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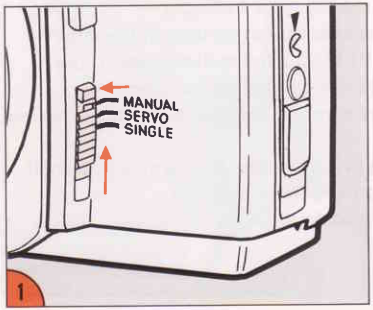
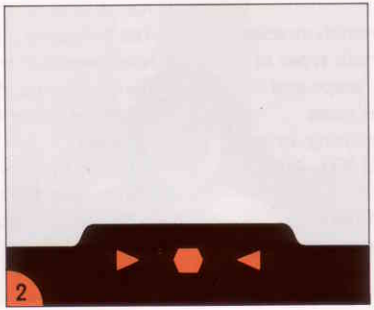
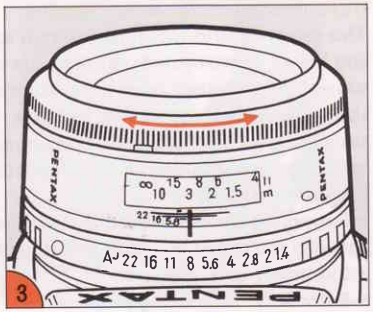






When using existing Pentax A- and M-series lenses, focusing needs to be done manually with the assistance of the FI (Focus Indication) system. The same operations can be applied to the F-series lenses if the auto-focus system is not used.

Usable SMC Pentax Lenses

The following lenses with a maximum aperture of f/5.6 or larger can be used:

- F-series (KAF mount) and A-series (KA mount) lenses,
- M-series and Pentax lenses (K mount).

1. Set the focus-mode switch to the MANUAL position.
2. As illustrated, one or more of the FI signals light up when you press the shutter release button halfway down.
3. Turn the lens focusing ring to the right for the [▶] signal and to the left for the [◀] signal. If the green in-focus signal [○] lights up, the subject is in focus. When the main switch is set at the [•))] position, the correct focus is also confirmed by a PCV tone.

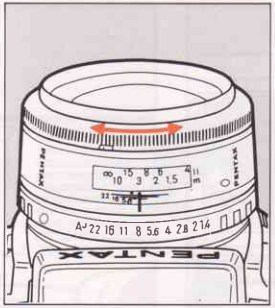
FI Signal

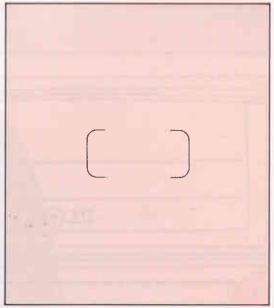
[▶] = Front-focus signal: Turn the focusing ring to right.

[◀] = Back-focus signal: Turn the focusing ring to left.

[○] = In-focus signal: The subject is in focus.

▶ ◀ = Out-of focus-range warning: Unable to focus.





Only lenses with a maximum aperture of f/5.6 or larger can be used in the FI system. The FI signals may appear in the viewfinder even when some other slower lens (such as 1000mm f/8) is mounted for high-contrast subjects, but the accuracy is not at the optimum level. For such lenses, use the matte area of the viewfinder for focusing.

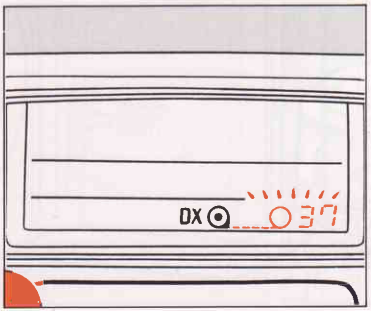
* SMC Pentax Bellows 100mm f/4, SMC Pentax Shift 28mm f/3.5 (when shifted) and reflex-type lenses cannot be used in the FI system. Use the matte area of the viewfinder for focusing.

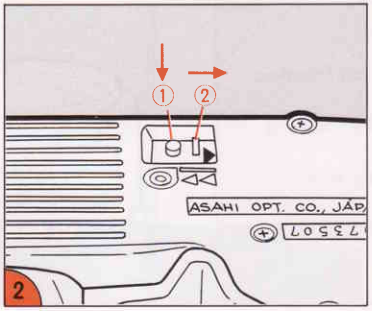
Focusing Using the Viewfinder Matte Area

For subjects that are difficult to focus on automatically or measure the distance to, and when using an old Takumar-series lens with the Mount Adapter K (optional), use the matte area of the viewfinder for manual focusing.

- Set the focus-mode switch at the MANUAL position.
- Turn the lens focusing ring to the point where the subject appears most clearly, then release the shutter.

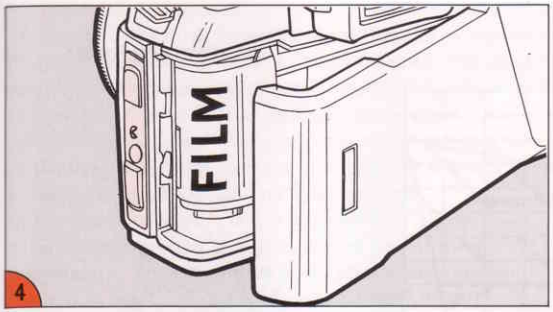
UNLOADING FILM (Be sure to remove the film from the camera in the shade.)





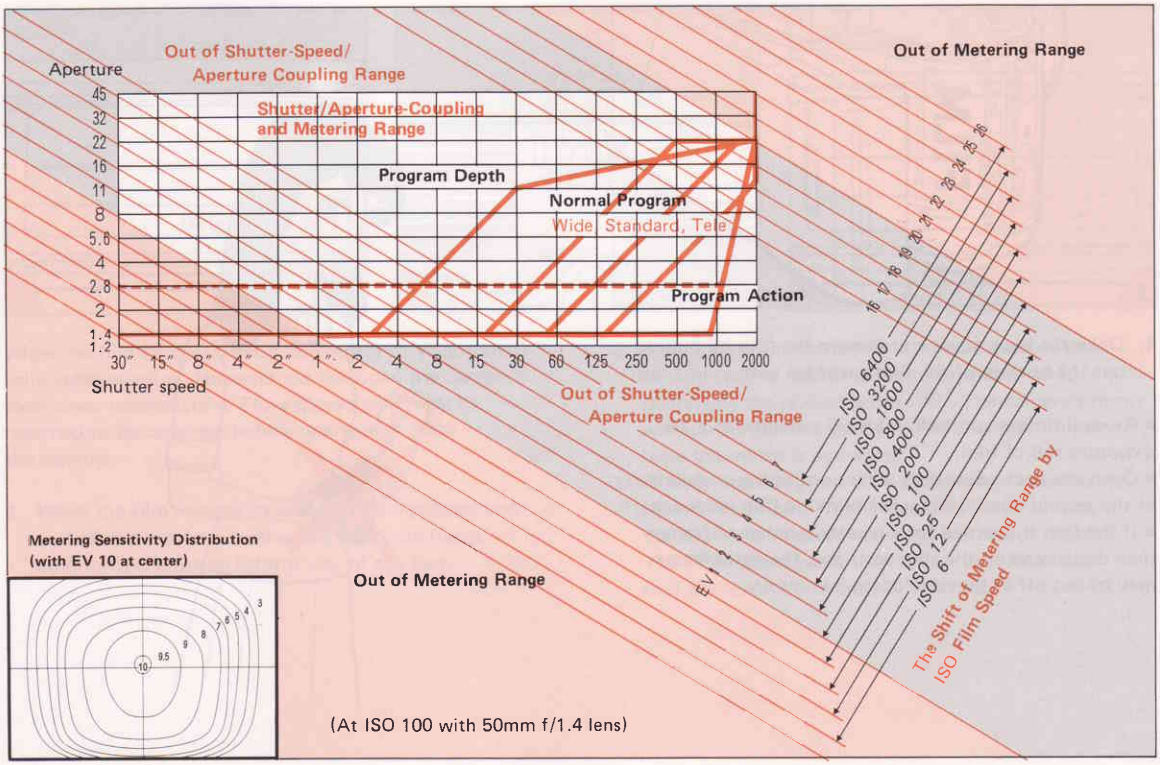
When the film reaches its end, the motor drive automatically stops winding. However, do not open the camera's back cover immediately. The exposed film must be returned to its cartridge before removing it from the camera.

1. When the film reaches its end, the film-advance and end-of-film marks as well as the exposure frame counter will blink to inform you of the fact.
2. Slide the rewind switch ❷ at the bottom of the camera toward the direction of an arrow while depressing the rewind bottun ❶ . The camera's motor will start rewinding the film. Remove your finger once the motor is activated.
3. During rewinding, the film-advance mark flashes from left to right. When rewinding is completed, the shutter is released once and the motor stops. The film-loaded mark then blinks to inform you that the rewind operation is finished.



4. Open the back cover and remove the film by pulling out the bottom of the film cartridge with your finger.

- Rewind time is approximately 20 seconds for a 24-exposure roll of film.
- Open the back cover only after confirming completion of the rewind operation by the blinking film-loaded mark.
- If the film is exposed for a greater number of frames than designated on the film cartridge, the extra frames may be cut off at the developing laboratory.



Programmed AE Diagram

This camera has three Programmed AE modes — Normal Program, Program Action and Program Depth. The thick solid lines of the diagram at left represent the shift in the combination of shutter speeds and apertures. This combination can be shifted up to the maximum aperture of the lens in use: the combination of an f/2.8 lens is indicated by a red dotted line as an example.

In the Normal Program mode, the combination is automatically shifted to a program for one of three sub-modes — Wide, Standard and Tele — depending on the lens in use.

The Program Action mode is programmed to select a high shutter speed.

The Program Depth mode is programmed to increase the depth of field by selecting a small aperture.

The thin solid lines and thin dotted lines on both sides of the diagram indicate different coupling ranges when lenses with different maximum and minimum apertures are used, or when the ISO film speed is changed. As the aperture range of the lens (f/1.4 – f/22) changes, the limits of the metering range change as well.

Metering Range and Shutter-Speed/Aperture Coupling Range

Metering range refers to the range of subject illumination within which the built-in exposure meter can operate to control an exposure. The shutter-speed/aperture coupling range is a part of the metering range within which possible combinations of shutter-speed and aperture values for proper exposure control can be found. For example, the metering range for a 50mm f/1.4 standard lens with ISO 100 film is from EV 1 (f/1.4, 1 sec.) to EV 20 (f/22, 1/2000 sec.).

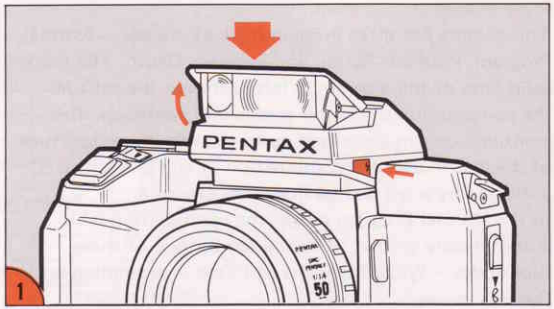
As the ISO film speed changes, the metering range changes as well. The thin slanted red lines in the diagram at left indicate the change in metering ranges in relation to ISO film speed. The inside of the center frame represents the meter and shutter-speed/aperture coupling range.

EV (Exposure Value)

EV represents the brightness of the subject and is indicated by a number.

USING A BUILT-IN FLASH (RTF)

This camera is equipped with a built-in Retractable TTL-Auto Flash (RTF) unit. The RTF is ideal for use in dark locations where the auto-focus system does not work, and for flash photography. Even when photographing a person under the shade of a tree or in a dark location during the daytime, the RTF can be used as a fill-in flash in the Programmed AE mode for daylight flash-sync photography.



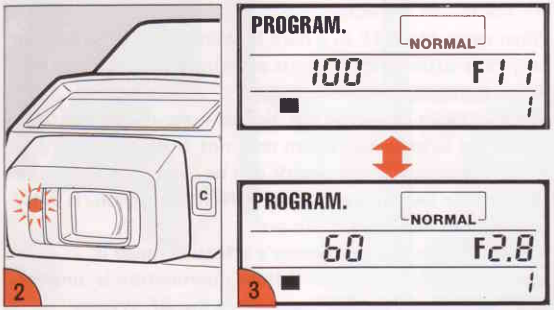
1. When the flash pop-up button is pushed, the RTF swings up and forward and starts charging. After use, push it back down into the housing.

- **Guide Number:** 14 (ISO 100/m)
- **Usable Lenses:** 35mm to 210mm (excluding Macro 100mm)
- **Recycle Time:** Approximately 3 seconds (using a 6V lithium battery)
- **Effective Flash Range:** Approximately 1m to 5m (ISO 100, f/2.8)
- **Usable Films:** ISO 25 to 400

Battery Life

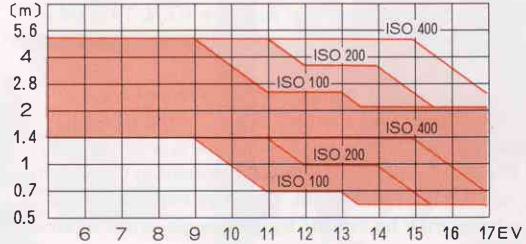
Battery / Number of Rolls	6V Lithium Battery	"AA"-Size Alkaline Batteries
24-exposure film	Approx. 25~30	Approx. 20

* When the RTF is used for 50% of the exposures taken.



2. When the RTF is fully charged, the red flash-ready indicator next to the viewfinder eyepiece (inside Eyecup F) lights up to confirm it.
3. If the lens aperture ring is set at the "A" position for the selected exposure mode (e.g. the Programmed AE modes), the flash-sync shutter speed (1/60 sec.~1/100 sec.) and the aperture (f/2.8~f/11 at ISO 100) are automatically changed according to the brightness of the subject, making the daylight flash-sync photography extremely simple.
   The flash-sync shutter speed and the aperture are displayed on the CENTIC panel when the shutter release button is depressed halfway down. In the viewfinder, the exposure mode ["P" or "A"] and the sync speed ["60"] are indicated, but the flash-ready indicator [ϟ] is not.

Effective Flash Ranges of the Program Flash System



The chart above shows the RTF's effective flash ranges in the Program Flash system for lenses with a maximum aperture of f/2.8 or larger. For lenses with a smaller maximum aperture (f/4, for example), the range is extended another block at the bottom (from 1.4m to 1m, for example).

- If the lens aperture ring is set at any f-number for the selected exposure mode, the effective flash range is determined by the selected aperture (G.N. 14 ÷ f/4 = 3.5m), and the flash-sync shutter speed is set at 1/100 sec.
- When a lens with a maximum aperture of f/2.8 or smaller is used, the aperture display in the CENTIC panel starts from that maximum aperture of the lens.
- The Program Flash system can be used in combination with a Pentax-F or -A lens. Be aware that the RTF's discharge may be cut off by wide-angle lenses or lenses with a large diameter.
- When a Pentax-F lens that may cut off the RTF's discharge is mounted (e.g., some zoom, telephoto and macro lenses), the red flash-ready indicator [ϟ] blinks to warn the photographer. In this case, the shutter can be released but the RTF will not discharge.
- Do not use a lens hood. The RTF's discharge is also cut off within the distance of 1m when a 35mm wide angle is mounted, so do not use the RTF in such cases.
- Be aware that photographing a person straight on from the front using a flash beyond a distance of 3m may cause the "red-eye" phenomenon produced when light reflects off the retinas. (This can be avoided by directing the subject's gaze away from the camera.)

AF Spotbeam Projector

When using the RTF in a dark location, the AF spotbeam projector automatically emits an infrared beam to assist the auto-focus system.

The spotbeam projector can also be used in dim locations where the auto-focus system may not work effectively.

- The AF spotbeam projector can be used only when the focus-mode switch is set at the SINGLE position. It will not work at any other position.
- The AF spotbeam projector's effective range is approximately 1m to 4m. If flash illumination is unnecessary, push down the RTF unit after the AF system captures the subject in focus.
- The AF spotbeam projector does not operate for bright subjects.
- If the [►◄] indication appears, auto-focusing is impossible. (See pages 33 to 35.)
- When the AF400FTZ's AF spotbeam projector is used, the AF spotbeam projector built into the camera does not operate.

If the camera is set in an AE (automatic exposure) mode or the Metered Manual mode, a Pentax dedicated auto flash unit can be used anytime.

How to Use an Accessory Flash

1. Remove the camera's hot-shoe cover and attach the flash unit.
2. Set the flash mode to TTL Auto or Programmed Auto.
3. Turn the flash's main switch on.
4. The completion of the flash-charging operation can be confirmed by checking the flash unit's flash-ready indicator, as well as the flash-ready indicator [ϟ] in the viewfinder and the flash-sync speed display on the CENTIC panel, both of which are turned on when the shutter release button is pressed halfway down. (The indications for the RTF are slightly different.)

• When the exposure meter's timer goes off, the [ϟ] and flash-sync shutter speed indicators also switch off.

• For this camera, please take advantage of the new AF400FTZ dedicated auto zoom flash, which possesses the many capabilities shown at right.

Functions of RTF and Dedicated Auto Flash Units

• When using an old-type flash unit (AF160S or AF200S), use the lens aperture ring to select the desired f-number.

• * The red flash-ready indicator located to the left of the viewfinder eyepiece lights up when the flash is fully charged.

• The flash unit may not discharge if the subject is too bright to require a flash.

• ☆ AF200SA, AF240Z and AF160SA apply.

TTL Auto Flash System

When you attach a Pentax dedicated TTL auto flash unit, the camera's metering circuits automatically control the flash output for a proper exposure by measuring the incoming light reflected off the film plane. Since this system measures only the light reflected by the subject, it ensures accurate exposure control.

Functions of RTF and Dedicated Auto Flash Units

Camera's Functions	RTF	AF400FTZ	AF400T AF280T AF200T AF080C	AF200SA AF240Z AF160SA AF200S AF160S
When flash charging is completed and the shutter release button is depressed halfway down, the flash-ready indicator [ϟ] appears in the viewfinder, and the shutter speed "100" (1/100 sec.) appears on the CENTIC panel. When using the older models such as the AF160S and AF200S, set an f-number using the lens aperture ring.	○* (60-100)	○ (60-100)	○ (100)	○ (100)
With the lens aperture ring locked at the "A" position, the appropriate aperture value is set automatically.	○	○	○	☆
Successful flash discharge is confirmed by the flash-ready indicator [ϟ] in the viewfinder, which either turns off briefly and back on again or blinks after exposure.		○	○	
Flash output is automatically controlled by measuring the amount of light striking the film plane during exposure. (TTL Auto Flash)	○	○	○	
Slow shutter-speed sync operation under 1/100 second is possible in the Metered Manual mode.	○	○	○	○
Built-in AF spotbeam projector for assisting auto focusing in dark locations.	○	○		
Selection of the leading shutter-curtain or trailing shutter-curtain sync mode.		○		

TTL Auto Flash Mode

For Programmed AE and Shutter-Priority AE Modes

- Like the built-in RTF unit, the AF400FTZ, which is designed exclusively for use with this camera, automatically adjusts the shutter speed and aperture according to the subject's brightness, making it easy to accomplish even complicated daylight flash synchronization. (See the operating manual of the AF400FTZ for more detailed information.)
- With a conventional dedicated flash unit (AF400T, AF280T, AF200T and AF080C), a flash-sync speed of 1/100 second and an aperture of f/4 (f/8 for AF080C) are set as soon as the flash is fully charged (at ISO 100). However, these units are not recommended for daylight flash sync photography.

* With zoom lens whose maximum aperture changes (from f/3.5 to f/4.5, for example) according to the focal length, the f-number indication (e.g. f/4, ISO 100) may start blinking to indicate that exposure is out of the coupling range, depending on the focal length selected. Be aware that this might result in underexposed images with the current settings.

For Aperture-Priority AE and Metered Manual modes

- Select the desired f-number using the lens aperture ring.
- The flash-sync speed of 1/100 second is set as soon as the flash is fully charged.

Programmed Auto Flash Mode

For Programmed AE and Shutter-Priority AE Modes

- Set the flash's mode switch at one of the AUTO (red, green or yellow) positions for dedicated flash units such as the AF400T, AF280T, AF200T and AF200SA.
- A combination of a flash-sync speed of 1/100 second and a lens aperture is selected as soon as the flash is fully charged, as indicated in the chart below.

(at ISO 100)

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

(AF200SA: f/4 at ISO 100)

For Aperture-Priority AE and Metered Manual Modes

- Set the flash's mode switch at one of the AUTO (red, green or yellow) positions.
- Set the same f-number on the lens as the one indicated by the flash's exposure scale.
- The flash-sync speed of 1/100 second is set as soon as the flash is fully charged.

Common Functions of TTL Auto Flash and Programmed Auto Flash Modes

In the Metered Manual mode, slow-shutter-speed synchronization can be used by selecting a shutter speed between 1/60 second and one second. The shutter speed can be selected by sliding the select switch to the UP or DOWN position until the desired speed appears on the CENTIC panel.

• When the shutter speed is set between 1/2000 second and 1/125 second, it is switched to the flash-sync speed of 1/100 second when the flash is fully charged.

Flash Confirmation Signal (ϟ)

When a proper flash exposure is made in the TTL Auto Flash or Programmed Auto Flash mode while the camera is set in an AE or Metered Manual mode, the flash-ready indicator [ϟ] in the viewfinder confirms it right after the discharge, either by disappearing for a moment and coming back on again or by blinking.

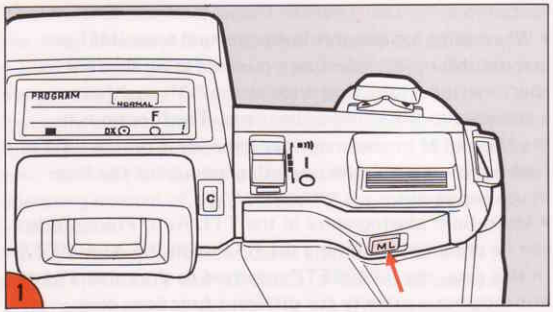
* The AF200SA does not have the flash confirmation signal function.

Precautions for Using Pentax Dedicated Flash Units

• When using a flash unit in the manual sync (MS) or manual (M) mode, select an f-number using the lens aperture ring. If the ring is set at the "A" position, a correct exposure cannot be made. The functions in the MS and M modes may vary depending on the type of flash used, so check the operating manual of the flash in use for details.

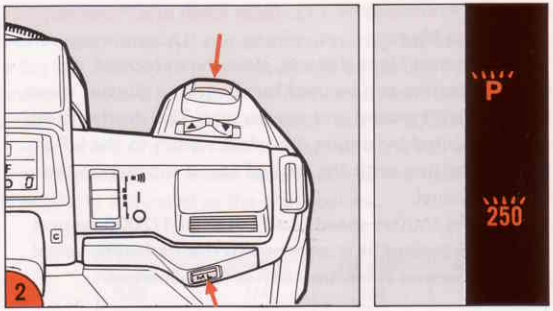
• Multi-flash photography in the TTL Auto Flash mode can be done by combining the RTF with the AF400FTZ. In this case, the AF400FTZ attached to the camera's hot shoe has a priority for different functions over the RTF. When combining conventional dedicated flash units, use the lens aperture ring to select the aperture. Be sure to check the flash-ready indicator of the attached flash unit before shooting.

• The TTL Auto Flash or Programmed Auto Flash mode can be used even when the camera is set at the "100" (1/100 sec.) or "B" (bulb) settings.



The exposure memory lock is a mechanism that temporarily memorizes exposure data measured before a shutter release in the AE modes. It is very useful when photographing subjects against strong backlight or when there is a large, extremely bright or dark background area.

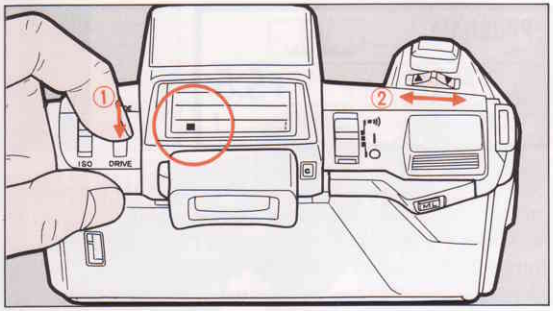
1. Move in to capture the main subject (a person's face, for example) in full frame in the viewfinder and then press the exposure memory lock button [ML] to memorize the exposure data. The viewfinder indicators will blink rapidly to indicate the function is operating.



2. To extend the exposure memory, press the shutter release button halfway down while also pressing the ML button. As long as the shutter release button is held at this position, the measured exposure data is kept in memory.
   Move back, recompose the image and release the shutter. The subject is correctly exposed. Once the shutter is released, the memory is canceled.

Precaution

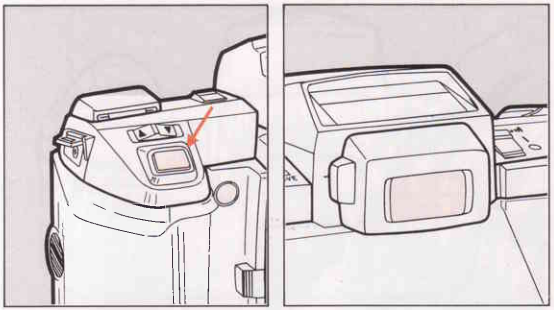
- If the ML button is pressed while the camera is in the Metered Manual mode, the shutter speed indicator in the viewfinder locks and starts blinking.



Take advantage of the self-timer when you wish to be in your own photograph.

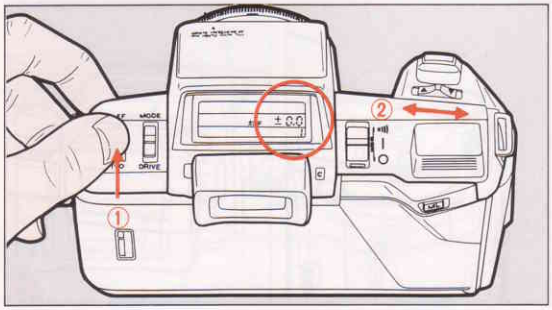
Set the self-timer by sliding the select switch to the UP or DOWN position while holding the mode/drive switch at the DRIVE position. The [⏲] mark on the CENTIC panel will light up. After focusing on the subject, press the shutter release button. This delays the shutter release for approximately 12 seconds.

- If the main switch is set at the [•))] position, self-timer operation is indicated not only by the LED self-timer indicator but also a PCV tone. For the final two seconds before the shutter release, the indicator blinks and the PCV tone changes to a short, intermittent beep.



- The exposure-frame/self-timer counter on the CENTIC panel counts down the delay time from 12 seconds to shutter release.
- To cancel the self-timer operation, turn the main switch off.
- The self-timer cannot be used in combination with the bulb setting.

Since your eye isn't covering the viewfinder when you use the self-timer, light entering the eyepiece can cause exposure errors (underexposing the subject) in the AE modes. To prevent such errors, remove the Hot Shoe Cover F from the hot shoe and insert it inside the Eyecup F.



The exposure compensation system is used to change the basic exposure value or to intentionally under- or overexpose the subject in the AE modes.

Sample Subjects	Compensation Value
• Back-lit subjects • Landscapes with a large amount of blue sky • Person(s) on the snow • Person(s) with the sky in background	Approx. +1 to +3.5 EV
• Subjects with dark background • Subjects on stage • Night scenes	Approx. –1 to –3.5V

To use the exposure compensation feature, set the desired compensation value by sliding the select switch to the UP or DOWN position while holding the ISO/exposure compensation switch at the ±EF position.
The exposure value can be adjusted in the range between –4 EV and +4 EV in 1/2 steps.
The exposure compensation mark [±EF] on the CENTIC panel blinks while the exposure compensation is being used. When you press the shutter release button halfway down, the ±EF indicator in the viewfinder blinks.
Be sure to reset the value to "0.0" by pushing the exposure mode clear button as soon as you finish using the feature.

- Exposure compensation can also be used in combination with the TTL Auto Flash or Programmed Auto Flash mode.
- In the Metered Manual mode, it is easier to change the shutter speed or aperture after obtaining the correct exposure.

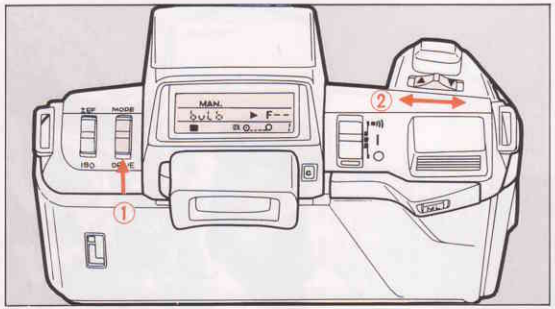
▲ UP position ⟵⟶ ▼ DOWN position				
+4.0	~	±0.0	~	–4.0
(Displayed in 1/2 steps)				

±0.0

+2.0

±0.0

−2.0

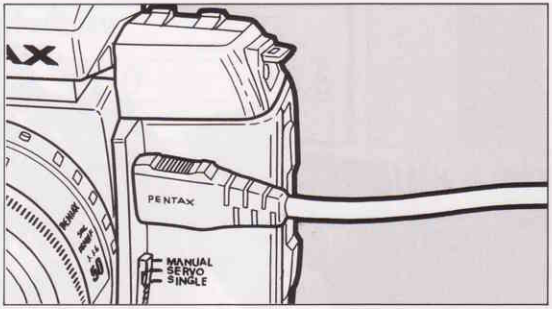


Select the "B" (bulb) or "100" (1/100 sec.) setting by sliding the select switch to the UP or DOWN position while holding the mode/drive switch at the MODE position. The appropriate indicator will appear on the CENTIC panel. When you press the shutter release button halfway down, the indicator "M" will appear in the viewfinder.

Using the "B" (Bulb) Setting

Use this setting for long-time exposures of subjects such as fireworks and night scenes. The shutter remains open as long as the shutter release button is held down.

- When using the bulb setting, stabilize the camera with a solid tripod and connect the optional Cable Switch F (with a lock mechanism) to the camera's release socket, as illustrated.

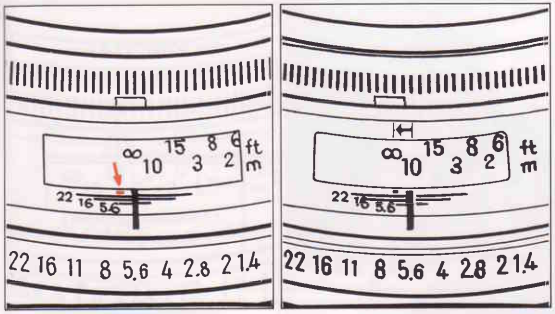


- With one fresh 6V lithium battery or four fresh "AA"-size alkaline batteries, a long-time exposure of approximately 7 hours is possible under normal temperatures.

Using the "100" (1/100 sec.) Setting

This setting is used for flash photography using a general clip-on type flash unit with a fixed shutter speed of 1/100 second.

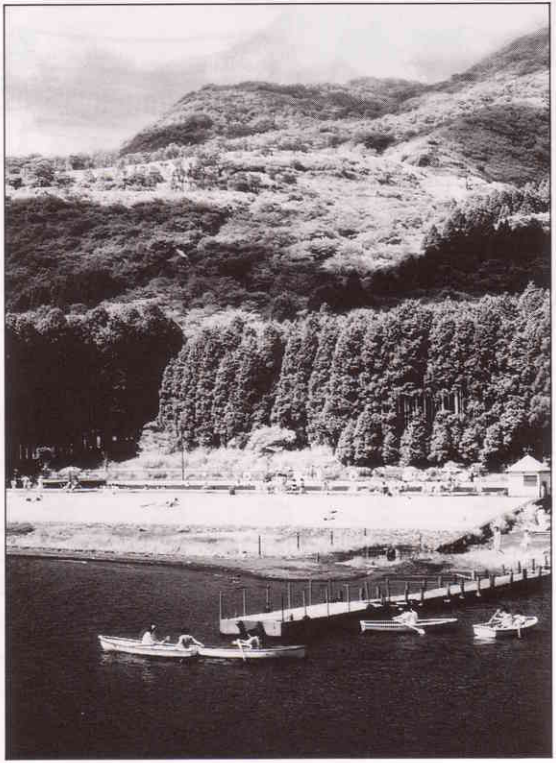
- When using a general clip-on type flash unit, the aperture must be set manually with the lens aperture ring according to the ISO speed of the film in use, the distance to the subject and the flash's guide number. (See the operating manual of the flash unit concerned.)

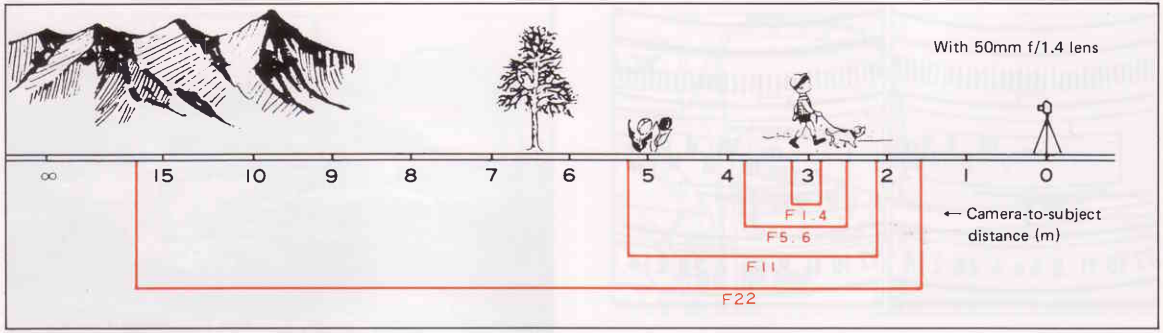


In infrared photography when using infrared film and an R2 or O2 filter, you need to adjust the focusing to compensate for infrared rays, which are different from the visible rays of normal photography.

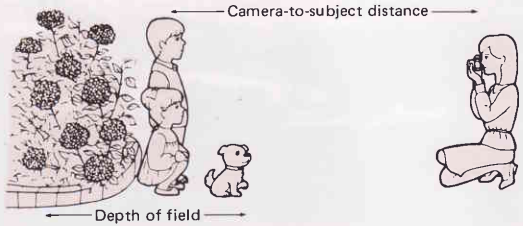
As illustrated at left, memorize the subject's distance indicated on the lens distance scale after focusing, then turn the focusing ring to align that distance setting with the red infrared index before shooting. (See the film's instructions for exposure settings.)

- Be sure to set the focus-mode switch at the MANUAL position before turning the focusing ring manually.





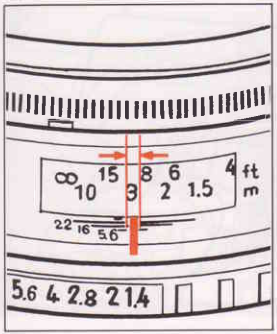
Depth of field refers to the range around the optimum focusing point of the subject in which the elements at different distances are in focus.



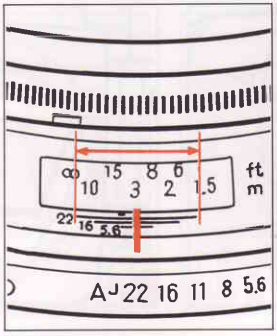
The depth of field increases as the aperture becomes smaller, as the focal length of the lens becomes shorter, and as the subject is positioned farther away. By changing apertures, you can control the depth of field and create different visual effects.
As illustrated in the examples at right (using f/1.4 and f/22 settings), the in-focus range can be confirmed by the depth-of-field scale on the lens.

* Some zoom lenses do not have a depth-of-field scale due to mechanical reasons.

Aperture set at f/1.4 (2.85m~3.16m)



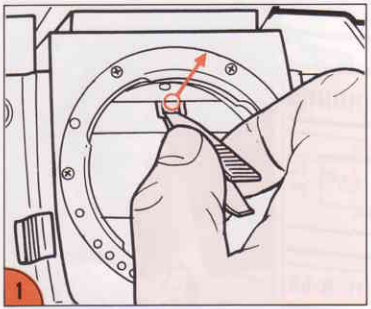
Aperture set at f/22 (1.6m~16.88mm)

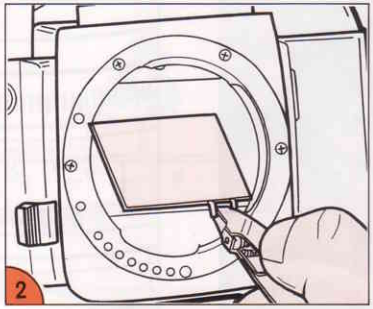


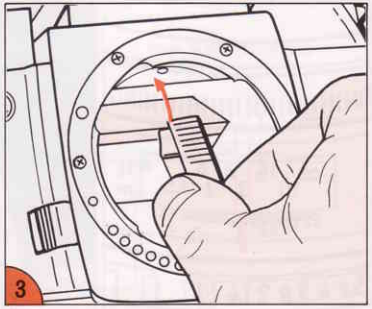
Depth-of-field Table: SMC Pentax-F 50mm Lens

unit-meter

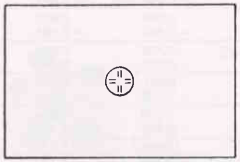
Distance scale	f/1.4	f/2	f/2.8	f/4	f/5.6	f/8	f/11	f/16	f/22
0.45m	0.448 ~ 0.453	0.446 ~ 0.454	0.445 ~ 0.455	0.443 ~ 0.457	0.440 ~ 0.460	0.436 ~ 0.465	0.431 ~ 0.471	0.423 ~ 0.481	0.414 ~ 0.493
0.5m	0.497 ~ 0.503	0.495 ~ 0.505	0.494 ~ 0.507	0.491 ~ 0.509	0.487 ~ 0.513	0.482 ~ 0.519	0.476 ~ 0.527	0.466 ~ 0.540	0.454 ~ 0.557
0.6m	0.595 ~ 0.605	0.593 ~ 0.607	0.590 ~ 0.610	0.586 ~ 0.615	0.581 ~ 0.621	0.573 ~ 0.630	0.564 ~ 0.642	0.549 ~ 0.663	0.532 ~ 0.691
0.8m	0.791 ~ 0.810	0.787 ~ 0.814	0.781 ~ 0.820	0.774 ~ 0.828	0.764 ~ 0.840	0.749 ~ 0.859	0.732 ~ 0.883	0.705 ~ 0.927	0.675 ~ 0.987
1.0m	0.985 ~ 1.016	0.978 ~ 1.023	0.970 ~ 1.032	0.958 ~ 1.046	0.942 ~ 1.066	0.919 ~ 1.098	0.892 ~ 1.140	0.851 ~ 1.218	0.806 ~ 1.328
1.5m	1.464 ~ 1.538	1.449 ~ 1.555	1.430 ~ 1.578	1.402 ~ 1.613	1.366 ~ 1.664	1.316 ~ 1.746	1.259 ~ 1.861	1.174 ~ 2.093	1.086 ~ 2.462
2.0m	1.935 ~ 2.070	1.908 ~ 2.101	1.874 ~ 2.144	1.825 ~ 2.213	1.764 ~ 2.312	1.679 ~ 2.478	1.584 ~ 2.724	1.449 ~ 3.265	1.314 ~ 4.298
3.0m	2.853 ~ 3.164	2.794 ~ 3.239	2.719 ~ 3.346	2.615 ~ 3.521	2.487 ~ 3.785	2.318 ~ 4.265	2.137 ~ 5.073	1.892 ~ 7.426	1.665 ~16.883
10.0m	8.488 ~ 12.171	7.973 ~ 13.421	7.375 ~ 15.552	6.631 ~ 20.422	5.846 ~ 35.101	4.966 ~ ∞	4.181 ~ ∞	3.313 ~ ∞	2.655 ~ ∞
∞	55.370 ~ ∞	38.772 ~ ∞	27.707 ~ ∞	19.408 ~ ∞	13.876 ~ ∞	9.726 ~ ∞	7.086 ~ ∞	4.885 ~ ∞	3.565 ~ ∞



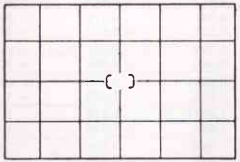




In addition to the standard all-surface-matte focusing screen, two other optional screens are available. The screens can easily be changed by using a pair of tweezers included in the focusing screen's case.



Scale Matte Screen (FD-41): for photomicrography and macrophotography.

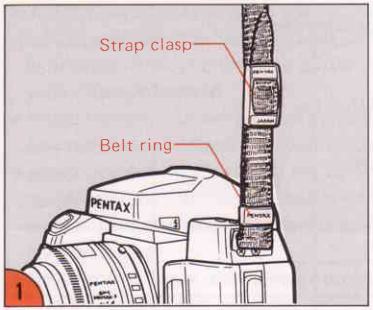


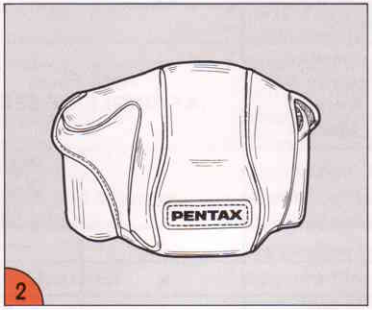
Cross-Lined Matte Screen (FG-40): for copying work and general-purpose photography.

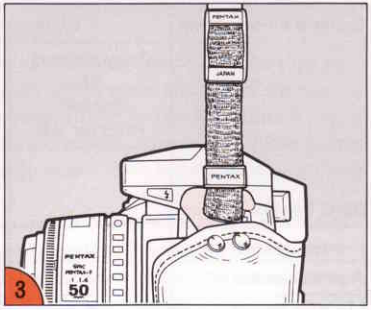
1. As illustrated, the focusing screen hangs down when the pressure plate (behind the "O" mark) is pulled down (toward an arrow "⟶").
2. Take the screen out by grasping its projected part with the tweezers and stand it up at the groove of the case to avoid damages or scratches.
3. As illustrated, place the new screen on the frame with the tweezers and push the frame up until it locks with a click.

The focusing screens are made of plastic. Be careful not to damage them when handling. To clean a screen, use a blower to blow away the dust.

STRAP AND CASE







1. To attach the strap to the camera, first pass its end through the camera's strap lug, then fold it backwards. Next, pass it through the strap ring and the strap clasp, in that order. The end of the strap may be passed through the inside or outside of the clasp.
2. The soft case consists of a front and a back cover, which are connected by hooks.
3. Open up the front cover, and place the camera in the back cover. The camera is firmly secured in the case by hooking up the back cover's hook with the front cover's fitting.

- A soft case is available as an option, and consists of a back cover and two differnt front covers (small and large).

Small front cover: for a camera with a standard lens (such as the Zoom 35mm–70mm).

Large front cover: for a camera with a telephoto zoom lens (such as the Zoom 70mm–210mm).

- A back cover for a camera equipped with an accessory data back is also available as an option.

Camera's Functions / SMC Pentax Lenses	Exposure Mode		Focusing Mode			
	Programmed AE Shutter-Priority AE	Aperture-Priority AE Metered Manual	Auto Focus (AF SINGLE/AF SERVO)		Manual Focus	
				With AF Adapter 1.7X	FI System	Matte Screen Focusing
F-series lenses	○	○	○	——	○	○
A-series lenses	○	○	x	○*	○*	○
M-series lenses	x	○	x	○*	○*	○
Pentax lenses	x	○	x	○*	○*	○
Takumar lenses	x	○*	x	x	x	○

*** The lenses have the following limitations:**

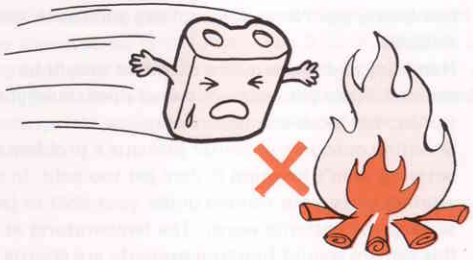
- Only lenses with a maximum aperture of f/5.6 or larger can be used with the FI (Focus Indication) system of the manual focusing mode.
- Only lenses with a maximum aperture of f/2.8 or larger can be used in the auto-focusing mode in combination with the AF Adapter 1.7X. (See the AF Adapter 1.7X's operating manual for more detailed information.)

*** Can be used only in the stop-down metering.**

- The FI (Focusing Indication) system of the manual focusing mode indicates the in-focus point with an LED indicator in the viewfinder and a PCV (piezo-ceramic vibration) tone. The camera automatically selects the manual focusing mode for all the lenses other than the F-series lenses no matter what position the focus mode switch is set to.
- Matte-screen focusing can be done in the viewfinder area excluding its central portion, regardless of the focus indication. When the Takumar lens is used, the focus indicator does not work.

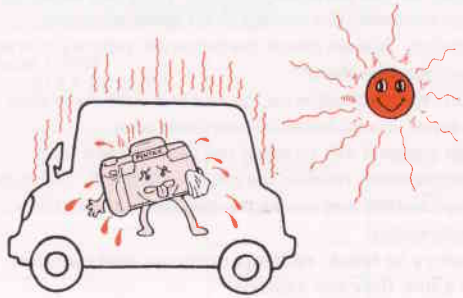
PRECAUTIONS ON BATTERIES

- Always handle batteries properly. Incorrect handling or use may result in leakage, heat generation and explosion. Always check the batteries' polarity markings when inserting them.
- When replacing batteries, do not mix battery brands and types, or old batteries with new ones.
- When you will not be using the camera for a long period of time, remove the batteries from it. Old batteries are apt to leak and can cause damage to the battery compartment.
- Never try to break, recharge or throw used batteries into a fire; they can explode.
- Keep the batteries warm in cold locations to ensure a stable power supply and to prevent camera malfunctions.
- Carry a spare set of new batteries during trips and when photographing outdoors.
- When keeping the camera in a bag or case, be sure to turn the main switch off to avoid accidental shutter releases and unnecessary battery consumption.
- When the RTF is used continuously, the lithium battery may become slightly warm. This is natural, and nothing to worry about.
- With one fresh 6V lithium battery or four fresh "AA"-size alkaline batteries, approximately 55 rolls of 24-exposure film can be exposed (under the experimental conditions of the Pentax laboratory).



Your Pentax camera is a sophisticated, precision instrument built to give long-lasting, reliable service. It will serve you well if you treat it right, with proper handling and reasonable care. The major cause of damage are:

1. Dropping or banging the camera against immovable objects, which can damage the camera in many ways.
2. Water damage, particularly if the camera is submerged in salt water. Your camera is not water-proof! It must be protected from salt breeze, salt spray at the beach, splashing of any kind, and shielded from the rain. If your camera does get soaked, wipe it dry immediately and rush it to a Pentax service center.



3. Dirt and sand can cause serious damage to the shutter and other moving parts of the camera. Your camera needs periodic cleaning to keep it operating properly. To remove dirt and dust, you need lens-cleaning fluid, lens-cleaning tissues, bulb-type ear syringe, camel's hair-brush, etc. Never use a solvent such as thinner or alcohol.
4. Humidity and temperature extremes should be avoided. Keep your camera out of direct sunlight, car trunks, and glove compartments.
   Shooting outdoors in winter presents a problem since batteries won't function if they get too cold. In cold weather carry your camera under your coat or jacket to keep the batteries warm. The temperatures at which this camera should function properly are approx. 50°

~–10°C. Sudden changes in temperature will often cause moisture to condense inside or outside your camera. This is a possible source of rust, which may be extremely harmful to the mechanism. Furthermore, if the camera is taken from a warm temperature to a sub-freezing one, further damage may result from the formation of icelets. Thus, sudden temperature changes should be avoided as much as possible, As a guide, a temperature change of 10°C should be allowed to take place gradually over a period of at least 30 minutes. If this is not possible, keeping the camera in its case or bag will help somewhat in minimizing the effects of a rapid temperature change.

5. Vibration experienced when you are traveling in a car, plane, or ship, can cause screws to loosen. To minimize this problem use foam-rubber padding about one inch thick to line the buttom of your camera bag.
6. When mounting your camera on a tripod, make sure the tripod screw is no longer than 5.5mm, which is the depth of your camera's tripod socket. If you use a longer screw, you will possibly puncture the tripod socket, after which the camera will not function properly.

Precautions on CENTIC Panel's LCD Display

- In temperatures over approximately 60°C, the CENTIC panel's LCD display may darken. It will return to its normal condition under normal temperatures.
- In low temperatures, the LCD display may respond more slowly. This is due to the characteristics of the liquid used and is not a malfunction.
- When a battery grip is detached, the CENTIC panel shows its entire display. It will return to its normal display condition after proper operation is resumed.

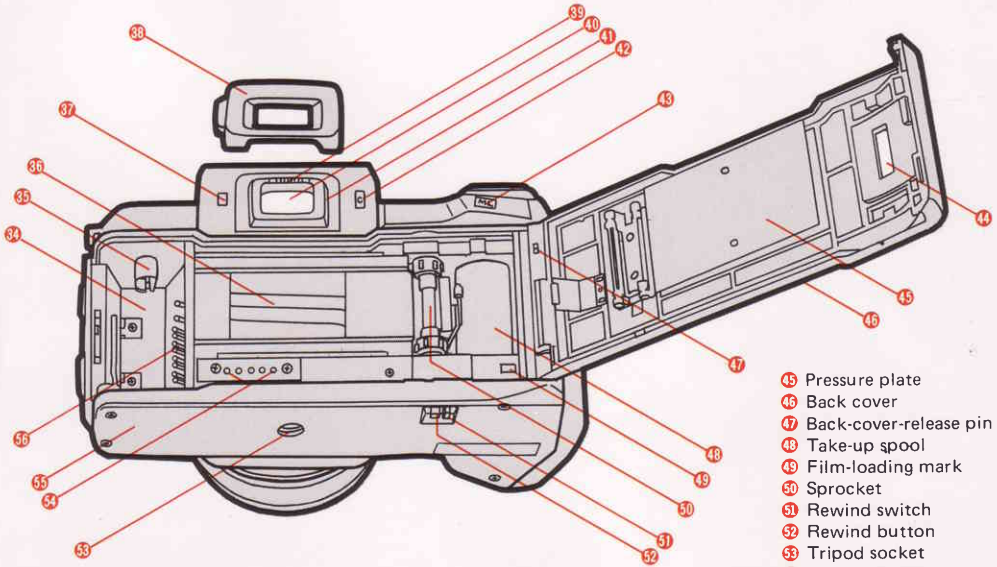
Backup Circuits for LCD Display

Even when the battery is removed for replacement during shooting, the built-in backup circuits retains data such as the frame number and the ISO film speed in memory until a new battery is inserted.

Type:	TTL auto-focus, multi-program, fully-automatic 35mm SLR with built-in TTL auto flash.
Film:	35mm cartridge film. DX-coded film with ISO 25–5000; non-DX-coded film with ISO 6–6400 in 1/3 steps.
Exposure modes:	Programmed AE (Normal Program, Program Action, Program Depth), Aperture-Priority AE, Shutter-Priority AE, and Metered Manual.
Shutter:	Electronically-controlled vertical-run focal-plane shutter. Programmed AE and Aperture-Priority AE from 1/2000 to 1/30 sec. Shutter-Priority and Metered Manual from 1/2000 to 1 sec. Flash sync at 1/100 sec. Shutter lock with main switch off.
Lens mount:	Pentax KAF mount with AF coupler and lens-information contacts.
Lens:	SMC Pentax-F lenses (K- and KA-mount lenses with maximum aperture of f/5.6 or faster usable in Focus-Indication mode, and also ones with maximum aperture of f/2.8 or faster usable in AF mode through aid of AF Adapter 1.7X).
Focusing modes:	AF SINGLE, AF SERVO and MANUAL-focus modes. Focusing system: Pentax TTL phase-matching auto-focus system. Usable illumination range from EV 2 to EV 18 at ISO 100. Focusing response: approx. 0.3 sec. from infinity to minimum focus distance (0.7m) using SMC Pentax-F 35–70mm zoom lens. Effective range of AF Spotbeam Projector: 1 to 4 meters.
Viewfinder:	Pentaprism with diopter-adjustment mechanism. 92% field of view. 0.81 magnification with 50mm lens set at infinity. Diopter adjustment ranges from –1.5 to +1.5 Diopters. Interchangeable Clear-Bright-Matte focusing screens.
Viewfinder LED indications:	Focus information: in-focus, front-focus and back-focus signals. Exposure information: Programmed AE, Aperture-Priority / Shutter-Priority AE, Metered Manual, shutter speed, exposure compensation and flash readiness / flash exposure confirmation for dedicated accessory flash.
External LCD (CENTIC) indications:	Programmed AE, Program Action, Program Depth, Normal Program (Wide, Tele, Standard), Aperture-Priority / Shutter-Priority AE, Metered Manual, Bulb, X-sync, shutter speed / Bulb / ISO film speed, manual ISO override, exposure compensation, exposure compensation / aperture value, film-wind / rewind, motor drive mode, battery warning, self-timer, DX-coded film and exposure frame / self-timer counter.

Self-timer:	Electronically-controlled type. 12-sec. delay time. Start by shutter release button. Operation confirmation by LED indicator, PCV sound and CENTIC panel. Cancellation by exposure-mode-clear button or main switch off.
Mirror:	Swing-up-type instant-return mirror with AF secondary mirror.
Film advance / rewind:	Auto wind / rewind and auto rewind stop by built-in wind motor. Consecutive or single advance mode. Approx. 1.8-frame-per-second advance speed.
Exposure control:	TTL center-weighted, averaged-area metering by GPD cell. Metering range from EV 1 to EV 20 at ISO 100 with 50mm f/1.4 lens.
Exposure compensation:	EV -4 to EV 4 in 1/2 steps.
Exposure-memory lock:	By exposure-memory-lock (ML) button.
Built-in flash:	Parallel-controlled retractable TTL Auto Flash (RTF) with AF Spotbeam Projector. Guide number: 14 (ISO 100 in meters). Covers angle of view for 35mm wide-angle lens.
Flash sync:	Via hot shoe with X-contact which couples with Pentax dedicated auto flashes.
Power source:	One 6V lithium battery pack for standard Lithium Battery Grip, or four 1.5V AA-size alkaline batteries for optional AA-size Battery Grip.
Low battery warning:	By blinking battery warning mark in CENTIC panel and blinking viewfinder LED under standard voltage supply.
Back cover:	Interchangeable for accepting Data Back F or Interval Data Back F.
Dimensions/ weight:	157(W) x 99(H) x 63.5(D)mm (6.1 x 3.9 x 2.5 in.). 665 grams (23.3 oz) without batteries.
Standard accessories:	Hot-shoe cover, Release-socket cap F, Eyecup F, Body-mount cover F, and Camera strap F.

34 Film chamber
35 Rewind shaft
36 Shutter curtains
37 Flash-ready lamp
38 Eyecup F



39 Diopter-adjustment slide
40 Viewfinder eyepiece
41 Viewfinder-accessory groove
42 Exposure-mode-clear button
43 Exposure-memory-lock button
44 Film-information window

45 Pressure plate
46 Back cover
47 Back-cover-release pin
48 Take-up spool
49 Film-loading mark
50 Sprocket
51 Rewind switch
52 Rewind button
53 Tripod socket
54 Cordless contacts
55 Bottom cover
56 DX-information pins