing the shutter release button halfway down. Then depress the shutter release button fully.

- The shutter will be released about 12 seconds later.
- When the self-timer is in operation, the audible PCV signal is heard and the rate increases for the last two seconds.

*



*



How to cancel

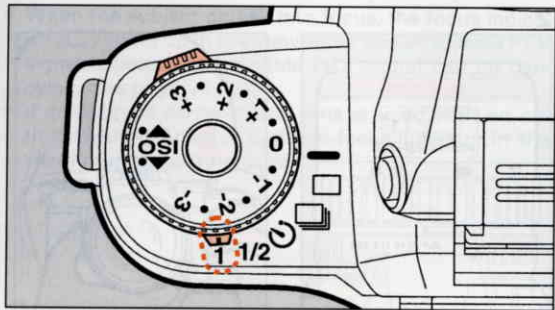
To cancel the self-timer operation after it has been activated, move the drive mode dial to a position other than [⏻].

- * Underexposure may occur if light enters the viewfinder during self-timer operation. If you intend to move away from the viewfinder, attach the supplied finder cap as shown in the illustration.
- * When using accessories such as the Findercap, remove the Eyecup F₆. The Eyecup F₆ comes from the factory fitted to the camera's viewfinder accessory grooves.



1. Auto Bracketing Exposure in 0.5 EV step
Set the drive mode dial to [1/2].

First picture: Correct exposure
Second picture: 0.5 EV underexposure
Third picture: 0.5 EV overexposure



2. Auto Bracketing Exposure in 1.0 EV step


Set the drive mode dial to [1].

When the shutter release button is depressed fully, three pictures are taken consecutively as follows.

First picture: Correct exposure

Second picture: 1.0 EV underexposure

Third picture: 1.0 EV overexposure

In the normal photography, set the drive mode dial to [] Single-Frame Mode.

- If your finger lifts up from the shutter release button, the dot on the bar graph blinks in the viewfinder to indicate that the camera is ready to take the second picture at any time.
- In the Auto Bracketing Exposure Mode, the camera automatically measures the exposure for each shot.
- The focus is locked at the first picture and remains locked until all three pictures are taken.

Auto Bracketing Exposure Mode combined with the Exposure Compensation Function.

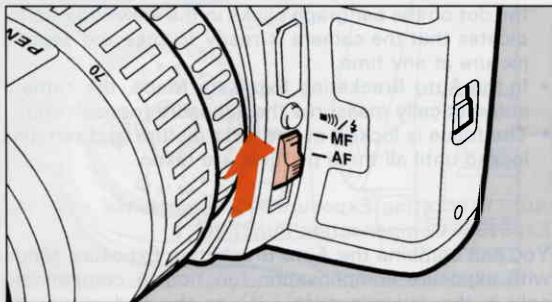
You can combine the Auto Bracketing Exposure Mode with exposure compensation function to compensate only in the overexposure (+) or the underexposure (-) direction.

Example: Bracketing in the overexposure direction.

1. Set the drive mode dial to 1 (1 EV step).
2. Set the Exposure compensation dial to + 1 (+1 EV step) .
3. At this setting, the first exposure is overexposed by 1.0 EV, the second picture is exposed properly and the third picture is overexposed by 2.0 EV.

(2) MANUAL FOCUSING

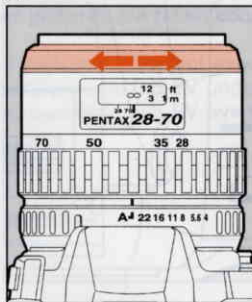
1



Using a manual-focus lens

When mounting a non-autofocus lens with a maximum aperture of $f/5.6$ or larger ($f/1.2$ to $f/5.6$), you can use the manual focus mode to focus the lens with the aid of the in-focus indicator [\square] in the viewfinder.

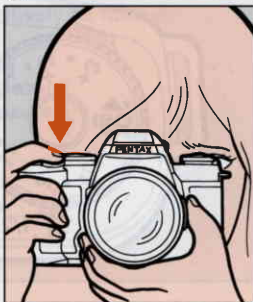
2




How to focus


1. Set the focus mode switch to [MF].
2. While looking through the viewfinder, turn the focusing ring to the right or left while holding the shutter release button halfway down.
3. When the subject comes into focus, the in-focus indicator [\square] lights up in the viewfinder. Depress the shutter release button fully to take the photograph.


3



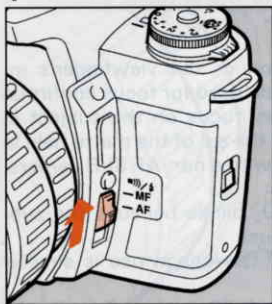
- When the subject comes into focus, the focus indicator [] lights up in the viewfinder and an audible PCV signal is heard. The audible PCV signal can be canceled. See page 71.
- If an old type screw-mount lens is used with an optional Mount Adapter K, the in-focus indicator in the viewfinder cannot be used.

When the autofocus mode or the in-focus indicator is unsuited for focusing

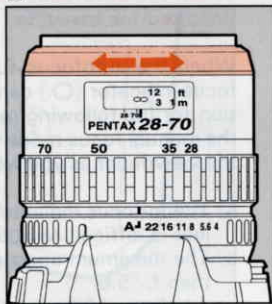
When the autofocus function or the viewfinder's in-focus indicator [] cannot be used for focus confirmation for the following reasons, focus on the subject in the manual focus mode with the aid of the matte field in the viewfinder as you would with a non-AF SLR camera.

- a) The in-focus indicator [] blinks because the subject is difficult to autofocus.
- b) The maximum aperture of the lens in use is smaller than $f/5.6$.
- c) A bellows 100mm $f/4$, Shift 28mm $f/3.5$ (shifted), or Reflex lens are in use.
- d) An old type screw-mount lens fitted with an optional "Mount Adapter K".

1



2



Using the snap-in focus function

When the subject comes to the point where the lens was prefocused, the shutter is automatically released.

How to use

1. Use a non-autofocus lens.
2. Set the focus mode switch to [**AF**].
3. Focus at the point where you wish to capture the subject.
4. Using the optional "Cable Switch F", keep the trigger release button depressed so that the autofocus and metering systems stay active.
5. The camera releases the shutter automatically when the subject comes into focus at the point selected.

How to focus on the subject

1. Set the focus mode switch to [**MF**].
2. While looking through the viewfinder, turn the focusing ring to the right or left until the image in the viewfinder is clearest.

HARD-TO-AUTOFOCUS SUBJECTS

The autofocus system is highly precise, but not perfect. Depending on the brightness, contrast, shape, and size of your subject, the autofocus system may not operate. In such a case, use the focus-lock technique (see page 66.) on another subject that is the same distance away, or set the focus mode switch to [**MF**] and use the manual focus mode to focus the lens on the subject with the aid of the matte field in the viewfinder (see page 50).

Subjects which may fool the autofocus system include:

- a) Extremely low-contrast subjects such as a white wall in the autofocus frame [**C**].
- b) Subjects which don't reflect much light in the autofocus frame [**C**].
- c) Subjects which are moving too fast.
- d) Multiple subjects in the foreground and background of the autofocus frame [**C**].
- e) Subjects positioned against reflected light or strong backlight or with extremely bright backgrounds.

Notes on Accessories

The following conditions do not allow autofocusing or manual focusing with the in-focus indicator in the viewfinder. Use the manual focus mode to focus on the subject with the aid of the matte field surrounding the autofocus frame.

- a) When using special effect filters or "Magic Image Attachment" or "Stereo Adapter".
- b) When using Extension Tubes or an Auto Bellows for close-up photography.

Note on the SMC Pentax F SOFT 85mm f/2.8 lens

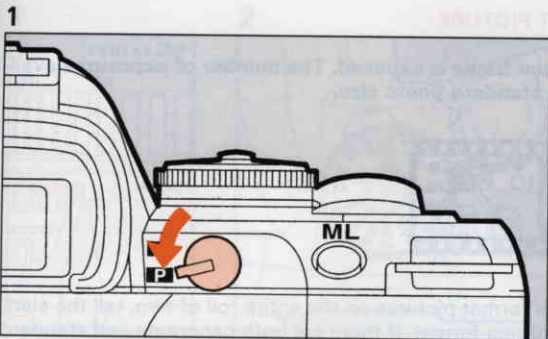
When shooting at a distance closer than approx. 1.5m (4.9ft), set the lens to a manual f-stop setting between f/2.8 and f/4.5. A smaller aperture (f/5.6 to f/32) may cause the autofocus system and the viewfinder's in-focus indicator to malfunction. To remedy this problem, temporarily set the lens to f/4.5. After focusing on the subject, lock focus, and set the lens to the required f-stop.

Using A Polarizing Filter

When using an ordinary polarizing filter; the half mirror incorporated into the autofocus system reduces the effectiveness of the autofocus function when used in combination with an ordinary polarizing filter. Use a **CIRCULAR POLARIZING FILTER** for proper autofocus operation.

(3) TAKING PANORAMA FORMAT PICTURE

53



You can switch between the panorama format and standard format picture taking mode in the middle of the roll by moving the panorama lever. The panorama format picture allows horizontally positioned dynamic pictures to be taken (the panorama format is approximately 13x36mm on the film).

1. Turn the panorama lever to **[P]** to select the panorama format mode.
2. Compose the scene within the panorama format frame in the viewfinder.



- When the panorama lever is switched to panorama, the viewfinder switches to the horizontal panorama format frame.
- Ensure that the panorama lever is turned fully to the position you selected.
- What appears on the extreme edges of the panorama frame may be cut off in the development process. Compose your picture with a margin of safety.

NOTES ON THE DEVELOPMENT OF PANORAMA FORMAT PICTURE

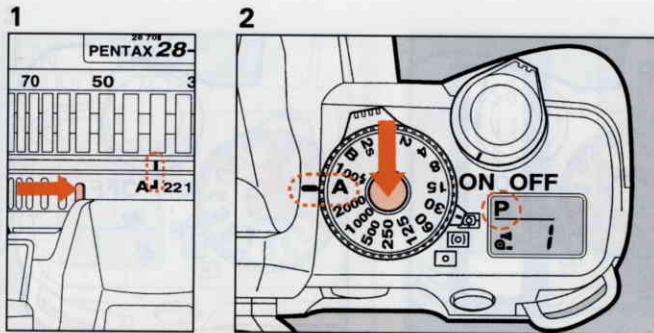
- With panorama format pictures, only the middle area of the frame is exposed. The number of exposures available in the panorama format is equivalent to that of the standard photo size.



- When developing the film, if you have taken only panorama format pictures on the entire roll of film, tell the clerk at the processing lab to develop the film with only the panorama format. If there are both panorama and standard format pictures on the film, ask the clerk to develop the film with both standard and panorama format.
- The development of panorama format pictures is a more time-consuming and expensive process than that of standard pictures. Please consult the processing lab for more details.
- Panorama format processing facilities differ depending on the area and requirement. Your local film processor or camera dealers will advise you on all options available to you.
- When the panorama format pictures are printed with a standard size format, the black cropped areas will appear at the top and bottom of the picture.

(4) SELECTING AN EXPOSURE MODE

55



Using the Programmed AE Mode

Purpose

The camera automatically selects the optimum combination of shutter speed and aperture setting, making it easy to take a good photograph by just depressing the shutter release button.

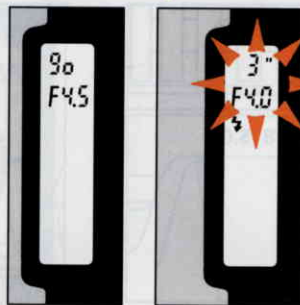
How to set

1. Set the lens aperture ring to [A].
2. Set the shutter dial to [A].

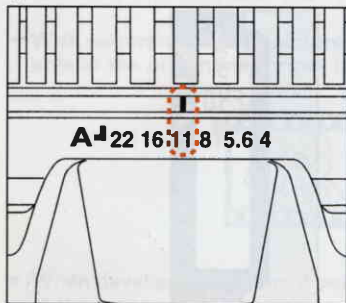
- Turn the lens aperture ring while holding down the aperture-A lock button.
- Turn the shutter dial to [A] while holding down the shutter dial lock button.
The shutter dial can be released from [A] to another position in the same manner as above.
- When the shutter release button is depressed halfway, the shutter speed and aperture setting will be displayed in the viewfinder.

* Exposure Warning

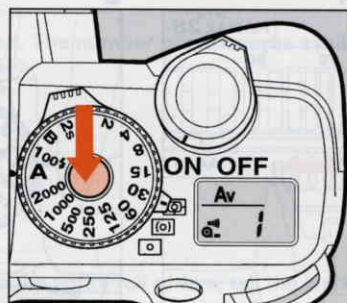
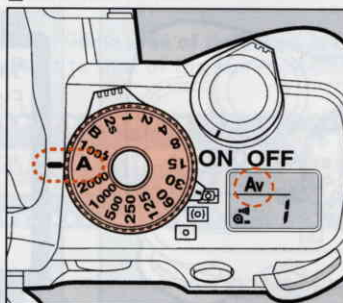
If the subject is too bright or too dark, the shutter speed and aperture setting will blink in the viewfinder. If the subject is too bright, select a darker subject. Use a flash if the subject is too dark.



1



2



Using the Aperture-Priority AE Mode

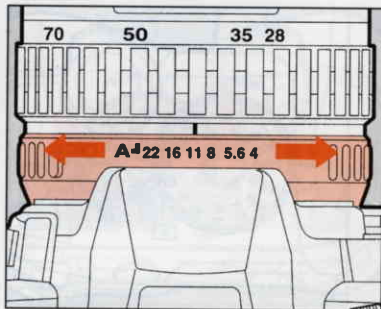
Purpose

When the desired aperture is selected, an appropriate shutter speed is automatically set by the camera for a proper exposure. This mode is ideal for shooting landscapes with increased depth of field, or a portrait against a blurred background. For details on the effect of the aperture setting, see page 86.

How to set

1. Set the lens aperture ring to the desired f-stop other than [A].
 2. Set the shutter dial to [A].
- Set the shutter dial to [A] while holding down the shutter dial lock button. [Av] appears on the LCD panel to indicate that the Aperture-Priority AE Mode is set. The shutter dial can be released from [A] in the same manner as mentioned above.
 - When the shutter release button is depressed halfway, the shutter speed and aperture setting will be displayed in the viewfinder.

3



3. Set the desired f-stop.

- When an F or FA lens is used, an approximate aperture indication will appear in the viewfinder when the shutter release button is depressed halfway. When lenses other than an F or FA series are used, no approximate aperture indication will appear in the viewfinder.
- When lenses other than an FA and F series are used, use either the center-weighted metering or the spot metering. The multi-segment metering mode cannot be used.
- When the $f/1.2$ lens is in use with the lens aperture ring set at a position other than the [A] position, the center-weighted metering mode will be set instead of the multi-segment metering mode. As the exposure

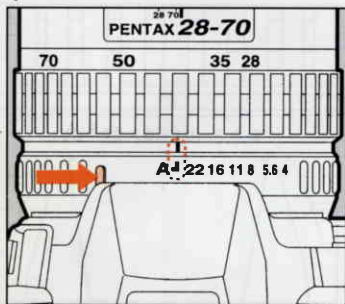


will come out 1 stop overexposed, set the lens aperture ring to [A] or adjust the exposure deliberately 1 stop under.

* Exposure Warning

If the subject is too bright or too dark, the selected shutter speed will blink in the viewfinder and on the LCD panel as a warning as shown. When the subject is too bright, choose a smaller aperture, if available; when it is too dark, choose a larger aperture, if available. When the shutter speed indication stops blinking, you can take the picture. If both shutter and aperture blink, it means that the exposure is out of metering range, unable to obtain a correct exposure even if the aperture is adjusted. Select a darker subject if it is too bright, or use a flash if it is too dark.

1

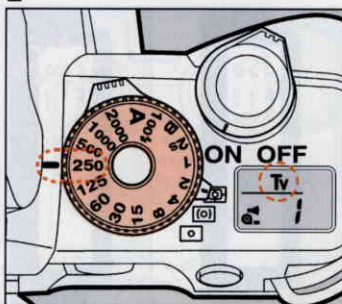


Using the Shutter-Priority AE Mode

Purpose

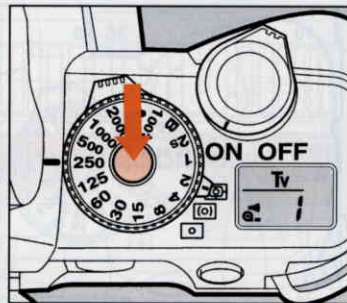
When the desired shutter speed is selected, the appropriate aperture is automatically set by the camera for a proper exposure according to the brightness of the subject. This mode is suitable for freezing the action with a fast shutter speed or capturing a flowing dynamic image with a slow shutter speed. For details on the effect of the shutter speed, see page 85.

2

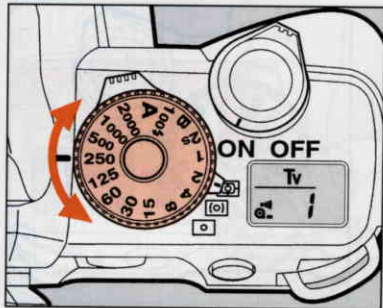


How to Set

1. Set the lens aperture ring to [A].
 2. Set the shutter dial to a shutter speed other than [A].
- While holding down the shutter dial lock button, turn the shutter dial to the desired shutter speed. [Tv] appears on the LCD panel to indicate that the Shutter-Priority AE Mode is selected.



3



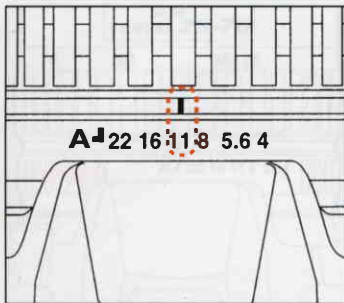
3. Set the shutter dial to the desired shutter speed.

- When the shutter release button is depressed half-way down, the shutter speed and the aperture value will be displayed in the viewfinder.
- In flash photography, when you use the flash sync shutter speed of 1/100 second or a non-dedicated external flash unit, set the shutter dial to the [100 $\frac{1}{2}$] (1/100 of second) position.

* Exposure Warning

If the subject is too bright or too dark, the shutter speed and aperture setting in the viewfinder blink. When the subject is too bright, choose a faster shutter speed. If it is too dark, choose a slower shutter speed. When the shutter speed indication stops blinking, you can take the picture. If both selected shutter speed and aperture blink, it means that the exposure is out of metering range, unable to obtain a correct exposure even if the shutter speed is adjusted. Select a darker subject if the subject is too bright. Use a flash if it is too dark.

1

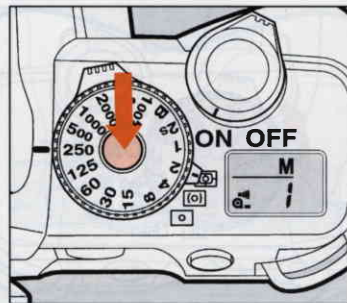
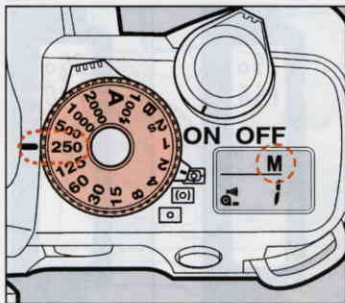


Using the Metered Manual Mode

Purpose

The Metered Manual Mode is a convenient exposure mode for taking pictures using the same shutter speed and aperture setting combination, or taking creatively under or overexposed photographs.

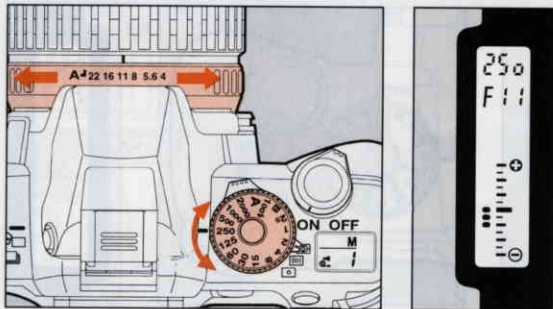
2



How to set

1. Set the lens aperture ring to the desired f-stop setting.
 2. Set the shutter dial to the desired shutter speed.
- To set the shutter dial to a position other than [A], turn the shutter dial while holding down the shutter dial lock button.
 - [M] appears on the LCD panel to indicate that the Metered Manual Mode is set.

3



3. Turn either the shutter dial or lens aperture ring until the dot is displayed in the center of the bar graph.

- When the shutter release button is depressed halfway, the shutter speed, approximate aperture and bar graph will be displayed in the viewfinder.
- When a lens other than an F or FA lens is used, no approximate aperture indication will appear in the viewfinder.
- When the dots are displayed to the [⊕] side on the bar graph, it indicates overexposure and when the dots are displayed to the [⊖] side, it indicates underexposure.
- Moving one dot on the bar graph indicates 0.5 step (0.5EV). However, when under or over exposure is

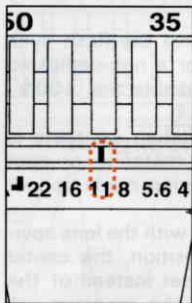
set beyond + 3 or - 3 steps (3EV), [⊕] or [⊖] indicator will blink.

- In flash photography, when you use the flash sync shutter speed of 1/100 second or a non-dedicated external flash unit, set the shutter dial to the [100⚡] (1/100 of second) position.
- When a lens with no lens information contacts is used, use either center-weighted metering or spot metering. The multi-segment metering mode cannot be used.
- When using a Pentax A f/1.2 lens with the lens aperture ring set other than the A position, the center weighted metering mode will be set instead of the multi-segment metering mode. As the exposure will come out 1 stop over, set the lens aperture ring to [A], or adjust the exposure deliberately 1 stop under.

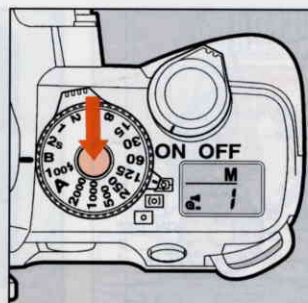
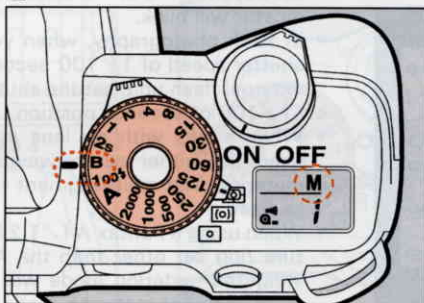
* Exposure Warning

If the subject is too bright or too dark, the selected shutter speed will blink in the viewfinder as a warning as shown. When the subject is too bright, choose a smaller aperture; when it is too dark, choose a larger aperture. When the shutter speed indication stops blinking, you can take a picture. If both shutter and aperture blink, it means that the exposure is out of metering range, unable to obtain a correct exposure even if the aperture is adjusted. Select a darker subject or use a flash if it is too dark.

1



2



Using the Bulb Exposure Mode

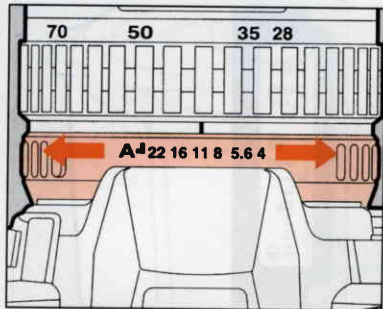
Purpose

This mode is useful for the long exposures required for shooting night scenes and fireworks. The shutter remains open as long as the shutter release button is held down.

How to set

1. Set the lens aperture ring to the desired f-stop other than [A].
 2. Set the shutter dial to [B].
- Set the shutter dial to the [B] position. Turn the shutter dial while holding down the shutter dial lock button.
 - [M] appears on the LCD panel and [bu] is displayed in the viewfinder to indicate that the Bulb Exposure Mode is set.

3

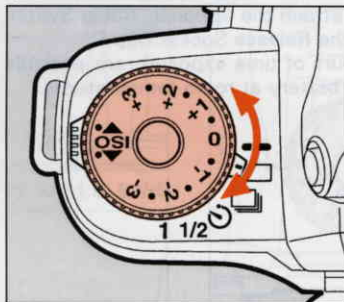


3. Adjust the desired aperture by lens aperture ring.

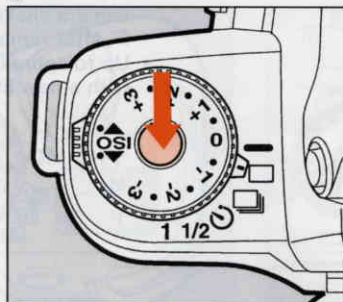
- When using this mode, use a steady tripod to prevent camera shake and attach the optional "Cable Switch F" after removing the Release Socket Cap F.
- Up to approx. 8 hours of time exposure are possible with a new lithium battery at room temperatures.

(5) ABOUT EXPOSURE COMPENSATION

1



2




3



Purpose

The exposure compensation allows you to deliberately overexposure (brighten) or underexposure (darken) a subject, or compensate for difficult lighting conditions which may fool the camera's built-in exposure meter.

How to set

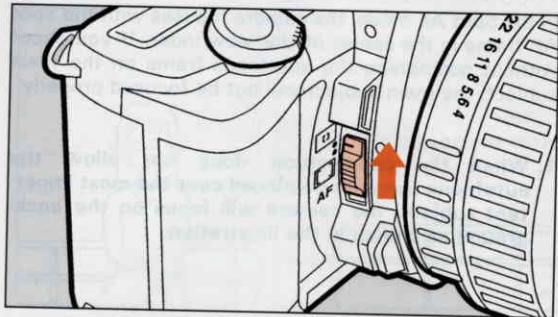
1. Turn the exposure compensation dial to the desired compensation value.
2. To set the exposure compensation dial to a position other than the [0] position, turn the exposure compensation dial while holding down the exposure compensation dial release button.
3. The bar graph which indicates the compensation value and [] appear in the viewfinder.

- Exposure compensation does not work in the Bulb Exposure Mode.
- The exposure compensation range is -3EV to $+3\text{EV}$ in 0.5EV step.
- Moving one dot on the bar graph indicates 0.5EV step.
- When exposure compensation is used in the Metered Manual Mode, the dots on the bar graph indicate under or overexposure, it is not indicating the exposure compensation value.

(6) SPOT AF MODE

65

1



Select the Spot AF Mode to critically focus on a specific spot of the subject which is in the Spot AF autofocus frame.

How to focus

1. Set the AF mode switch to [C].

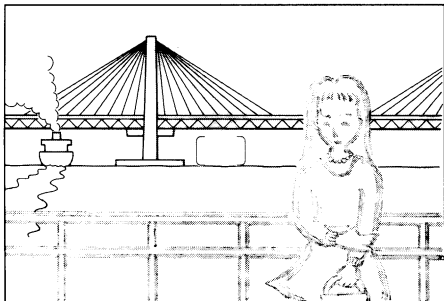
2



2. Focus on the main subject with the Spot AF frame indicating in red in the illustration.

- When the main subject is off the Spot AF frame, use the focus-lock technique. See page 66.

1



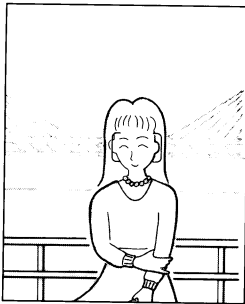
FOCUS LOCK FUNCTION

In the Spot AF mode, the camera focuses with the Spot AF frame in the center of the viewfinder. If you shoot without positioning the autofocus frame on the main subject, the main subject will not be focused properly.

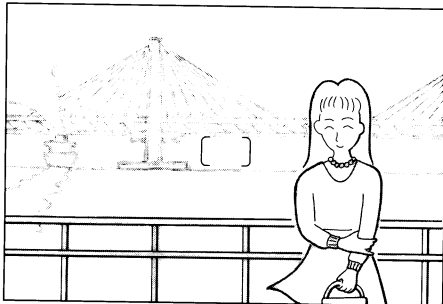
How to use

1. When the composition does not allow the autofocus frame to be placed over the most important subject, the camera will focus on the background as shown in the illustration.

2




3



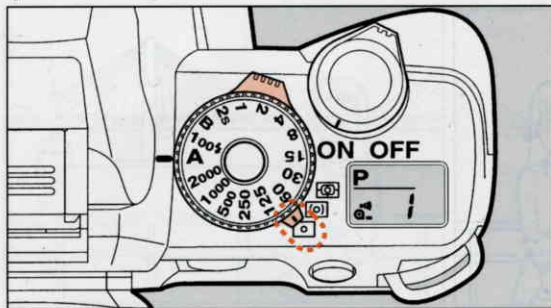
2. To prevent this, focus on the main subject with the autofocus frame. Depress and hold the shutter release button halfway down. The in-focus indicator remains on, indicating that the focus is temporarily locked.

3. While holding the shutter release button halfway down, re-aim the camera or recompose the picture, then depress the shutter release button fully to release the shutter.

- Lifting your finger off the shutter release button clears the in-focus indicator [] in the viewfinder and cancels the focus lock function.
- To refocus on another subject, lift your finger off the shutter release button.

(7) SWITCHING THE METERING MODE

1



The desired metering mode, multi(6)-segment metering, spot metering or center weighted metering mode can be selected.

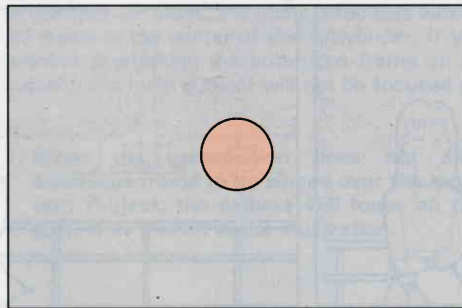
Using the Spot Metering Mode

The Spot Metering Mode measures light only in the small area in the center of the viewfinder. When shooting in this metering mode, place the subject you want to meter within the AF spot frame [C] in the center of the viewfinder.

How to use

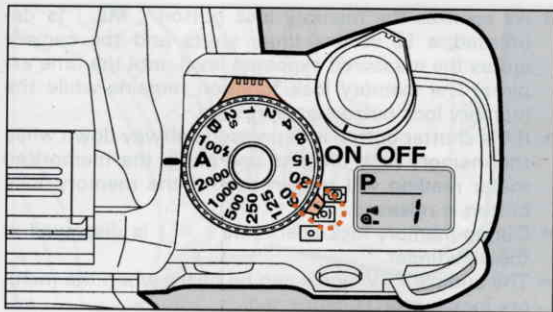
1. Set the metering mode switch to the [P] position.

2



2. Measure the small area in the center of the viewfinder as illustrated.


- If the brightness range between areas in the photograph is too great, the exposure should be determined in consideration of the overall brightness. Otherwise, the picture will come out improperly exposed.

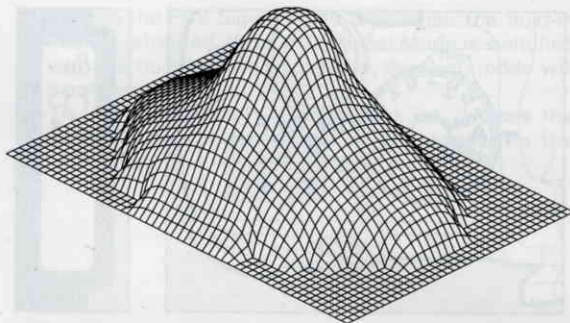


Using the Center-Weighted Metering Mode

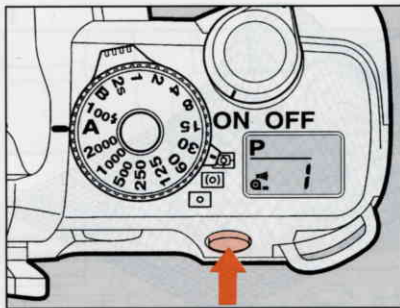
This metering system does not automatically compensate backlight like the Multi(6) - Segment Metering Mode. The creative exposure will be decided by your adjustment.

How to use

1. Set the metering mode switch to the  position.



- The metering pattern in the illustration above shows the higher part of the pattern (in the center of the viewfinder) has more sensitivity to light than the lower part.
- In this metering mode, the camera does not automatically compensate the exposure in backlit situations like the Multi(6)-Segment Metering Mode. The creative exposure will be decided by your adjustment.



About Memory Lock

The memory lock function enables an exposure level to be memorized before shooting. The memory lock function is very effective when used along with spot metering. Use the memory lock function to get a correct exposure when the subject occupies only a small part of the viewfinder.

Position the area to be measured in the spot metering area and depress the memory lock button [ML].

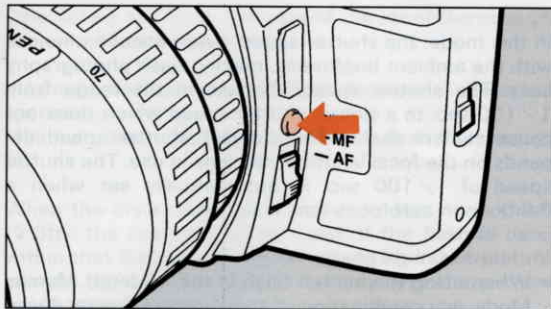
- As soon as the memory lock button [**ML**] is depressed, a 10 second timer starts and the camera stores the measured exposure level until the time expires. The memory lock function remains while the memory lock button is depressed.
- If the shutter button is depressed halfway down while the memory lock timer is operating, the memorized meter reading will remain even if the memory lock button is released.
- During memory lock operation, [*] is displayed in the viewfinder.
- The audible PCV signal can be heard when the memory lock button is depressed.

How to cancel

To cancel the memory lock function, depress the memory lock button [**ML**] again.

(8) TURNING OFF THE AUDIBLE PCV SIGNAL


71



The audible In-Focus PCV signal can be turned off.

How to cancel

1. Depress the multi-function button to erase [] from the LCD panel.

- Change the PCV Signal Mode only when the built-in flash is retracted. If the PCV Signal Mode is switched with the built-in flash popped up, the flash mode will be changed.
- To turn the audible PCV signal back on, depress the multi-function button to make [] appear on the LCD panel.

(9) ADVANCED OPERATION FOR THE BUILT-IN FLASH (RTF)

Programmed AE Mode

- The camera automatically chooses an optimum combination of shutter speed and aperture according to the subject brightness, allowing you to take a flash photograph with ease.
- The shutter speed automatically changes to approximately $1/100$ sec. or to a slower speed which does not cause camera shake. The slowest shutter speed depends on the focal length of the lens fitted to the camera. When a Pentax non-AF lens is used, the camera uses the shutter speed of $1/100$ second.

Shutter-Priority AE Mode

- Shutter speeds slower than $1/100$ of second can be set.
- In this mode, the aperture automatically changes according to the ambient brightness, making flash photography easy.

Aperture-Priority AE Mode

In this mode, the shutter speed automatically changes with the ambient brightness, making flash photography easy. The shutter speed changes in the range from $1/100$ sec. to a slower shutter speed which does not cause camera shake. The slowest shutter speed depends on the focal length of the lens in use. The shutter speed of $1/100$ sec. is automatically set when a Pentax non-autofocus lens is in use.

Metered Manual Mode

- When using the built-in flash in the Metered Manual Mode, any combination of aperture and shutter speed slower than $1/100$ can be set. In this mode, the exposure of the background can be controlled by the manual exposure while the flash properly exposes the foreground subject.

Calculating the flash effective distance according to the camera-to-subject distance.

Maximum flash distance = Guide Number \div Selected aperture

Minimum flash distance = Maximum flash distance \div 5 *

When the distance to the subject is less than 0.7m (2.3ft), the flash cannot be used. If the flash is used within that distance, it causes vignetting in the picture corners, light is distributed unevenly and the picture may be overexposed.

- The value 5 used in the formula above was obtained from the built-in flash.

The guide number (GN) depends upon the film speed used as shown below.

ISO25 \rightarrow GN5.5	ISO200 \rightarrow GN15.6
ISO50 \rightarrow GN7.8	ISO400 \rightarrow GN22
ISO100 \rightarrow GN11	

If an ISO100 film is used at an aperture of $f/2.8$, the flash effective distance is obtained as follows:

$$\text{Guide Number (11)} \div f/2.8 = 3.9\text{m}$$

$$3.9 \div 5 = 0.8\text{m}$$

Thus, the flash effective distance is from approx. 0.8m to 3.9m.

Calculating the aperture according to the camera-to-subject distance

Aperture = Guide Number \div Camera-to-subject distance

If the calculated aperture value is different than an indicated f-stop on the aperture ring, for instance $f/3$, choose the next smallest aperture ring number ($f2.8$ in this case).

Calculating the camera-to-subject distance in the Shutter-Priority AE Mode.

The camera-to-subject distance can be calculated using the above mentioned formula. However, in the Shutter-Priority AE Mode, the camera-to-subject distance will change depending on what aperture is set.

COMPATIBILITY OF F AND FA LENSES WITH THE BUILT-IN FLASH

○ = compatible × = incompatible because of vignetting

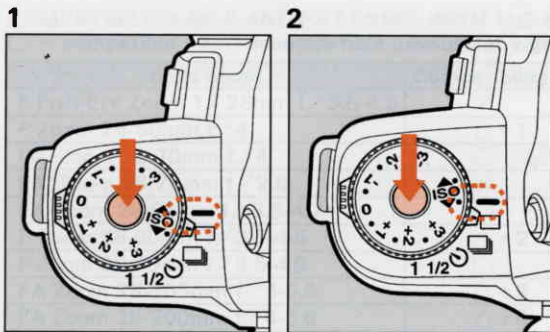
Lens name	Compatibility
F Fish-Eye Zoom 17-28mm f/3.5-4.5	×
F Zoom 24-50mm f/4	△ * 1
FA Zoom 28-70mm f/4	○
FA*Zoom 28-70mm f/2.8	×
FA Zoom 28-80mm f/3.5-4.7	○
F Zoom 28-80mm f/3.5-4.5	△ * 2
F Zoom 35-70mm f/3.5-4.5	○
FA Zoom 28-105mm f/4-5.6	△ * 3
FA Zoom 28-200mm f/4-5.6	△ * 4
F Zoom 35-70mm f/3.5-4.5	○
F Zoom 35-80mm f/4-5.6	○
F Zoom 35-105mm f/4-5.6	○
F Zoom 35-135mm f/3.5-4.5	○
FA Zoom 70-200mm f/4-5.6	○
F Zoom 70-210mm f/4-5.6	○
FA*Zoom 80-200mm f/2.8	△ * 5
F Zoom 80-200mm f/4.7-5.6	○
F or FA Zoom 100-300mm f/4.5-5.6	○
F or FA* Zoom 250-600mm f/5.6	×

- * 1 : Focal lengths between 28-50mm lens: vignetting will not occur. But, inappropriate lens warning will appear at focal lengths between 24-35mm.
- * 2 : Vignetting will occur at focal lengths between 28-35mm.
- * 3 : Vignetting will occur at focal lengths between 28-35mm. With the focal length set at 35mm, it will occur when the camera-to-subject distance is closer than 1.5m.
- * 4 : Vignetting will occur at focal lengths between 28-70mm.
- * 5 : Vignetting will occur at focal length between 80-90mm.

Lens name	Compatibility
FA20mm f/2.8	×
FA*24mm f/2	×
F or FA 28mm f/2.8	○
F or FA 50mm f/1.4	○
F or FA 50mm f/1.7	○
FA*85mm f/1.4	○
F or FA 135mm f/2.8	○
FA*200mm f/2.8	○
FA*300mm f/2.8	×
F or FA*300mm f/4.5	○
FA*400mm f/5.6	○
F or FA*600mm f/4	×
F or FA MACRO 50mm f/2.8	○
F or FA MACRO 100mm f/2.8	○
FA Soft 28mm f/2.8	○
F or FA Soft 85mm f/2.8	○



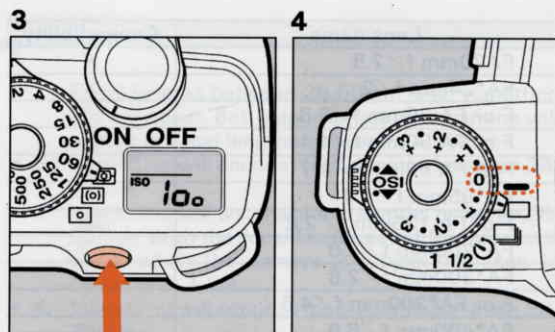
(10) SETTING THE FILM SPEED (ISO) MANUALLY



This camera automatically reads the film speed from the film's DX code. However, the film speed setting can be changed. If you use a non-DX coded film, set the film speed manually.

How to set

1. To change the ISO to a larger number (higher film speed), turn the exposure compensation dial while holding down the exposure compensation dial release button and align [▲] with the index line as illustrated.
2. To change the ISO to a smaller number (lower film speed), turn the exposure compensation dial while holding down the exposure compensation dial release button and align [▼] with the index line as illustrated.



3. Depress the memory lock button until the desired ISO is indicated on the LCD panel.

4. After the ISO is set, move the exposure compensation dial to [0].

- The shutter cannot be released with the exposure compensation dial set at [▲] or [▼].
- When the ISO film speed is set manually, [ISO] appears on the LCD panel.

If the built-in flash is not powerful enough, a Pentax dedicated external flash should be used.

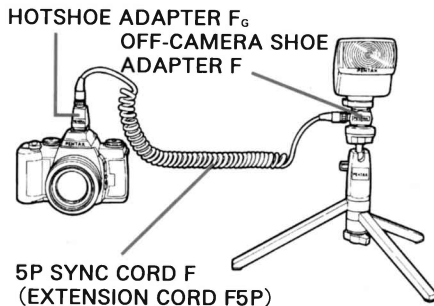
An external TTL Auto Flash like the PENTAX AF FTZ or AF FT series flash units (ie: AF500FTZ, AF330FTZ, AF220T or the AF240FT) incorporate the TTL Flash Mode.

1. Remove the hot shoe cover FC and attach a Pentax dedicated flash unit.
 2. Turn ON the flash.
 3. Set the flash unit to the TTL Auto Mode.
 4. Ensure that the flash is fully charged.
 5. Proceed as if the built-in flash were being used.
- When the flash is fully charged, the ready lamp on the flash unit lights up. When the shutter release button is depressed halfway down, [⚡] appears in the viewfinder indicating the flash is ready.
 - Using the dedicated flash in each exposure mode is the same as using the built-in flash, see page 72.

Using the built-in flash and the external flash simultaneously

An external flash cannot be attached when the built-in flash is in its popped up position. When the built-in flash and the external flash are used simultaneously, use the following optional accessories.

- Hot Shoe Adapter F_G
- Off-Camera Shoe Adapter F
- Extension Cord F5P (L)



AF500FTZ and AF330FTZ

- These flash units feature a built-in infrared spotbeam to assist the autofocus system in dim light and low-contrast conditions.
- The auto zoom function will automatically adjust the angle of discharge according to the lens focal length only when an F or FA lens is in use.
- The AF500FTZ features a wireless slave-sync flash function.
- The flash effective range appears on the LCD panel only when an A, F, or FA lens is in use.
- Multiple flash burst on a single frame is possible with the AF500FTZ.
- These flash units feature the contrast-control-sync flash. See page 79 for more details.
- In the Programmed AE, Shutter-Priority AE, or Aperture-Priority AE, the TTL Auto Flash Mode will be set automatically even if the flash is set to Manual.
- When the flash is charged and left unused for about 3 minutes, the power automatically switches off to save battery power. Depressing the shutter release button halfway down will restart charging of the flash units.

AF240FT, AF400FTZ

- These flash units feature a built-in infrared spotbeam to assist the autofocus system in dim light and low-contrast conditions.
- In the Programmed AE, Shutter-Priority AE, or Aperture-Priority AE: TTL Auto Flash Mode will be set automatically even if the flash unit is set to Manual.
- When the flash unit is charged and left unused for about 5 minutes, the power will automatically switch off to save battery power. Depressing the shutter release button halfway down will restart charging of the flash unit.

AF200T, AF220T, AF280T, and AF400T

- If the TTL auto mode is selected, these flash units can be used for daylight-sync shooting, because the shutter speed is adjusted according to the ambient brightness. The slower shutter speed varies according to the lens focal length. The shutter speed varies within the shutter speed range of 1/100 of second to a slower speed which does not cause camera shake. However, when a non-autofocus lens is in use, the shutter speed is set to 1/100 of second. The aperture value will also be fixed but will vary depending on what ISO film is loaded.

- When using the Three-Level Auto (red, green, and yellow settings) mode, the aperture value is adjusted as shown in the table. When the flash is fully charged, the shutter speed also varies within the shutter speed range of 1/100 to a slower speed which does not cause camera shake. The slowest shutter speed varies according to the lens focal length. When a non-autofocus lens, the shutter speed will be set to 1/100 of second.

	AF200T	AF280T	AF400T
Red	f/2.8	f/4	f/4
Green	f/5.6	f/8	f/8
Yellow			f/11

with ISO 100

Notes on Pentax dedicated flash units

When the built-in flash is used in combination with a Pentax dedicated flash unit, if the trailing-shutter-curtain sync flash mode is set for the dedicated flash unit, the built-in flash also operates in the trailing-shutter-curtain flash sync. mode. Ensure that both flash units are fully charged before releasing the shutter.

Contrast-Control-Sync Flash Photography

Using the AF330FTZ or AF500FTZ in combination with the built-in flash allows twin flash photography (contrast-control-synch flash photography). This is based on the difference between the amount of light discharged from two units.

- Put the AF500FTZ or AF330FTZ in the Contrast-Control-Sync Flash Mode.
- Ensure that both flash units are fully charged and then shoot.

- The ratio of the amount of flash light is 1 (built-in flash) : 2 (dedicated flash unit). When the AF500FTZ or AF330FTZ is used off the camera, the effect of contrast control is increased. Use an optional "Hot Shoe Adapter F" (use two pieces for the AF330FTZ) and "Extension Cord 5P" to connect the dedicated flash unit to the camera. Do not combine an accessory with a different number of contacts such as a "Hot Shoe Grip" as a malfunction may occur.
- In the Contrast-Control-Sync Flash Mode, the top flash sync speed is 1/60 of second.

Multi-burst flash with the Pentax dedicated flash

When discharging more than 2 Pentax dedicated flashes, make sure that they are of the same type, combine the Type B with Type C or Type D with Type E. (refer to the overview of Flash Function on page 80). The Built-in flash can be operated with any type of Pentax TTL dedicated flash unit.

Overview of Flash Function

CAMERA FUNCTION	TYPE A	TYPE B	TYPE C	TYPE D	TYPE E
After the flash is charged, the camera automatically switches to the flash-sync speed.	○	○	○	○	○
Automatic aperture setting in the Programmed AE Mode or Shutter-Priority AE mode.	○	○	○	○ * 1	○ * 1
Flash confirmation signal in the viewfinder		○	○		
TTL auto flash	○	○	○	○ * 2	
Slow-speed sync in the Shutter-Priority AE Mode or Metered Manual Mode	○	○	○	○	○ * 3
AF spotbeam		○	○		
Trailing-shutter-curtain sync flash (* 4)	* 5	○	○		
Contrast-control-sync flash mode (* 4)		○	○		

TYPE A : Built-in flash

TYPE B : AF500FTZ (* 6), AF330FTZ

TYPE C : AF400FTZ, AF240FT

TYPE D : AF400T, AF280T, AF220T, AF200T,
AF080C, AF140C, AF200SA

TYPE E : AF200S, AF160, AF140,

* 2. Only the AF200SA flash does not operate.

* 3. Only the manual mode can be used.

* 4. The shutter speed is 1/60 or slower.

* 5. Trailing-shutter-curtain sync flash combined with
TYPE B or TYPE C flash.

* 6. Multi-burst and slave-sync flash are possible.

Notes:

* 1. When using a Type D flash (except AF200SA and AF220T) in the MS (Manual Sync) or M (Manual) modes or when using a Type E flash, set the camera's exposure mode to the Aperture-Priority AE Mode, Manual or Bulb. The Program and Aperture-Priority AE Modes cannot be used because the actual required aperture value may change.

Using other type of a flash

Use of non-Pentax flash units may damage the camera.
For the best results, use a Pentax dedicated flash unit.

Purpose

In daylight conditions, when a portrait picture is taken with a person's face cast in shadow, discharging the flash will eliminate the shadow.

Daylight-sync photography is obtained in the same manner as normal flash photography, so you simply depress the shutter release button.

- If the background is too bright, it may be overexposed.
- When taking a daylight-sync photograph in the Programmed AE Mode, the flash does not discharge if the automatic flash function is activated even if the flash is in the popped-up position. Before shooting, confirm that [A] is not displayed on the LCD panel.

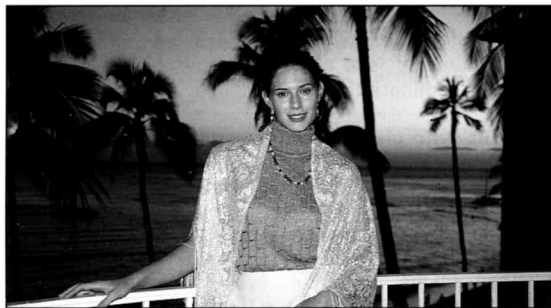


Without Daylight-Sync



With Daylight-Sync

(13) SLOW-SPEED-SYNC SHOOTING



Purpose

It is possible to balance the exposure of a foreground subject against a dimly-lit background by using the flash to properly expose the foreground subject and a slow-shutter-speed to expose the low light background.

How to set

With the Metered Manual Mode set

1. Depress the flash pop-up button to activate the built-in flash.
2. Set the camera's exposure mode to the Metered Manual Mode.
3. Select an appropriate shutter speed (slower than $1/100$ of second) and aperture combination for a correct exposure.
4. Release the shutter.

How to set

With the Shutter-Priority AE Mode set

1. Set the camera's exposure mode to the Shutter-Priority AE Mode.
2. Set the desired shutter speed.
 - If the aperture in the viewfinder and the LCD panel blink, a correct exposure will not be obtained for the background. Adjust the shutter speed until the blinking stops.
3. Depress the flash-pop up button to activate the built-in flash.
4. Take a picture.
 - In the slow-speed-sync shooting, use of a tripod is recommended to prevent camera shake.

A number of dedicated accessories are available for this camera.

- **Cable Switch F**

A shutter release cord designed for use with the MZ-5/ZX-5, MZ-5_N/ZX-5_N, MZ-10/ZX-10, MZ-50/ZX-50, Z-1_P/PZ-1_P, Z-70/PZ-70, Z-1/PZ-1, Z-20/PZ-20, Z-10/PZ-10.

- **Magnifier FB**

A viewfinder accessory for magnifying the central area of the viewfinder.

- **AF500FTZ**

A TTL Auto Zoom flash with a built-in AF spotbeam and large guide number of 50 in meters (ISO 100). It features slave-sync flash function, multiple-flash burst, contrast-control-sync flash, leading/trailing-curtain-sync flash mode.

- **AF330FTZ**

A TTL Auto Zoom flash with a built-in AF spotbeam and guide number of 33 in meters (ISO 100). It features contrast-control-sync flash sync, leading/trailing-curtain-sync flash mode.

- **AF220T**

A TTL Auto flash with the guide number of 22 in meters (ISO 100). It features the bounce-flash.

- **Hot Shoe Adapter F₆, Extension Cord F5P (L) and Off-Camera-Shoe Adapter.**

The adapters and cord which allow the AF240FT, AF330FTZ, AF400FTZ and AF500FTZ to be used off the camera, while maintaining full electronic coupling to the camera.

- **AF Adapter 1.7X**

An adapter for autofocus photography using KA- or K-mount lenses with a maximum aperture of f/2.8 or larger.

- **Macro Flash AF140C**

A TTL macro flash unit with the guide numbers 14 in meters (ISO 100).

- **Refconverter A**

Right angle finder which attaches to the grooves on both sides of the viewfinder. The viewfinder magnification is able to switch from 1X to 2X.

- **Filters**

Skylight, Cloudy, UV, Y2, O2, R2, and Circular Polarizing Filter are available. Each filter is available in sizes of 49mm, 52mm, 67mm and 77mm.

- **AA Battery Pack F₆**

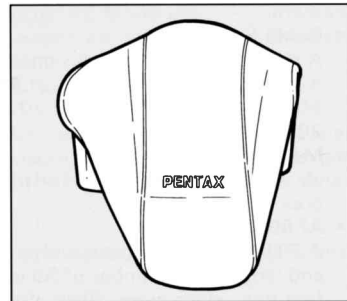
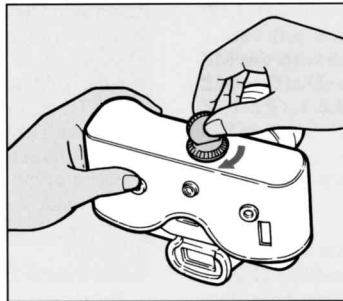
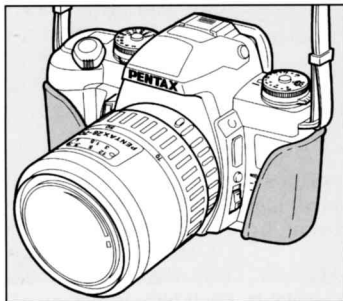
A battery pack which takes four AA batteries can attach at the bottom of the camera, instead of using the lithium batteries.

- **Data Back F₆**

Allowing you to imprint one of the following data modes on the film both standard format and panorama format mode.

year/month/day, day/month/year, month/day
/year, day/hour/minute, ----- (blank)

(15) CAMERA CASE



The soft case is available as an option and consists of a front and a back cover.

1. Open the front cover and place the camera body in the back cover.
2. Fasten the back cover to the camera body by tightening the fitting screw in the tripod socket.
3. Attach the front case.

- Choose one of the front cases in accordance with the table to the right.
- The back case F_6 is the same back case included with the Soft case S,M and L.

Front case comes in three sizes, S, M and L

Case	Applicable F, FA-lens
F_6S	20mm, 28mm, 50mm f/1.4, f/1.7, Fish-eye Zoom 17-28mm, Zoom 35-70mm, Zoom 35-80mm, FA Soft 28mm
F_6M	24mm,Macro 50mm,135mm, Zoom 28-70mm f/4, Zoom 28-200mm, Soft 85mm
F_6L	85mm f/1.4, Macro 100mm, Zoom 28-80, Zoom 28-105mm, Zoom 70-200mm, F Zoom 80-200mm



High shutter speed



Slow shutter speed

A correct exposure is established by a combination of shutter speed and aperture setting according to the subject brightness. There are many correct combinations of shutter speed and aperture for a particular subject brightness. Different shutter speed and aperture settings produce different effects.

Effect of Shutter Speed

The shutter speed determines the film exposure time, or the length of time that light is allowed to strike the film. If the subject is moving the image will be blurred when a slow shutter speed is used. It is possible to enhance the effect of motion, (The movement of a wave or waterfall) by intentionally using a slower speed. Choosing a high shutter speed will allow the image of a moving subject to be frozen. A higher shutter speed also helps prevent camera shake.



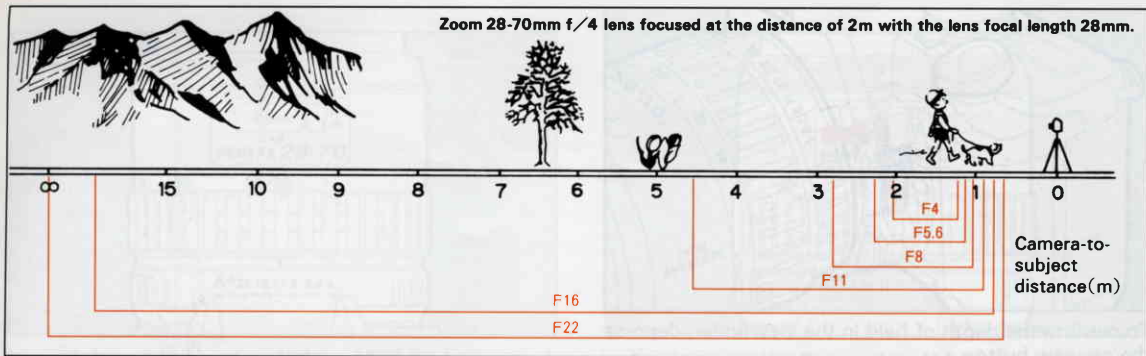
Closed-down aperture



Open aperture

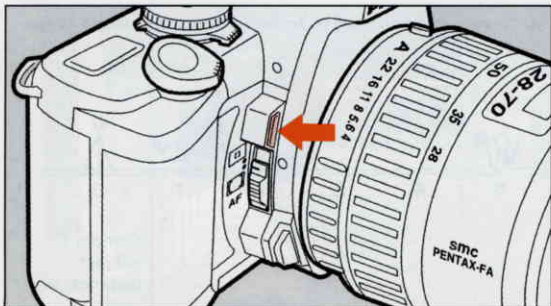
Effect of Aperture

The aperture increases or reduces the amount of reflected light from an object which passes through the lens, controlling how much light strikes the film. If the aperture is opened up to increase the amount of light, objects in front of and behind an in-focus subject will not be in focus. That is, the range of focus (depth of field) becomes small. If the aperture is closed down to reduce the amount of light, the depth of field increases. For instance, if you shoot a person against a landscape with the aperture open, the landscape in front of and behind the person will be blurred, making the person appear to rise out of the landscape. By contrast, closing down the aperture increases the in-focus range.



Depth of field refers to the range around the optimum focusing point of the subject in which the elements at different distances are in focus. The depth of field increases as the aperture is closed down, the focal length of the lens becomes shorter, or the subject is positioned farther away.

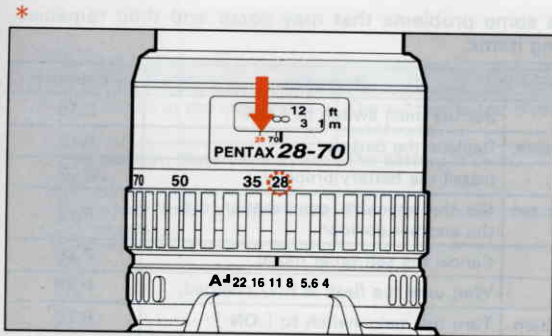
(18) USING THE PREVIEW BUTTON



To confirm the depth of field in the viewfinder, depress the preview button.

Set the main switch to the [ON] position and then depress the preview button.

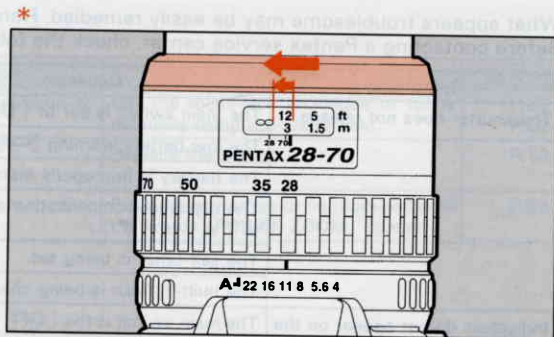
- If the lens aperture is set to an f-stop other than [A] position, the camera will close down the aperture you have set while depressing the preview button.
- This preview button can also be used even if the lens aperture ring is set to the [A] position.



When infrared film and an "R2" or "O2" filter are used, the focal point is different from that of ordinary film exposed in visible light. The autofocus system cannot compensate for this difference automatically.

How to focus


1. Focus on a subject as usual.
2. Set the focus mode switch to [MF] and turn the focusing ring to the left by the distance indicated on the infrared index.




* As shown in the illustration, if 28 is read from the zoom scale, adjust the distance scale to 28 on the infrared index (red line).

- In the autofocus mode, the focus cannot compensate for infrared photography.
- To set the proper exposure level for infrared pictures, refer to the instructions accompanying the film. The Programmed AE Mode does not give a correct exposure. Use the Metered Manual Mode.


What appears troublesome may be easily remedied. Here are some problems that may occur and their remedies. Before contacting a Pentax service center, check the following items.

Symptoms	Causes	Remedies	Reference
The shutter does not release.	The main switch is set to [OFF].	Set the main switch to [ON].	P.19
	The low battery warning  appears.	Replace the battery.	P.13
	The battery is improperly installed.	Install the battery properly.	P.13
	The exposure compensation dial is set to [▲] or [▼].	Set the exposure compensation dial to the another position.	P.76
	The self-timer is being set.	Cancel the self-timer mode.	P.45
	The built-in flash is being charged.	Wait until the flash is fully charged.	P.38
Indicators do not appear on the LCD panel.	The main switch is the [OFF] position.	Turn the main switch to [ON].	P.19
	No battery has been installed.	Install the battery.	P.13
	The battery is improperly installed.	Install the battery properly.	P.13
	The battery is dead.	Replace the battery.	P.13
The camera does not focus.	AF frame is not placed over the subject.	Move the camera until the AF frame [C] covers the subject.	P.35
	The subject is too close.	Increase the camera-to-subject distance.	P.35
	The focus mode is set to [MF].	Set the focus mode switch to [AF].	P.34
	The subject is difficult to autofocus.	Use the focus technique or focus manually using the matte field.	P.66 P.50

Symptoms	Causes	Remedies	Reference
[] blinks in the viewfinder.	The subject is too close or difficult to autofocus.	Use the focus-lock technique or focus manually using the matte field.	P.66 P.50
The built-in flash does not charge.	The battery is dead.	Replace the battery.	P.13
The power zoom system does not function.	The lens is in the manual zoom mode.	Push the power zoom ring forward until the words [POWER ZOOM] appear.	P.32

SPECIFICATIONS

- Type** — TTL autofocus, auto-exposure 35mm SLR with built-in TTL auto flash (RTF)
- Format** — 24x36mm (Approx. 13x36 in panorama format)
- Usable Film** — 35mm perforated cartridge film. DX-coded film with ISO 25-5000; non-DX coded films with ISO 6-6400
- Exposure Modes** — Programmed AE Mode, Shutter-Priority AE Mode, Aperture-Priority AE Mode, Metered Manual Mode, Bulb Mode, TTL Flash Mode
- Shutter** — Electronically controlled vertical-run focal-plane shutter, Electromagnetic release, Speed range: (1) Auto 1/2000-30 sec.(stepless), (2) Manual 1/2000-2 sec. (3) Bulb,
- Lens Mount** — Pentax K_{AF2} bayonet mount (K-mount with AF coupler, lens information contacts and power contacts)
- Compatible Lens** — Pentax K_{AF2}-, K_{AF}-, K_A-, and K-mount lenses are usable. Autofocus is possible using AF Adapter with K_A-mount lenses.
- Autofocus System** — TTL phase-matching multi-(3 points) autofocus system switchable to Spot focusing, AF operational brightness range: EV-1 to 18(at ISO 100 with f/1.4 lens), Focus lock available using shutter release button, Focus Mode: AF(predictive AF provided), Manual [MF]
- Power Zoom** — 3-Speed Intelligent Power Zoom lens with built-in motor with FA zoom lens
- Viewfinder** — Pentaprism finder, Natural-Bright-Matte focusing screen, Field of view:92%, Magnification:0.8X(with 50mm lens at infinity), Diopter: -2.5 to +1.5 diopters, 3-point AF frame, Spot AF frame, Panorama format frame
- Viewfinder Indication** — Focus Information: In-focus (Green lamp [○] is lit), front or back focus signals and unable-to-focus indicator (Green lamp blinks), Shutter speed indication, Aperture indication, Flash ready indication [⚡] is lit, Bar graph(exposure compensation), Over or Under exposure indication in Manual Exposure Mode, [Ⓜ] exposure compensation indication, [*] memory lock indicator
- External LCD panel Indication** — [P] = Programmed-AE Mode, [Tv] = Shutter-Priority AE Mode, [Av] = Aperture-Priority AE Mode, [M] = Manual Exposure Mode, [bu] Bulb Mode, Film speed = 6 - 6400, ISO indication, [Ⓢ] = Film status information, [🔋] = Battery exhaustion warning, Film counter = 0-99 [⚡] = Built-in flash ready indication [⚡] = blinking slowly flash recommended warning [⚡] = blinks rapidly Inappropriate lens warning, [👁] = Red-eye reduction flash mode [Ⓜ] = Automatic flash function, [🔊] = PCV signal indication
- Preview Button** — Electronically controlled type and possible to use in all exposure modes

- Self-timer** — Electronically-controlled type with delay time of 12 sec. Start by depressing of shutter release button, Operation confirmation: By PCV beep tone. Cancelable after operation
- Mirror** — Quick-return mirror with AF secondary mirror
- Film Loading** — Film advances automatically to 1st frame after back cover is closed, Film information window is provided
- Film Wind & Rewind** — Auto wind/rewind by built-in motor, Consecutive or Single advance mode, Approx.2.0 frames/sec.(consecutive mode), Auto rewinding starts at end of roll, Film rewind/completion of rewinding is displayed on the LCD panel, mid-roll rewind button will rewind film in mid-roll
- Exposure Meter** — TTL multi(6)-segment metering, Metering range from EV0 to EV21 at ISO100 with 50mm f/1.4 lens, Center-weighted and Spot metering mode can be set
- Exposure Compensation** + / - 3EV in 0.5EV step increments
- Auto bracketing** — Three frame consecutive shots with exposure bracketing in 1 EV or 0.5 EV step increment, Possible to use with exposure compensation
- Flash** — Series-control, Retractable TTL Auto Flash (RTF), Guide number:11 (ISO100/m), Illumination angle covers 28mm lens angle of view, Flash-sync-speed in the range from 1/100 to a slower speed, Day-light-sync flash, Slow-speed-sync flash, Contrast-control-flash sync (ISO range=25-400), Automatic flash discharge, Red-eye reduction flash function
- Flash sync** — Hot shoe with X-contact with couples with Pentax dedicated auto flashes, ISO range=25-800
- Power Source** — Two 3V lithium battery (CR2 or equivalent)
- Battery Exhaustion Warning** — Battery exhaustion symbol  is lit (blinking when the shutter is locked; no indication on the right-hand edge of the viewfinder.)
- Dimension and Weight** — 135.0mm(W)x90.0mm(H)x61.5mm(D) (5.3"x3.5"x2.4") 410g (14.5oz) body only without batteries
- Supplied Accessories** — Hot Shoe Cover Fc, Release Socket Cap F, Camera Strap Fa, Eye Cup Fa, Finder Cap
- Back cover** — Interchangeable for replacing Data Back Fc

SPECIFICATIONS ARE SUBJECT TO CHANGE AT ANY TIME WITHOUT NOTIFICATION OR ANY OBLIGATION ON THE PART OF THE MANUFACTURER.

NAMES OF WORKING PARTS II

- ① Shutter curtain
- ② Viewfinder eyepiece
- ③ Diopter adjustment lever (P.25)
- ④ Eyecup F₆
- ⑤ Panorama lever (P.53)
- ⑥ Memory lock button (P.70)
- ⑦ Film information window
- ⑧ Pressure plate
- ⑨ Back cover
- ⑩ Film leader end mark (P.21)
- ⑪ Battery chamber cover screw (P.13)
- ⑫ Battery chamber cover (P.13)
- ⑬ Sprocket (P.21)
- ⑭ Tripod socket
- ⑮ DX-information pin (P.21)
- ⑯ Film chamber

