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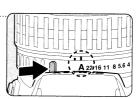
SELECTING 6 PICTURE MODES

You can select your desired Picture mode by moving the select dial while depressing the exposure mode button. The picture mode has a total 6 modes as follows. See details for each mode on page 54 to 59.

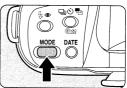
•	Standard program Mode·····54
*	Portrait Program Mode · · · · 55
A	Landscape Program Mode · · · · · 56
*	Close-up Program Mode · · · · 57
35	Action Program Mode · · · · 58
29	Night-scene Program Mode·····59

Setting the one of 6 picture modes

Set the lens aperture ring to A.



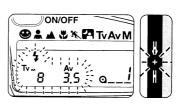
2 Set the pointer mark to the desired exposure mode symbols by moving the select dial to left or right while depressing the exposure mode button.





Exposure Warning

If the subject is too bright or too dark, the plus + or minus - indicator in the viewfinder and the shutter speed and aperture on the LCD panel would blink rapidly as a warning.



• If the subject is in low light and backlight condition, the flash recommended indicator blinks slowly. See page 85.

SELECTING 6 PICTURE MODES

1. Standard program Mode

For easy picture taking, use this Standard program Mode. You simply depress the shutter release button. The camera selects the best combination of aperture and shutter speed setting.

Set the pointer mark

to

by moving the select dial while depressing the exposure mode button.





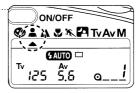
 When the shutter release button is depressed halfway, the shutter speed and aperture setting are displayed on the LCD panel.

2. A Portrait Program Mode

This mode is suitable for taking portrait photography.



Set the pointer mark to by moving the select dial while depressing the exposure mode button.



 When the shutter release button is depressed halfway down, the shutter speed and aperture setting are displayed on the LCD panel.

🖾 MEMO

In this mode, the telephoto lens produces a portrait in crisp focus against the out-of-focus background, while the wide-angle lens enables you to shoot group photography or snapshots in sharp and clear focus with the extended depth-of-field.

SELECTING 6 PICTURE MODES

5. 🖎 Action Program Mode

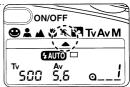
This mode selects a faster shutter speed to capture a moving subject and prevents blurred images. This mode is especially convenient for active photography. It is also suitable for portraits with blurred background.

Set the pointer mark

to

while by moving the select dial while depressing the exposure mode button.





 When the shutter release button is depressed halfway down, the shutter speed and aperture setting are displayed on the LCD panel.

∠ MEMO

- In this mode, the camera focuses on the subject continuously when the shutter release button is depressed half way down, and the shutter can be released whenever the subject is in focus or out of focus.
- If the subject is moving too fast, the shutter may not be released.

Predictive Autofocus Mode

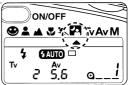
When the camera senses subject movement during the autofocus operation, the camera will automatically switch the focus mode to the predictive autofocus mode to measure the speed of a moving subject, and predict where it will be at the moment of shutter release to maintain sharp focus on the subject.

6. Might-scene Program Mode

This mode is useful when taking a portrait photograph with a night scene in the background.



Set the pointer mark to by moving the select dial while depressing the exposure mode button.



Press the flash pop up button to activate the flash if auto pop up flash is not selected.

 When the shutter release button is depressed halfway down, the shutter speed and aperture setting are displayed on the LCD panel.

∠ MEMO

It is possible to photograph subjects and background in a balanced way by using the flash to properly expose the foreground subject and a slowspeed to expose the low light background. The shutter speed automatically changes in the range of 1/100 to 1 second.

- · Use of a tripod is recommended.
- The Standard program mode is automatically set when the built-in flash is not in use.
- This camera does not have a socket for cable release and cable switch, use 2 seconds self-timer to prevent camera shake.

SELECTING ANOTHER EXPOSURE MODES

Effect of aperture and 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 times, or the length of time that the 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 water, waterfall) by intentionally using a slower shutter speed. Choosing a faster shutter speed will allow the image of a moving subject to be frozen. A faster shutter speed also helps prevent camera shake.



slower shutter speed

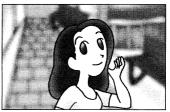


faster shutter speed

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, subjects in front of and behind an in-focus subject will not be focused. That is the range of focus (depth of field) becomes small. If the aperture is stopped 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 appears to rise out of the landscape. By contrast, stopping down the aperture increases the in-focus range.



open aperture

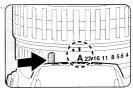


stopped down aperture

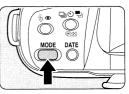
1. Av Aperture-Priority AE Mode

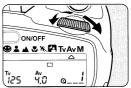
When the desired aperture is selected, the appropriate shutter speed is automatically set by the camera for a proper exposure according to the brightness of the subject. This mode is ideal for shooting landscapes with increased depth of field, or a portrait against a blurred background.

Set the lens aperture ring to A.



2 Set the pointer mark to av by moving the select dial while depressing the exposure mode button.

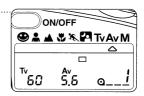




3 Select the desired aperture by moving the select dial.



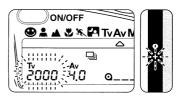
4 Confirm the shutter speed and aperture value on the LCD panel.



 When the power is on, the shutter speed and aperture value will be displayed on the LCD panel.

Exposure Warning

If the subject is too bright or too dark, the plus 🛨 or minus 🖃 indicator in the viewfinder and the selected shutter speed on the LCD panel would blink slowly as a warning as shown. When the

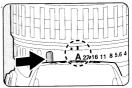


subject is too bright, choose a smaller aperture, if available; when it is too dark, choose a larger aperture, if available. When the shutter speed indication stops blinking, you can take the picture. If both shutter speed and aperture blink rapidly, it means that the exposure is out of metering range, 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.

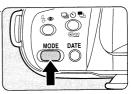
2. Tv Shutter-Priority AE Mode

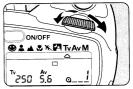
When the desired shutter speed is selected, the appropriate aperture is automatically set by the camera for a proper exposure according to the brightness of the subject. This mode is suitable for freezing the action with a fast shutter speed or capturing a flowing dynamic image with a slow shutter speed.

Set the lens aperture ring to

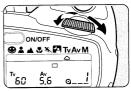


2 Set the pointer mark (a) to (by moving the select dial while depressing the exposure mode button.

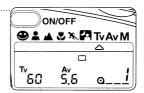




3 Select the desired shutter speed by moving the select dial.



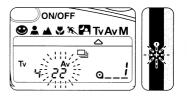
4 Confirm the shutter speed and aperture value on the LCD panel.



 When the power is on, the shutter speed and aperture value will be displayed on the LCD panel.

* Exposure Warning

If the subject is too bright or too dark, the plus 🛨 or minus 🖃 indicator in the viewfinder and the selected aperture value on the LCD panel would blink slowly as a warning as shown. When the



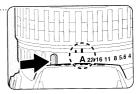
subject is too bright, choose a faster shutter speed. If it is too dark, choose a slower shutter speed. When the selected aperture value stops blinking rapidly, you can take the picture. If both selected shutter speed and aperture blink, it means that the exposure is out of metering range, unable to 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.

USING ANOTHER EXPOSURE MODES

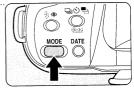
3. M Metered Manual Mode

The manual exposure mode is a convenient exposure mode for taking pictures using the same shutter speed and aperture setting combination, or taking creatively under or over exposed photographs.

Set the lens aperture ring to A.

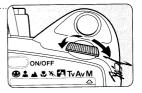


Set the pointer mark to M by moving the select dial while depressing the exposure mode button.

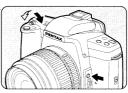




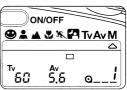
3 Move the select dial to change the shutter speed.



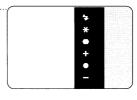
Move the select dial to change the aperture value while holding the AV button.



Confirm the shutter speed and aperture value on the LCD panel.



in the center indicates
 the correct exposure.
 indicates over
 exposure.



indicates under exposure.

When under or over exposure is set beyond + 1 or - 1 step (1EV), + or - indicator will light.

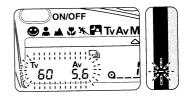
USING ANOTHER EXPOSURE MODES

∠ MEMO

The AE lock does not operate in the Metered Manual Mode.

Exposure Warning

If both • the blink in the viewfinder and both shutter speed and aperture value blink on the LCD panel, it means that the exposure is out of metering range.



4. Slow-Speed-Sync Mode

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

With the Night-scene Program Mode

- 1. Set the lens aperture ring to A.
- 2. Set the pointer mark
 to
 by moving the select dial while depressing the exposure mode button.
- 3. The built-in flash pops up automatically.
- 4. Before shooting, confirm that the flash is fully charged.

With the Metered Manual Mode

- 1. Depress the flash pop-up button to activate the built-in flash.
- 2. Set the Exposure mode to the Metered Manual Mode.
- Select an appropriate shutter speed (slower than 1/100 of second) and aperture combination for a correct exposure on the LCD panel.
- 4. Before shooting, confirm that the flash is fully charged.

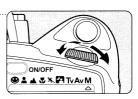
- The slow-speed-sync can also be used with the Shutter-Priority AE Mode set. Confirm that the exposure warning is not appearing in the viewfinder.
- In the slow-speed-sync shooting, use of a tripod is recommended to prevent camera shake.

5. Bulb Timer Exposure Mode

This mode is useful for the long exposures required for shooting night scenes and fireworks. The shutter speed can be set from 45seconds to 32minutes as follows.

45sec, 1min., 1.4min., 2min., 2.8min., 4min.,5.6min., 8min., 11min., 16min., 22min., 32min.

In the Metered Manual Mode, move the select dial to change the shutter speed to desired slower shutter speed appears on the LCD panel.



When using this mode, use a steady tripod to prevent camera shake and gently depress the shutter release button.



- The shutter remains open for selected shutter speed.
- • + indicators will not light in this Bulb timer mode.
- This camera does not have a socket for cable release and cable switch, use this mode with 2 seconds self-timer to release the shutter to prevent camera shake.

AE LOCK FUNCTION

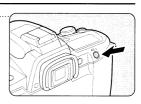
The AE Lock function enables an exposure level lock before picture is taken.

If the subject is too small for a proper exposure setting to be obtained, you can zoom in on the subject to obtain the proper exposure setting. Then lock the exposure setting and recompose shot before taking a picture.

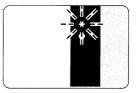
To use the AE Lock:

Position the area to be measured in the viewfinder metering area and press the AE lock button AE-L.

To cancel the AE lock, press the AE lock button again.



2 * is displayed in the viewfinder. The measured exposure level is locked for 20 seconds.



Recompose the image in the viewfinder and take the picture.

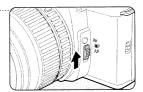
- If the shutter release button is depressed halfway down while the AE lock timer is operating, the memorized meter reading will remain even if the AE lock button is released.
- The auto-popup built-in flash function does not work while the AE lock is in use.
- AE lock does not work in the Metered Manual Mode and Bulb timer Mode.

MANUAL FOCUSING

When you adjust focus manually, you can either look at the focus indicator in the viewfinder or the viewfinder matte field to check if the subject is in focus.

How to focus with aid of the in-focus indicator

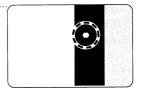
Set the focus mode switch to MF.



2 Frame the subject, then turn the focusing ring to right or left until the subject is in focus.



When the subject comes into focus, the focus indicator Iights up in the viewfinder.



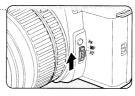
Depress the shutter release button fully to take a picture.

How to focus with aid of the matte field

When the autofocus mode or the focus indicator in the viewfinder 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.

The focus indicator <a> blinks because the subject is difficult to autofocus. See page 74.

Set the focus mode switch to MF.



2 Frame the subject, then turn the focusing ring to the right or left until the subject looks sharp in the viewfinder.



Depress the shutter release button fully to take a picture.

∠ MEMO

When the special effect filter or Magic Image Attachment or Stereo Adapter is used, the auto focusing and manual focusing with the in-focus indicator in the viewfinder will not work. Use the manual focus mode to focus on the subject with aid of the matte field.

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,
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 73).

Subjects, which may fool the autofocus system, include:

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

SETTING THE FILM SPEED (ISO) MANUALLY

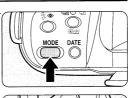
This camera automatically reads the film speed from the film's DX code. However, the film speed setting can be changed. If you use a non-DX coded film, set the film speed manually.

How to set

Load the Non-DX coded film.

Move the select dial until blinking SO appears on the LCD panel while depressing the exposure mode button.

iso will stop blinking and stays on when you take a finger off from the exposure mode button.





Move the select dial to set ISO film speed displayed on the LCD panel.



After ISO film speed is set, move the select dial to set your desired exposure mode while depressing the exposure mode button.

🕰 MEMO

- To change the ISO film speed, move the select dial to left for a smaller number (Slower film speed), or right for a larger number (Faster film speed).
- The shutter cannot be released when ISO film speed is displayed on LCD panel.
- iso will display when DX coded film speed is set other than DX coded film speed in used.

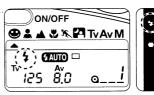
 www.orphancameras.com

USING THE BUILT-IN FLASH

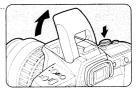
Auto-popup flash function

In this mode, the built-in flash pops up and discharges automatically in low light and backlight condition.

Depress the flash mode button until (AUIII) appears on the LCD panel.



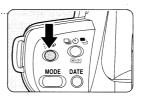
2 Depress the shutter release button halfway down, and the built-in flash automatically pops up when the flash is required.

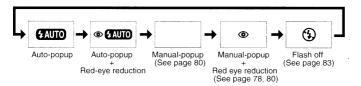


- The built-in flash does not retract automatically, push the built-in flash down into the camera body after use.
- The built-in flash does not discharge when not required even though it has been in the up position.
- Do not use the lens hood when the built-in flash is used, as it may obstruct
 the path of the light coming from the flash, causing vignetting in the picture
 corners.
- When using an inappropriate F or FA lens, 🔝 will blink rapidly in the viewfinder and on the LCD panel when the shutter release button is depressed halfway down. For more details on COMPATIBILITY OF F AND FA LENSES WITH THE BUILT-IN FLASH, see page 88.
- If the built-in flash is used continuously, the battery may become warm, but it does not mean that the battery is faulty; it's one of the battery's characteristics.
- The shutter cannot be released until the flash is fully charged.

Selecting the various built-in flash modes

At each depress of the flash mode button, the flash mode on the LCD panel changes as shown in the chart.





Ø MFMO

- The auto-popup flash mode can only be set when one of 6 picture modes is selected.
- The built-in flash pops up automatically when come is displayed on the LCD panel. However, it discharges only when required. (Automatic flash function)
- an only be set when one of 6 picture modes is selected.
- The auto-popup function of the built-in flash does not work when the AE lock function is in use.
- The automatic flash function can also be used with the external flash.
- Even if is displayed on the LCD panel, the built-in flash does not pop up automatically when the external flash has been mounted either with the power off or the external flash is not yet fully charged.
- If the red-eye reduction is used while the AF360 FGZ, etc. is set as a slave unit, the pre-flash will trigger the slave unit to discharge. Do not use red-eye reduction with slave unit.

RED-EYE REDUCTION FLASH FUNCTION

This camera includes a red-eye reduction flash function, which reduces the red-eye phenomenon utilizing pre-flash. In this mode, the pre-flash is discharged just before the shutter is released which reduces the diameter of the pupil of the eye. Then the main flash is discharged while the pupils are smaller, which in turn reduces the red-eye effect.

ABOUT RED-EYE PHENOMENON

Shooting portraits with flash in a dark environment often causes a subject eyes to turn out reddish in the print. This phenomenon, commonly known as "Red-Eye", is caused by the reflection of the electronic flash in the retina of your subject eye. It can be reduced by taking a picture in a brighter light condition or by shooting with a wider-angle lens at a closer distance, or by employing the red-eye reduction flash feature. When using a Pentax dedicated flash unit off the camera, it may also help to position the flash as far away from the camera as possible.

FLASH EFFECTIVE RANGE FOR THE PICTURE MODE

As a rule of thumb the distance for using the built-in flash (which varies with the lens used) is within about four meters (using ISO 400 film).

₡ MEMO

- The flash effective range does not come closer than 0.7m (2.6ft), even
 if the lens aperture is so small. When a subject is shot at a distance
 less than 0.7m (2.6ft), the correct exposure cannot be obtained, and
 you will see vignetting in the picture corners.
- Note the built-in flash pops up even when the subject is far away or beyond the maximum flash effective range. See page 86 for the flash effective range.

MANUAL POP UP THE BUILT-IN FLASH

Push the flash pop-up button to activate the flash.

will disappear on the LCD panel.



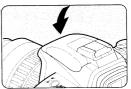
2 s appears in the viewfinder and on the LCD panel when the flash is fully charged.



3 Depress the shutter release button fully, and the flash unit discharges.



After using the Built-in flash, push down the flash head to lock it in the closed position.



- The built-in flash does not pop up even if the flash pop-up button is depressed with the flash mode is set to <a> ™.
- This mode can be used with the red-eye reduction together.
- When the flash pop up button is depressed, 💽 is disappeared from the LCD pane if auto flash mode was set, and the flash is always discharged even if the subject is not required flash light.
- The shutter cannot be released until the flash is fully charged.
- Do not use a lens hood with the built-in flash as it may obstruct the path of the light coming from the flash, causing vignetting in the picture corners.
- With the built-in flash popped up, an external flash cannot be attached to the hot shoe. If you would like to use an external flash together with the built-in flash, see the flash connections on page 93.

MANUAL POP UP THE BUILT-IN FLASH

DAYLIGHT-SYNC SHOOTING

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

- 1.Depress the flash pop up button. ()
- Confirm either the built-in or the external flash is fully charged.

If the background is too bright, it may be over exposed.

3. Take a picture.

∠ MEMO

When taking a daylight-sync photograph with displayed on the LCD panel, the flash may not discharge.



Without Daylight-Sync



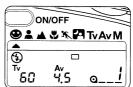
With Daylight-Sync

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.

FLASH-OFF MODE

Use this mode if you don't want the built-in flash to pop-up automatically. The flash will not pop-up automatically even when it is dark or when the flash is required.



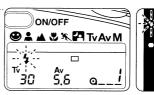
Depress the Flash mode button until appears on the LCD panel.

₹n MFMO

- The flash does not discharge even if the built-in flash is in the pop-up position.
- The Built-in flash does not pop up automatically or by pushing the Flash pop up button manually.
- In the flash off mode, the external flash will not discharge either.

FLASH RECOMMENDED INDICATOR

The flash recommended indicator 3 in the viewfinder and on the LCD panel blink slowly to warn and recommend you to use flash when





you attempt to take a picture in low light and backlight condition

In the Shutter-Priority AE Mode and Metered-Manual Mode, the flash recommended indicator blinks only when attempting to photograph a subject in a backlight condition

INAPPROPRIATE LENS WARING WHEN THE BUILT-IN FLASH IS USED

When using an inappropriate F or FA lens, will blink rapidly in the viewfinder and on the LCD panel when the shutter release button is depressed halfway down.





- See page 88 for more details on compatibility of F and FA lenses with the built-in flash.
- Taking a picture while this warning is appeared may cause vignetting in the picture corners or semi-circular vignetting at the bottom of the picture.

1.When using one of 6 Picture Modes

- 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. The slowest shutter speed in the Night-scene Program Mode is 1 seconds. When the Action program mode is used, the shutter speed is fixed to 1/100 of second.

2.Shutter-Priority AE Mode

- When taking a fast moving subject, you can increase a subject blur effect. The shutter speed can be set slower than 1/100 of second.
- In this mode, the aperture automatically changes according to the ambient brightness, making a flash photograph easily.

3.Aperture-Priority AE mode

• In this mode, the shutter speed automatically changes with the ambient brightness. The shutter speed changes in range of 1/100 sec. to a slower shutter speed that 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 set automatically with a Pentax A lens.

4.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 range according to the camerato-subject distance.

Maximum flash distance = Guide Number ÷ Selected aperture Minimum flash distance = Maximum flash distance ÷ 5*

₡ MEMO

- When the distance to the subject is less than 0.7m (2.3ft), the flash cannot be used. If the flash is used less than 0.7m, it causes vignetting in the picture corners, light is distributed unevenly and the picture may be over exposed.
- *The value 5 used in the formula above is fixed value applied to the built-in flash in this camera.

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

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

Exp. If an ISO100 film is used at an aperture of f/3.5, the flash effective distance is obtained as follows:

For maximum distance Guide Number (11) \div f/3.5 = 3.14m For minimum distance 3.14 \div 5 = 0.63m \rightarrow 0.7m *

Minimum distance of the built-in flash in this camera

Thus, the flash effective distance is from approx. 0.7m to 3.14m.

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

Aperture = Guide Number ÷ Camera-to-subject distance

Exp.

If the camera-to-subject distance is 2.5m and ISO 100 film is used, the effective aperture is obtained as follows:

Guide Number (11) \div Distance (2.5m) = f/4.4

If the calculated aperture value is different from an indicated f stop, for instance f/4.4, select the next smaller aperture value. (Set to f/4 in this case)

ADVANCED OPERATION FOR THE BUILT-IN FLASH

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

If an F or FA lens incompatible with the built-in flash is used,
depressing the shutter release button halfway down when the
flash is ready, 🚺 blink in the viewfinder and on the LCD panel
as a warning.

If the flash picture is taken with an incompatible lens, the corner of the picture may look dark or there may be dark, semi-circular area on the lower part of the picture.

- \bigcirc = compatible \triangle = Vignetting will occur under the usage conditions
- \times = incompatible because of vignetting]

Lens Name	Compatibility
F, Fish-Eye Zoom 17-28mm f/3.5-4.5	×
FA Zoom20-35mm f/4	△ Vignetting will occur at focal length is less than 28mm.
FA Zoom 24-90mm f/3.5-4.5AL(IF)	Vignetting will occur at focal length between 24-28mm.
FA* Zoom 28-70mm f/2.8AL	X
FA Zoom 28-70mm f/4 AL	0
FA Zoom28-80mmf/3.5-5.6	Vignetting will occur at focal length
	between 28-35mm or the camera to subject distance is less than 1m with the focal length of 35mm.
FA Zoom 28-90mm f/3.5-5.6	0
FA Zoom 28-105mm f/3.2-5.6	0
FA Zoom 28-105mm f/4-5.6 (IF)	
FA Zoom 28-200mm f/3.8-5.6	△ Vignetting will occur at focal length is less than 70mm.
F or FA35-80mm f/4-5.6	0

Lens Name	Compatibility
FA Zoom 70-200mm f/4-5.6	0
FA* Zoom 80-200mm f/2.8	Vignetting will occur at focal length is less than 90mm.
F or FA Zoom 80-200mm f/4.7-5.6	0
FA Zoom 80-320mm f/4.5-5.6	0
F or FA Zoom 100-300mm f/4.5-5.6	0
FA Zoom 100-300mm f/4.7-5.6	0
FA*Zoom 250-600mmf/5.6ED(IF)	×
FA20mmf/2.8	×
FA24mmf/2AL(IF)	X
FA28mmf/2.8	0
FA31mmf/1.8AL Limited	0
FA35mmf/2AL	0
FA43mmf/1.9 Limited	0
FA50mmf/1.4,f/1.7	0
FA77mmf/1.8	0
FA*85mmf/1.4	0
FA*135mm	0
FA*200mm	0
FA*300mmf/2.8	×
FA*300mmf/4.5	×
FA*400mmf/5.6	0
FA* 600mmf/4ED (IF)	×
FA MACRO 50mm f/2.8	0
FA MACRO 100mm f/2.8, f/3.5	0
FA MACRO 200mm f/4.0 ED (IF)	0
FA Soft 28mm f/2.8	0
FA Soft 85mm f/2.8	0

OVERVIEW OF FLASH FUNCTION

CAMERA FUNCTION	Α	В	С	D	E
Red-eye reduction flash function	0	0	×	Ŏ¹	×
Smart flash function operates	0	0	0	0	0
After the flash is charged, the camera automatically switches to the flash-sync speed.	0	0	0	0	0
Automatic aperture setting in the Picture Mode or Shutter-Priority AE Mode	0	0	0	Ö ²	Ŏ ^{*2}
Flash confirmation in the viewfinder	×	0	0	X	×
TTL auto flash	0	O*4	0	○ *3	×
Slow-shutter sync flash	0	0	0	0	0
AF illuminator	X	0	0	X	×
Trailing-snutter-curtain sync flash *4	○ *5	0	0	X.	×
Contrast-control-sync flash mode *4	×	0	×	×	×
Multiple burst flash, slave flash	×	O ^{*6}	×	X	×

A: Built-in flash

B: AF360FGZ, AF500FTZ, AF330FT

C: AF400FTZ, AF240FTZ

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

AF201SA, AF200SA

E: AF200S, AF160, AF140,

₡ MEMO

- *1. When using the AF280T or AF400T with the flash confirmation OFF and TTL mode, the red-eye reduction function operates.
- *2. When using a type D flash (except AF200SA and AF201SA) in the MS (Manual Sync) or M (Manual) Mode or when using a Type E flash, set the camera exposure mode to the Aperture-Priority AE Mode, Metered Manual or Bulb timer Mode. Picture mode and Shutter –priority AE cannot be used because the actual required aperture value may change.
- *3 With the AF201SA and AF200SA, TTL auto cannot be used.
- *4.The shutter speed is 1/60 of second or slower.
- *5. With TYPE B or C and D flash units, trailing-shutter-curtain sync flash is possible.
- *6.Except AF360FGZ and AF330FTZ.

Using Pentax dedicated auto flash units

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

A Pentax dedicated TTL Auto Flash like the PENTAX AF FTZ or AF FT series flash unit (i.e.: AF500FTZ, AF330, AF280T or AF220T) incorporate the TTL Flash Mode.

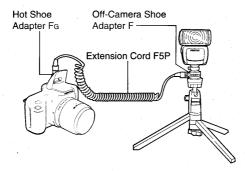
Using the TTL Auto Flash Mode

- 1. Remove the hot shoe cover FK.
 - Store the removed hot shoe cover in the strap pocket.
- 2. Attach a Pentax dedicated flash unit to the camera.
- 3. Turn the flash ON.
- 4. Set the flash mode to the TTL Auto Mode.
- 5. Confirm that the flash is fully charged.
- Focus on the subject and depress the shutter release button to take a picture.

∠ MEMO

- When the flash is fully charged, the ready lamp on the flash unit lights up. When the shutter release button is depressed halfway down, sappears in the viewfinder indicating the flash is ready.
- An external flash can also be made to automatically fire. Note that the flash will not fire against a lighter subject especially during daytime synchro shooting.
- · Read the operating manual of the flash unit for more details.

An external flash cannot be used 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.



- Remove the hot shoe cover FK from the camera.
 Store the removed hot shoe cover in the strap pocket.
- 2. Attach the hot shoe adapter FG to the camera.
- Connect the extension cord F5P to the hot shoe adapter F6 Turn the flash ON.
- 4. Attach the Off-Camera shoe adapter F to a tripod Set the flash mode to the TTL Auto Mode.
- Attach the flash unit to the Off-camera shoe adapter F Connect the extension cord F5P to the Off-camera shoe adapter F.
- 6. Depress the flash pop up button to activate the built-in flash.
- 7. Confirm that the all flash units are fully charged.
- 8. Focus on the subject and depress the shutter release button to take a picture.

OVERVIEW OF FLASH FUNCTION

- The AF500FTZ can be connected directly to the Extension cord F5P without Off-camera shoe adapter.
- The AF400T flash cannot be used with the built-in flash simultaneously because the 4P sync cord B from the AF400T will interrupt the function of the built-in flash.

Red-eye reduction flash function

The red-eye reduction flash function with an external flash attached can also be used depending on what type of an external flash is attached, and it may have any restrictions for usage. See page 77 for more details. The red-eye reduction flash function can be used only when the external flash is set to the TTI Auto Mode.

Trailing-Shutter-Curtain Sync Flash

When using the built-in flash and the external flash simultaneously, the trailing-shutter-curtain-flash function for the built-in flash also operates when the external flash is set to the trailing-shutter-curtain flash function. Before shooting, confirm that both flash units are fully charged.

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 90. The built-in flash can be operated with any type of Pentax TTL dedicated flash unit. 2.

Contrast-Control-Sync Flash

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

Contrast control synch flash is possible with the combination of following flash units:

AF360FGZ, AF330FTZ, AF500FTZ and the built-in flash

- 1. Place the flash unit a part from the camera.
- 2. Depress the flash pop up button to activate the built-in flash.
- 3. Set the flash synch mode to the Contrast-Control-Synch mode.
- 4. Ensure that both flash units are fully charged and then depress the shutter button to take a picture.

₡ MEMO

- The ratio of the amount of flashlight is 1 (built-in flash): 2 (dedicated flash unit).
- 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 faster flash sync speed is 1/60 of second.

Blenk

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OTHERS

ACCESSORIES (OPTIONAL)98
TROUBLESHOOTING102
PROGRAM LINES
STANDARD PROGRAM MODE / NIGHT-SCENE
PROGRAM MODE WITHOUT FLASH
PORTRAIT PROGRAM MODE
LANDSCAPE PROGRAM MODE
ACTION PROGRAM MODE
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ACCESSORIES (OPTIONAL)

A number of dedicated accessories are available for this camera.

AA-BATTERY PACK FG

Four size-AA batteries are used and dedicated to MZ-60/ZX-60.



₡ MEMO

Battery life (Using 24-Exposure film rolls)

Size AA Alkaline batteries were used under Pentax testing conditions.

	Number of film rolls at 20°C(68°F)
General existing light photography	approximately 180 rolls
Flash photography using flash 50% of the times	approximately 35 rolls
Flash photography using flash 100% of the times	approximately 20 rolls

FLASH ACCESSORIES

AF360FGZ

A TTL auto zoom flash unit with guide no. 36(ISO 100). It features include AF spot beam, slave-sync flash, multiple-flash, contrast-control-sync flash and leading/trailing curtain-sync mode.



AF500 FTZ

A TTL Auto Zoom flash with a built-in AF spot beam and large guide no. 50 (ISO 100). It features the slave-sync flash function, multiple-flash, contrast-control-sync flash, and leading/trailing-curtain-sync flash mode.

AF220T

A TTL Auto flash with a guide number of 22 ISO 100).

AF201SA

An Auto flash (Not TTL) with a guide number of 20 (ISO 100).

Macro Flash AF140C

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

Off-Camera shoe Clip CL-10

Enable the AF360FGZ to be used as a wireless slave flash.

ACCESSORIES (OPTIONAL)

Hot Shoe Adapter F, Extension Cord F5F and Off-Camera shoe Adapter

The adapters and cords, which allow the external flash to be used off the camera, while maintaining full electric coupling to the camera.

VIEWFINDER AND LENS ACCESSORIES

Magnifier FB

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

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, UV, Cloudy, Y2, O2, R2, and Circular Polarizing Filter are available in sizes of 49mm, 52mm, 58mm, 67mm and 77mm.

Diopter correction lens adapter M

Diopter correction lenses that slide into the eyepiece groove on the camera are available.

If you find it difficult to see the viewfinder image clearly, choose one of the eight correction lenses M of -5, -4, -3, -2, -1, +1, +2, +3 m

Notes on accessories

The camera does not operate when a lens with the following conditions attached.

- 1. When a lens, which does not have autofocus function is attached.
- 2. When an F or FA lens is attached with the aperture ring set other than the A position.

 F or FA 85mm f/2.8 Soft lens and FA28mm f/2.8 Soft lens cannot be used because these lenses do not have the A position on the lens aperture ring.

The camera does not operate with the following accessories used.

Accessories for close-up photography

Auto extension tube set K
Auto extension tube K 50mm
Auto extension tube K 100mm
Helicoid extension tube K
Auto bellows-A
49mm and 52mm Reverse adapter K
Extension tube K

Mount adapters

Adapter K for 645 lens 67 lens adapter K

Microscope adapter K

- When the refconverter A is used, it may interfere with the camera when you open or close the back cover. Remove the refconverter A before opening or closing the back cover.
- When the special effect filter or "Magic Image Attachment" or "Stereo Adapter" is used, the auto focusing and manual focusing with the infocus indicator in the viewfinder do not operate. Use the manual focus mode to focus on the subject with the aid of the matte field.

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.

TROUBLESHOOTING

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	Non-Autofocus lens is attached.	Use F or FA Autofocus lens.	P.34
	The lens aperture ring is set to other than the A position.	Set the lens aperture ring to the A position.	
	The main switch is [OFF].	Turn the main switch ON.	P.23
	The low battery warning a	Replace the battery.	P.22
	The batteries are installed backwards.	Install the batteries properly.	P.19
	ISO and film speed are displayed on the LCD panel.	Set the Exposure mode other than ISO.	P75
	The built-in flash is being charged.	Wait until the flash is fully charged.	P.76
Nothing is displayed on the LCD panel.	The main switch is [OFF].	Turn the main switch ON.	P.23
	No battery has been installed.	Install the batteries.	P.19
	The batteries are installed backwards.	Install the batteries properly.	P.19
	The battery is dead.	Replace the batteries.	P.19
The Autofocus does not work.	AF frame is not placed over the subject.	Move the camera until the AF frame covers the subject.	P.40
	The subject is too close.	Increase the camera-to- subject distance.	P.41
	The focus mode is set to MF.	Set the focus mode switch to AF.	P.37
	The subject is difficult to autofocus.	Focus manually by using the matte field.	P.73

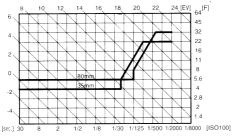
Symptoms	Causes	Ŕemedies	Reference
AE lock function do not operate.	The Metered Manual Mode or Bulb Timer Exposure Mode is being used.	Set the exposure mode dial to the other position.	P.71
Focus indicator in the viewfinder blinks.	The subject is too close or difficult to autofocus.	Focus manually by using the matte field.	P.73
The built-in flash does not charge.	Low battery warning a on the LCD panel blinking.	Replace the batteries.	P.19
The built-in flash does not activate when the flash-pop up button is depressed.	The exposure mode is being set to ③.	Set the mode dial other than ③.	P.83
The built-in flash does not pop up	The mode dial is set to other than the Picture Mode.	Set the exposure mode dial to the Picture Mode.	P.52
automatically.	Flash mode is not set to Auto pop up mode ([[AUTO]).	Set the flash mode dial to ((FAUTO)) or (@(FAUTO)).	P.35
The built-in flash does not discharge even if the flash is in the popped-up position.	When the (TAUD) appears on the LCD panel, the built-in flash does not discharge in bright lighting conditions.		P.35, P.76
The power zoom system does not function.	The camera does not have the power zoom function.		P.14

In rare cases, the camera may not operate correctly due to statistic electricity. This can be remedied by taking the batteries out and putting them back in again.

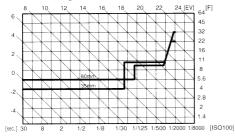
PROGRAM LINES

Standard program Mode / Night Scene Program Mode without Flash

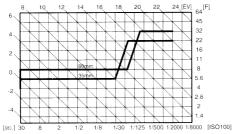
At ISO 100 with FA35 - 80mm f/4 - 5.6 lens



Portrait Program Mode At ISO with FA35 - 80mm f/4 - 5.6 lens

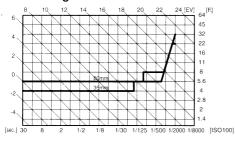


Landscape Program Mode At ISO 100 with FA35 - 80mm f/4 - 5.6 lens

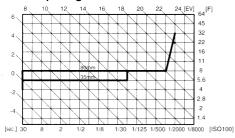


OTHER

Action Program Mode At ISO 100 with FA35 - 80mm f/4 - 5.6 lens



Close-up Program Mode At ISO 100 with FA35 - 80mm f/4 - 5.6 lens



SPECIFICATIONS

.Туре	TTL autofocus, auto-exposure 35mm SLR with built-in TTL auto flash (RTF)
Format —	- 24x36mm
Usable Film	-35mm perforated cartridge film. DX-coded film with ISO 25-5000; non-DX coded films with ISO 6-6400
Exposure Modes-	Picture Mode (Standard program Mode, Portrait Program Mode, Landscape Program Mode, Close-up Program Mode, Action Program Mode, Night-scene Program Mode), Shutter-Priority AE Mode, Aperture-Priority AE Mode, Metered Manual Mode, Bulb Timer
	Exposure Mode, TTL Flash Mode
Shutter	Electronically controlled vertical-run focal-plane shutter, Electromagnetic release, Speed range (1) Auto 1/2000-30 sec. (step less), (2) Manual 1/2000-30 sec. (3) Bulb timer 45sec32min. Shutter lock by setting Main switch in OFF position.
Body Mount	Pentax KAF bayonet mount (K-mount with AF coupler, lens information contacts)
Compatible Lens	Pentax KAF2-, KAF mount lenses.
Autofocus System	TTL phase-matching autofocus system, AF operational brightness range: EV 0 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 Penta-mirror finder, Natural-Bright-Matte focusing screen, Field of view:
	90%, Magnification 0.77X(with 50mm f/1.4 lens at ∞), Autofocus frame, Diopter : -1m $^{-1}$
Viewfinder——— Indication	Focus Information: In-focus (Green lamp is lit), front or back focus signals and unable-to-focus indicator (Green lamp blinks), Flash ready indication is lit, Over or Under or correct exposure indication in Metered Manual Mode, or A AE lock indicator
External LCD panel Indication	— ■ = picture mode select, ■ Standard Program, ■ Portrait Program, ■ Landscape Program, ■ Close-up Program, ■ Action Program, ■ Night-Scene Program, □ = Select Shutter Priority AE, Aperture priority AE, Manual Exposure modes(Tv, Av, M), ▼ is lit=Built-in flash
	ready, \$\ \] Blinking=Flash recommended warning or inappropriate lens warning, \$\ \] =Flash-off, \$\ \omega_\] =Red-eye reduction, \$\ \omega_\] =Auto pop up flash, Automatic flash function, \$\ \] =Consecutive frame drive, \$\ \] =Self-timer, \$\ \] =2 seconds self-timer, \$\ \] =Auto bracket compensation value (\(\pm\)1/2EV, \(\pm\)1EV), Shutter speed, Aperture value, ISO, Date, Time, Exposure counter, \$\ \] =Battery exhaustion warning,

Q___=Film status information

Self-timer	-Electronically-controlled with delay time of 12 sec. or 2 sec. with mirror lock up in used, Cancelable after operation
	-Three frames consecutive shots with exposure bracketing in 0.5EV or
Exposure	1EV step.
	-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 &	-Auto wind/rewind by built-in motor, Consecutive or Single advance
Rewind	mode, Approx.1 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
Exposure Meter—	-TTL 2-segment metering, Metering range from EV4 to EV21 at ISO100 with 50mm f/1.4 lens
AE lock	-Exposure is memorized for 20 seconds
Flash	-Series-control, Auto-popup TTL Auto Flash (RTF), Guide number: 11 (ISO100/m), Illumination angle covers 28mm lens angle of view, Flash-sync-shutter in the range from 1/100 sec. to a slower speed, Day-light-sync flash, Slow-shutter-sync flash, Contrast-control-sync flash (ISO range = 25 – 800), Automatic flash function, Red-eye reduction flash function
	-Hot shoe with X-contact, which couples with Pentax dedicated auto flashes, ISO range = 25-800, Red-eye reduction flash function
	-Two 3V lithium batteries (CR2 or equivalent)
Battery Exhaustion	Battery exhaustion symbol 🖃 is lit (the shutter is locked when
Warning	blinking; no indication in the viewfinder.)
Date module	-Crystal quartz controlled, LCD with digital clock, auto calendar,
	Imprinting mode ① Year/Month/Day ② Day/Hour/Minute
	3 "" (No imprint) 4 Month/Day/Year
	⑤ Day/Month/Year
	ISO range ISO 25-1600 (Automatic setting)
	- 136mm(W) x94.5mm (H) x63mm (D) (5.4"x3.7"x2.5")
Weight	335g(11.8 oz) body only without batteries

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