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# PENTAX®

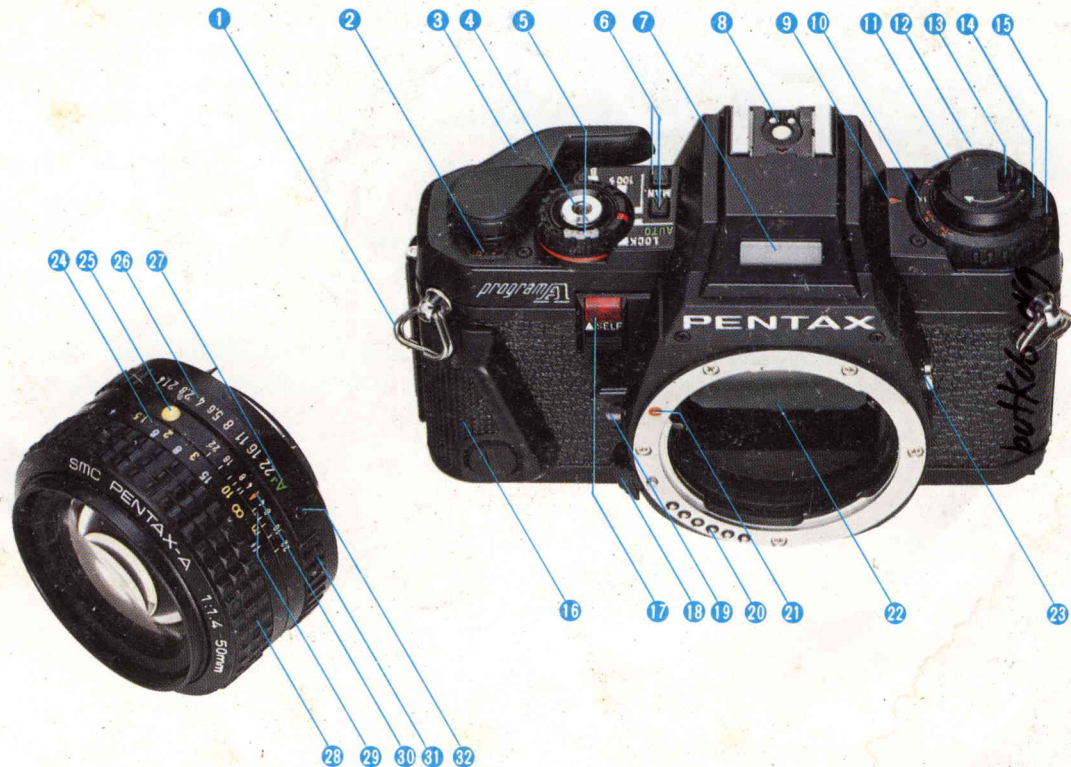
*program* **FL**



- ① Neck strap ring
- ② Exposure counter
- ③ Film wind lever
- ④ Shutter release button
- ⑤ Shutter auto lock button
- ⑥ Manual shutter speed select buttons
- ⑦ Illuminating window
- ⑧ Hotshoe
- ⑨ Exposure compensation index mark
- ⑩ Exposure compensation scale
- ⑪ Film rewind knob/Back cover release knob
- ⑫ ISO film speed scale
- ⑬ Film rewind crank
- ⑭ Film speed dial lock button
- ⑮ Film speed dial/Exposure compensation dial
- ⑯ Grip Super A
- ⑰ Self-timer lever
- ⑱ Lens release lever
- ⑲ Preview lever
- ⑳ Lens information contacts
- ㉑ Lens alignment index
- ㉒ Instant return mirror
- ㉓ X-synch terminal
- ㉔ Distance scale
- ㉕ Lens alignment node
- ㉖ Aperture scale

- ㉗ "A" index on aperture scale
- ㉘ Focusing ring
- ㉙ Depth-of-field scale
- ㉚ Aperture/Distance index
- ㉛ Aperture ring
- ㉜ Aperture auto lock button

# DESCRIPTION OF PARTS



## Welcome to the World of Pentax Multi-mode Photography

This programmed camera is an ultra-sophisticated 35mm SLR. Incorporating the latest electronics technology, it invites you to explore the possibilities of four different exposure modes. As the situation demands you can use Programmed AE (Automatic Exposure), Aperture-priority AE, Metered Manual, or Programmed Auto Flash. In each mode, all the exposure information you need is digitally displayed in the viewfinder by means of an LCD (Liquid Crystal Display).

You can enjoy the full versatility of this camera, with a wide range of Pentax accessories including dedicated automatic flash units, a motor drive that shoots up to approx. 3.5 frames per second, a digital data back, etc.

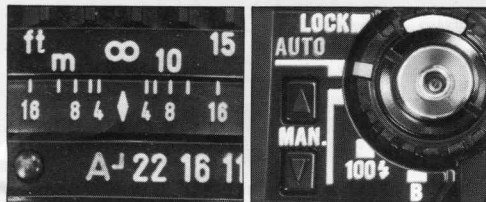
Since your camera has a great many special features and functions, take the time to read this manual carefully. It will help you take full advantage of this extraordinary camera.

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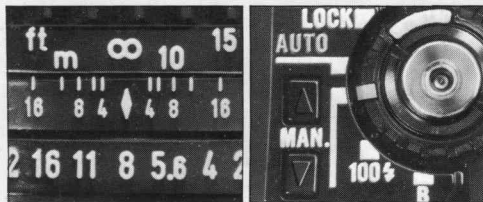
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### **Metered Manual**

**(lens on any aperture, shutter dial on "MAN.")**

The combination of shutter speed and aperture is completely up to you. Guided by the meter indication in the viewfinder, you can adjust both controls to obtain proper exposure. If necessary, deliberate over- or under-exposure are also possible. (Rf. 36 page for details)

### **Programmed Auto Flash**

If you use a Pentax dedicated TTL flash unit with the camera in the Programmed AE mode, the camera will automatically select the proper aperture and automatically control flash output. (Rf. 40 page for details)

The TTL flash operation is not feasible with this camera.



## 9 EASY STEPS

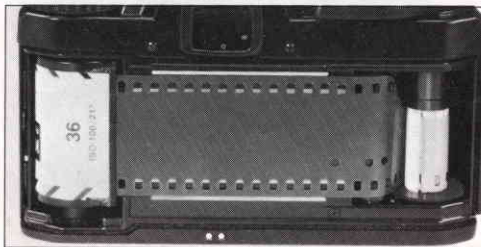
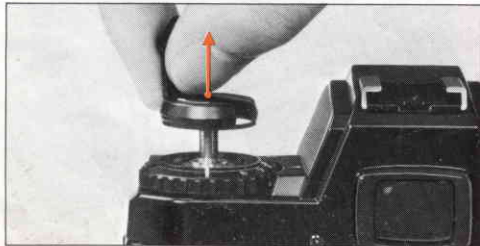
Follow the 9 steps below, and in a very short time you'll be able to take pictures in its Programmed AE mode. For more details about each step, consult the accompanying page numbers.

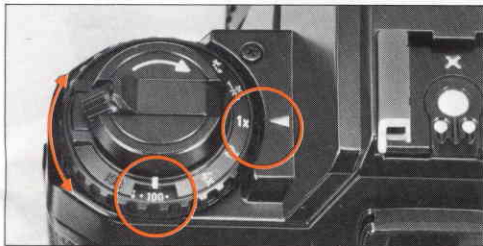
\* Remove the cap from the viewfinder eyepiece.



1. Open the battery compartment with a coin and insert batteries. (p. 10)

2. Open the camera back, put in a roll of film, close the back and advance the film to the first frame. (p. 20)





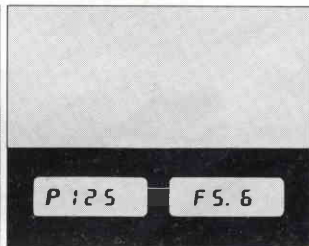
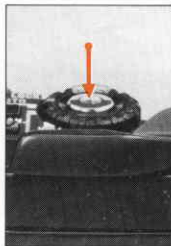
3. Set the ISO film speed to the appropriate number. (p. 19)  
Set the exposure compensation dial to 1x. (p. 44)

5. Set the shutter dial to Auto. With both lens and shutter on Auto, the camera is now in the Programmed AE mode. (p. 32)



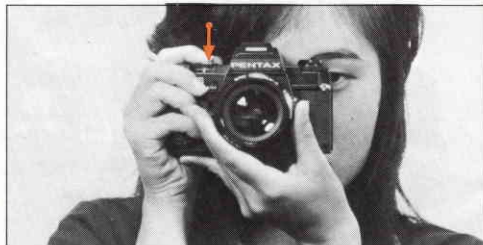
4. Rotate the aperture ring on your "A" series lens to the Auto position (indexed in green), while depressing the aperture auto lock button. (p. 28)

6. Gently press the shutter release button. You will see both shutter speed and aperture setting indicated on the viewfinder LCD. (p. 32)



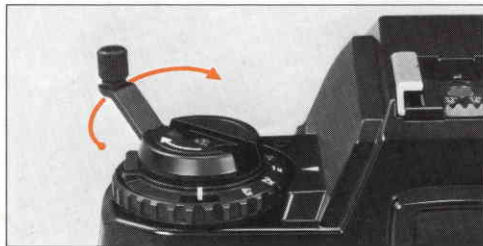
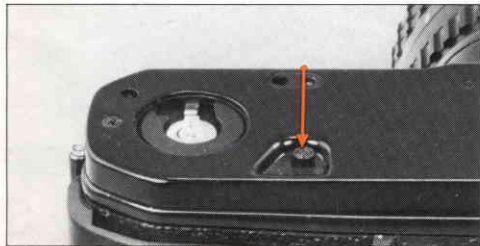


7. Focus the lens by rotating the focusing ring. (p. 25)



8. Make sure that the LCD shows a shutter speed faster than 1/60 second. With slower speeds, camera shake may cause blurred pictures. If the speed is 1/60 or faster, release the shutter.

9. After taking the last picture on the roll, push the film rewind button, rewind the film and remove it from the camera. (p. 27)

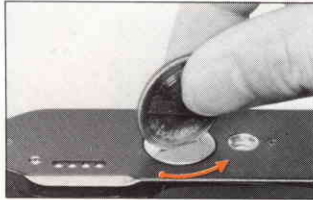


# OPERATING INSTRUCTIONS

**Please refer to pages 32 ~ 40 for detailed information on the exposure modes.**

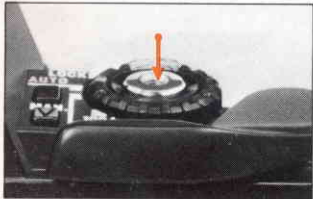
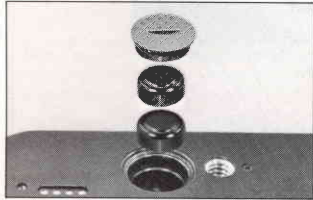
- Programmed AE mode
- Aperture-priority AE mode
- Metered Manual mode
- Programmed Auto Flash mode

## INSERTING BATTERIES



Your camera doesn't operate without batteries. Use two 1.5V silver or alkaline batteries, or a 3V lithium battery. Before inserting batteries in the battery compartment, wipe them with a clean dry cloth.

- Open the battery compartment cover with a coin or similar object.
- Place the two batteries in the compartment with '+' marks downward, and close the cover.



### Battery check

To confirm battery status, set the shutter dial to AUTO and slightly depress the shutter release button to activate the metering system. If the LCDs in the viewfinder indicate shutter speed information, the batteries are properly inserted and sufficient in voltage from normal camera functioning.

**Note:** The shutter speed LCD will indicate "1000" until the exposure counter registers "0". This fast speed saves time when advancing film to the first frame. Starting with the first frame on the counter, the LCD provides proper shutter speed and aperture value according to the designated exposure mode.

#### **Automatic power cut-off**

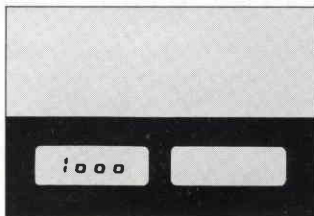
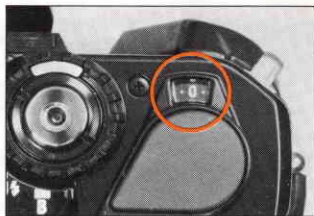
As an energy-saving measure, a timer switch is integrated into the exposure meter circuit. It automatically shuts off power approximately 30 sec. after you take your finger off the shutter release button.

#### **Low battery warning**

When batteries become weak, the viewfinder display warns you by alternately displaying exposure information and a row of 000's.



This alternate LCD indication tells you that both batteries should be replaced promptly to restore the camera to normal functioning.





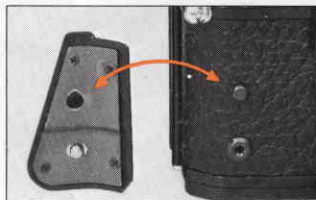
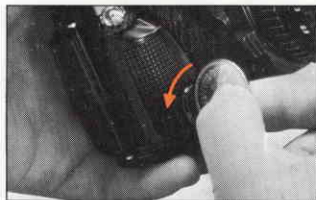
### **Using batteries correctly**

- Incorrect usage of batteries causes such hazards as leakage, heating or explosions. Polarity markings should be carefully checked while inserting batteries. If either battery is erroneously inserted, unexpected mishap may occur.
- The battery discharges small amounts of energy even when not in use. Therefore, the batteries supplied with your camera may be slightly below full capacity, as it has taken some time to reach you.
- Replace both batteries at the same time. Do not mix battery brands and types, or old batteries with new batteries.
- Battery life is approximately six months for alkaline and approximately one year for silver or lithium batteries.
- When not using the camera for long periods of time, you should remove batteries from the camera. Old batteries are apt to leak and damage the battery compartment. Always keep batteries out of the reach of children.
- Never break, recharge, or throw used batteries into fire as a precaution against explosions.
- Batteries should be kept warm in cold climates to prevent lowering of performance.
- Keep spare batteries on hand for convenience in photographing outdoors or while traveling, etc.
- When keeping the camera in a bag or case, lock the shutter release button to avoid the unnecessary consumption of battery power that may result from accidentally releasing the shutter.

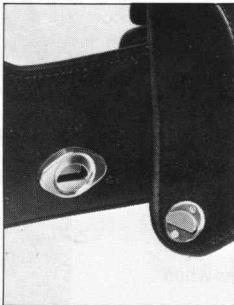
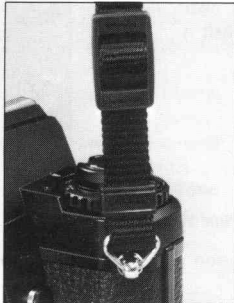
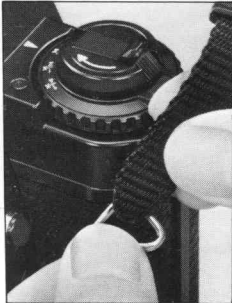
## GRIP SUPER A

- To remove the grip, loosen the grip mount screw fully, and keeping the camera faced downward, slide the grip up until it comes off.
- To mount the grip, fit the grip mount socket (on the rear side of the grip) to the grip lug on the camera.
- Align the grip mount screw with the grip mount receptacle on the camera, and keeping the grip pushed down as indicated by the arrow, tighten the grip mount screw with a coin.

**Note:** The grip should be removed from the camera body when using the Motor Drive A or the Winder ME II.



## STRAP AND CASE



- First strip the clasp and belt ring from either end of the strap.
- Let the strap end go through the neck strap ring and then the belt ring, and further through neck strap ring of the camera. The strap is then folded back.
- Let the strap end run through the belt ring and then clasp as illustrated. Now the end is tightly caught by the clasp. The strap end may be passed through the inside or outside of the clasp.
- Insert the camera body into the back case and put both case hooks around the camera's strap eyelets. The camera body is now held securely in the case.
- The standard soft case comes complete with a front cover.
- To remove the front cover, turn the cover a full 180° while pulling it slightly towards you and the fastener of the cover unlocks.

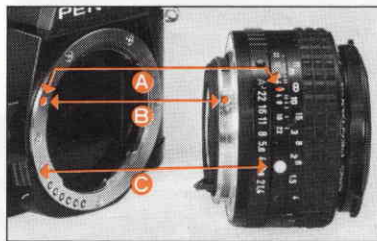
## LENS MOUNTING

To mount or interchange Pentax K, KA and Kf mount lenses follow the steps below. (For screw mount lenses, see p. 55).

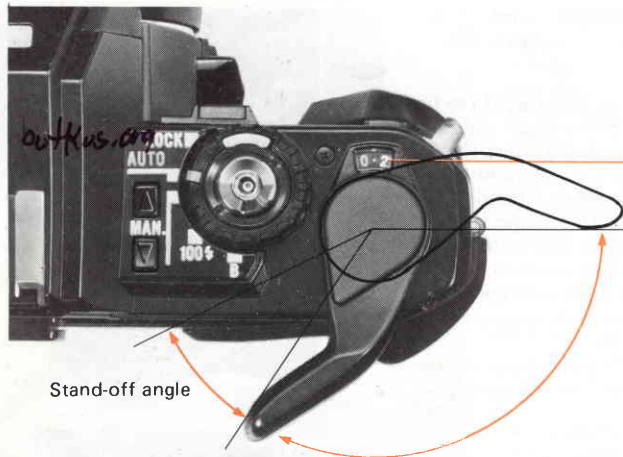
- Remove the body mount cap and the rear lens cap. If the finder cap is still on the eyepiece, remove it. (For the finder cap, see p. 51).
- Align the red dot on the camera body with the red dot on the lens (See A, B.). Seat the lens in the body mount and turn it clockwise until the lens locks with a click. When mounting the lens in dim light, method (C) is recommended. This method allows lens mounting by touch. Align the raised node on lens barrel with the lens release by touch. Then turn and lock as above.
- To remove the lens cap, press in on the notches at both sides.
- To remove the lens, press the lens release lever toward the camera body while turning the lens counter-clockwise.
- After removing a lens from the camera body, replace the front and rear lens caps to protect the lens from dust and stains.



**Note:** Don't damage or stain the electrical contact points on the mount face. When they become stained, wipe them with a clean, dry cloth.



## FILM WIND LEVER



### Exposure counter

The scale is indexed as follows:

● · 0 · 2 · 4 · . . . . . 34 · 36, with 0, 20, 34, 36 coded in red. The counter, which is interlocked with the film winding mechanism, indicates the number of exposed frames.

Stand-off angle

### Setting the wind lever for rapid shooting

The film wind lever can be set at the stand-off position for faster film advance. Even if you remove your thumb from the lever, it remains at the stand-off angle, ready for the next quick shot. After completing a series of pictures, the lever should be pushed in to the original position.

### Film advance stroke

The film wind lever should be thrown as far as it goes.

**Note:** The wind lever may stop in the middle of a stroke when the film comes to its end. Do not force the lever, but rewind the film, leaving the lever as it is.

## SHUTTER DIAL, SHUTTER RELEASE BUTTON AND RELEASE BUTTON LOCK

- The shutter dial is automatically locked at the AUTO position. To set the dial to other positions (LOCK, MAN., 100  $\frac{1}{2}$  or B), rotate the shutter dial while depressing the shutter auto lock button, and align the index mark (red line) on the dial to the desired position.

**LOCK** = Shutter release button lock

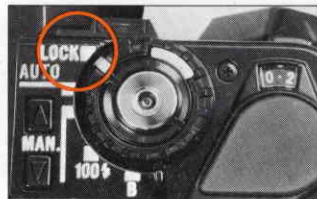
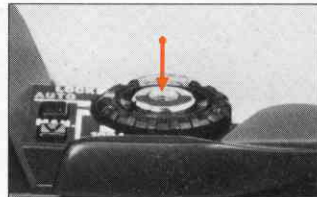
**AUTO** = Automatic shutter speed control

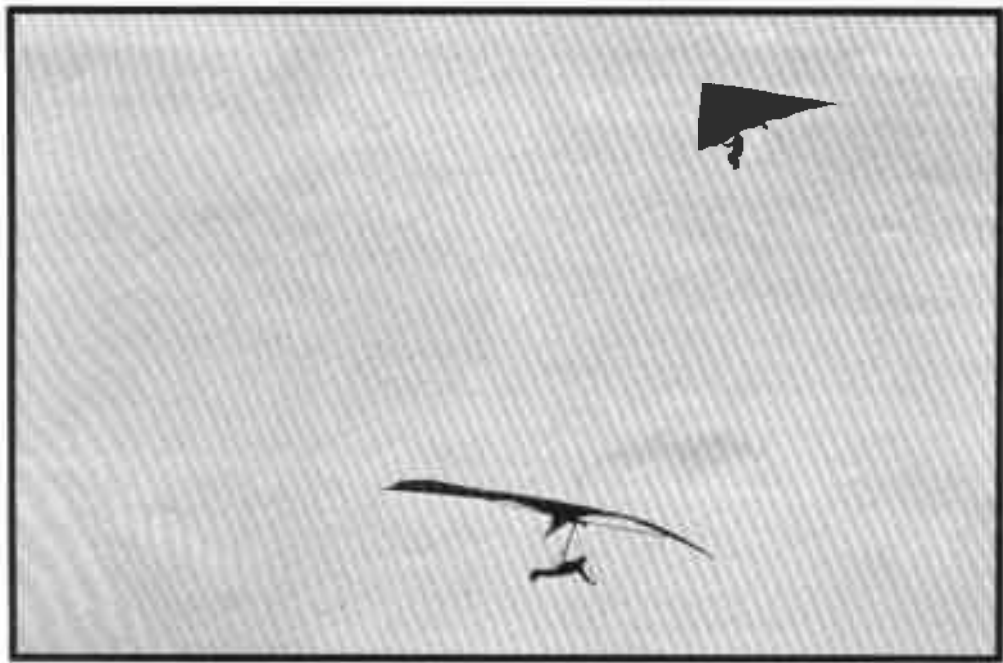
**MAN.** = Manual shutter speed selection

**100  $\frac{1}{2}$**  = 1/100 sec. for synchronization with electronic flash unit

**B** = Bulb shutter speed setting for time exposures

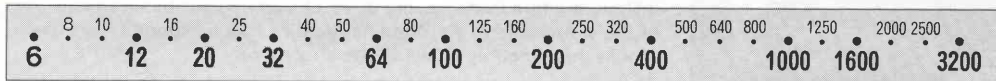
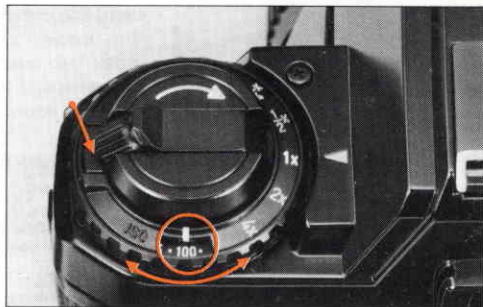
- By lightly depressing the shutter release button, you activate the exposure meter. Further pressure will release the shutter. The exposure meter automatically switches off approx. 30 seconds after you take your finger off the shutter release button.
- If you have finished shooting and the shutter is cocked, use the shutter release button lock to avoid accidental release. Set the shutter dial index to "LOCK", and the shutter release will be locked with the exposure meter switched off.





## SETTING FILM SPEED, MEMO HOLDER/GRIP

Set the film speed dial to the film speed indicated on your film package. Depress the film speed dial lock button, and set the desired speed to the red index mark. Make sure that the dial is securely locked in position, by releasing the lock button and slightly rotating the dial to either side. The chart below represents the index markings on the film speed scale.



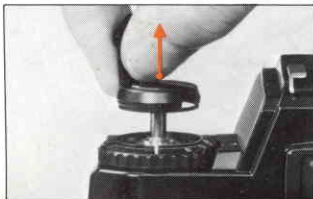
### Memo Holder/Grip

As a reminder of the type of film in your camera, tear off the top of the film package and insert it in the memo holder frame on the grip at the right end of the back cover. The grip is shaped to give your thumb a firmer hold on the camera.



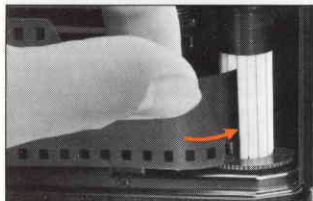


## FILM LOADING



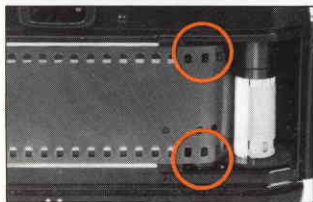
Load the camera with a 35mm film cartridge. Load or unload the film in the shade, avoiding direct sunlight. Set the shutter dial index (red line) to AUTO or MAN. This will automatically set the shutter speed to 1/1000 sec. so that you can advance film quickly until the counter registers "0".

- The camera back opens when you lift up sharply on the film rewind knob.



- Insert the film cartridge in the film chamber and lock the cartridge in place by returning the film rewind knob to its original position. If the knob does not fit tightly in to place, rotate the knob while lightly depressing it.

- Draw the film leader across the back and insert it between any of the white needles surrounding the film take-up spool. Insert the film in the direction shown in the illustration.

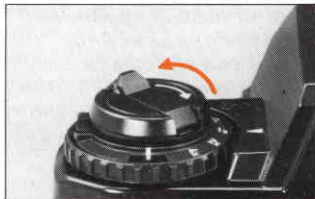
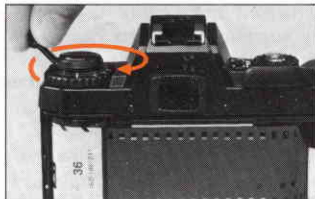


- Slightly wind the film by advancing the film wind lever to the position indicated in the photo, while making sure that both top and bottom sprockets engage the film perforations.

- Lightly rotate the film rewinding knob until any slack is taken up, and confirm that the film is properly fitted between both guide rails. Close the back cover tightly.

- Film advance can be checked by the rotation of the rewinding knob.

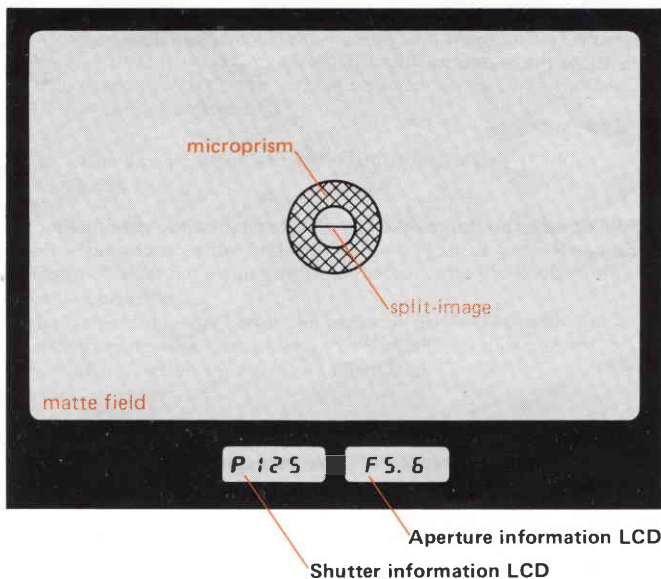
- Repeat shutter-tripping/film-advancing operation until the exposure counter reaches to "0". The next frame is ready for the first shot.



## VIEWFINDER DISPLAYS

The split-image center spot and its surrounding microprism collar are brighter and easier to focus than the matte field although any of these can be used for focusing.

Visible at the bottom inside the viewfinder are two LCD displays for shutter speed and aperture value. In addition, viewfinder information includes auto/manual exposure data for each exposure mode, automatic flash data, low battery warning, and error indication.



### Shutter information LCD

**P** ..... Programmed AE mode.

**1000** ~ **15"**  
Shutter speed in use. 1000 stands for 1/1000 sec. 15" stands for a full 15 sec. Shutter speeds are displayed in full stop increments.

**B** ..... "Bulb" time exposure.

**⚡** ..... Means completion of flash recycling, and auto flash exposure confirmation with a dedicated flash unit.

**E** ..... Error in shutter speed setting (flickering).  
Combination of shutter speed and aperture is not appropriate.

### Aperture information LCD

**F 1.2** ~ **F 45**

Aperture value. An aperture range from f/1.2 through f/45 is indicated in 1/2 stop increments.

**±** ..... Match numeral exposure adjustment indication in Metered Manual mode. -3 to +3 indicate exposure deviation from the proper value which is denoted by ±0.

Low battery warning is indicated by alternate displays of shutter-speed/aperture combination, and the mark **000** **00**.



P250

F11

You can focus in three ways, with the split-image, microprism, and/or matte field. To focus using the split-image, turn the focusing ring until the two images in the split-image circle at the center of the focusing screen are perfectly aligned. When using the microprism collar, focus until the glitter disappears from inside the collar. With the matte field, focus until the image on the matte field appears sharp and crisp.

**Note:** If the maximum aperture of the attached lens is smaller than  $f/5.6$  (for example,  $f/8$  as in the case of a long telephoto), it is easier to focus on the matte field since the split-image and microprism collar areas become much too dark for satisfactory focusing.

### **Diopter adjustment for viewfinder eyepiece**

People who wear eyeglasses due to myopia, hypermetropia or presbyopia, sometimes find it difficult to focus while wearing their glasses. In this case, use the accessory diopter correction lenses M (See page 53).



## HOLDING THE CAMERA

Proper holding of the camera is essential to minimize camera shake which causes blurred pictures.

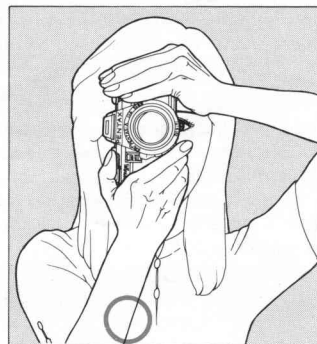
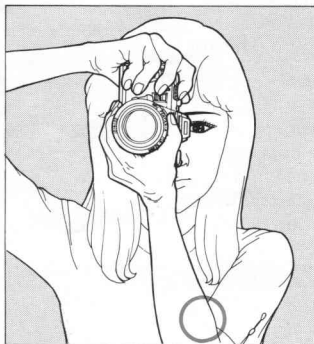
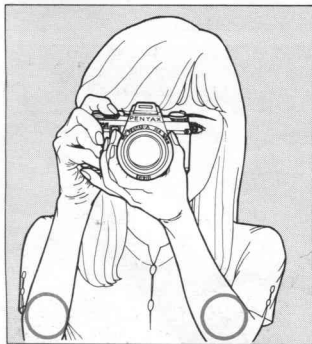
Practice holding and operating your camera before inserting your first film cartridge.

Generally there are three basic ways to hold the camera. In any case, hold the camera tightly to your face with your hands. Accessory Grip Super A and the memo holder/grip will help you keep a steady hold on your camera. Release the shutter gently while slowly breathing out. Strong pressure on

the shutter release button may cause blurred photographs. Take a secure, well-balanced posture without straining yourself. The portion marked ○ in the illustration should be drawn to your body.

It is a good idea to stabilize your body and the camera using a tree, building wall, table, etc.

For long exposures or while using telephoto lenses, it is recommended to use a tripod and a cable release in order to reduce camera shake to the minimum.



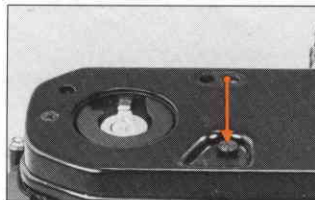
## UNLOADING THE FILM

When the last frame of the film has been exposed, the film should be rewound into the cartridge before unloading from the camera. Do not force the wind lever beyond the number of frames indicated on the film cartridge.

### To unload a cartridge

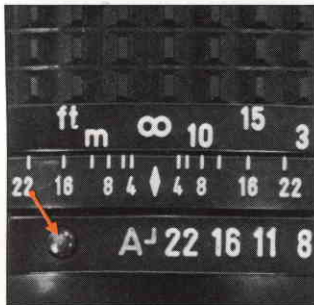
- Depress the film rewind button.
- Turn the rewind crank in the direction of the arrow to rewind the film until you no longer feel the tension.
- After rewinding, lift up sharply on the film rewind knob to open the camera back and remove the film cartridge.

**Note:** Should you erroneously open the back before rewinding, do not leave it open. Close it immediately. The last few frames may be ruined by direct light exposure, but the majority of frames on the roll may still be unharmed. Whenever possible, it is also advisable to take the same pictures again with a new film.





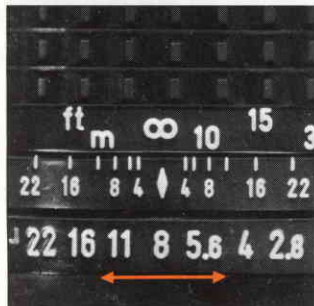
## PENTAX "A" LENS



To set the lens in the A position, match the A-index (green line) on the aperture ring to the  $\diamond$  index mark while depressing the aperture auto lock button. Release the button to lock the lens in the A position.

To release the lock, rotate the aperture ring towards aperture scale with the auto lock button depressed.

**A (auto) setting**      Programmed AE mode



The following modes are available when the lens is set in the manual f-stops:

**f/number setting**      Aperture-priority AE mode  
Metered Manual mode

## SHUTTER DIAL

Shutter dial is automatically locked when set at the AUTO position. To select other positions (LOCK, MAN., 100 $\frac{1}{2}$  or B) rotate the shutter dial, depressing the shutter auto lock button, and match the index (red line) to the desired position. The following modes are available according to the position of the shutter dial.

**AUTO**                      Programmed AE mode  
                                 Aperture-priority AE mode

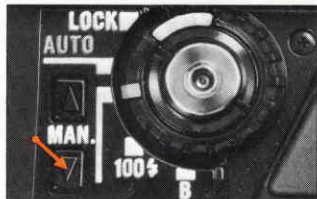
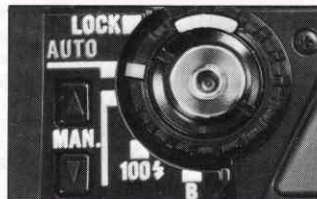
**MAN.**                      Metered Manual mode

### Manual shutter speed select button

In the Metered Manual mode, select the desired shutter speed by depressing either of the two buttons next to the shutter dial. The digital figure on the shutter speed LCD indicator in the viewfinder increases or decreases step by step as you press the buttons. The front button stops at 1000 (1/1000 sec.), and the rear button at 15" (15 secs.).

### Precautions for shutter speed

If you shoot at shutter speeds slower than 1/60 sec. (30 — 15" on the LCD), you may occasionally get blurred pictures. If you couldn't use a faster shutter speed due to light conditions, the use of a tripod or flash unit is recommended. The use of film with higher sensitivity will also help avoid such low shutter speeds.

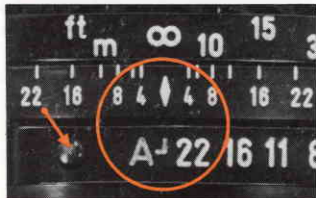


## WARNING INDICATIONS IN EACH EXPOSURE MODE

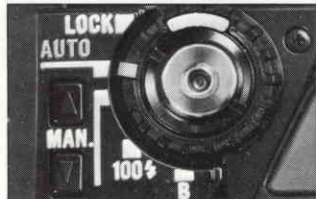
- LCD displays inside the viewfinder flicker to warn of various errors or problems.
- The LCD displays in the table below show the examples. They vary depending on the lens in use, film speed, or the subject's brightness.
- Refer also to the explanations concerning warnings in each exposure mode.
- As to the meter coupling range in the Programmed AE mode, refer to the diagram of Programmed AE control on Page 42. Meter coupling and shutter/aperture coupling ranges are explained on Page 43.

Viewfinder display		Meaning
Shutter speed information LCD	Aperture information LCD	
		These displays show exposure combinations beyond the meter coupling range in the Programmed AE mode. Correct exposure cannot be obtained.
		Overexposure. The camera is in the Aperture-priority AE mode. It has chosen the fastest possible shutter speed for the aperture you have set. But the picture will still be overexposed unless you select a smaller aperture. Underexposure. The camera is in the Aperture-priority AE mode. It has chosen the slowest possible shutter speed for the aperture you have set. Try selecting a larger aperture. If the flickering stops, take your picture. If not, there is insufficient light for a normal exposure.
		These warnings appear in the Metered Manual mode. +3 means you are three stops over normal exposure. -3 means three stops under. Adjust aperture or shutter speed until you see the ±0 sign.
		Beyond meter coupling range in Metered Manual mode. It is not possible to get correct exposure by changing aperture or shutter speed. Use flash or a different sensitivity film.
		If you set the shutter dial to the modes other than "AUTO" when the lens aperture ring is set at "A", LCD displays "E" to show an erroneous setting.
		Weak battery warning. In all exposure modes, when you see a row of 000 alternating with exposure information, it's time to change batteries.

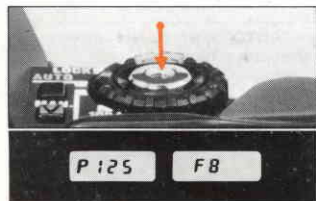
## SELECTING THE PROGRAMMED AE MODE



- Depress the auto lock button on the aperture ring of your Pentax "A" lens, and rotate its A-index (green line) to the index.





- Set the shutter dial index (red line) on top of the camera to the AUTO position. "P" (Programmed) will then be displayed on the LCD windows inside the viewfinder.



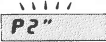

- Lightly press the shutter release button, and a programmed combination of shutter speed and aperture value will be displayed on the LCD indicator in the viewfinder. Further pressure on the button will release the shutter. When you take your finger off shutter release button, the meter switch automatically turns off after about 30 seconds as an energy-saving measure, and the displays of shutter speed and aperture value disappear. However, the "P" display remains on.

### Programmed AE mode warnings

When the programmed combination of shutter speed and aperture value is beyond the meter coupling range, the camera displays two warnings.

  Both shutter speed and aperture flickering at high values.

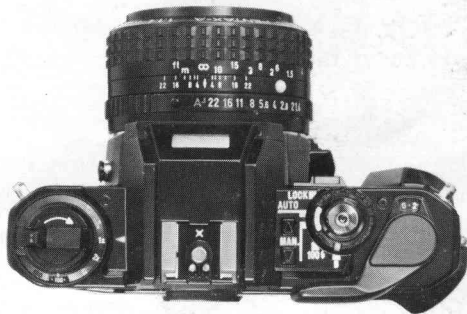
This indicates that the light situation exceeds the light measuring ability since subject brightness is extremely high. To get a proper exposure, use another film with lower sensitivity or an ND filter.

  Both flickering at low values.

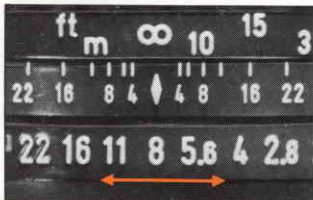
The subject is extremely dark and below the lowest limit of the Programmed AE mode's meter coupling range. Use a higher speed film, flash or some other illumination source to throw more light to the subject.

  
E

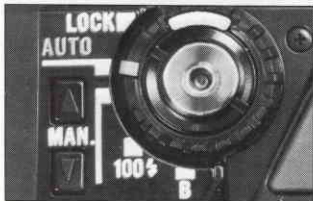
Should you happen to shift the shutter dial to the modes other than "AUTO", a flickering "E" (Error) warning appears on the shutter speed LCD. The shutter cannot be released even if the button is depressed.



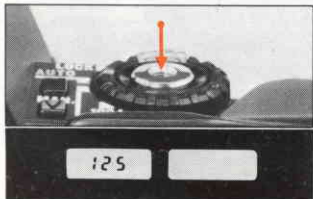
## SELECTING THE APERTURE-PRIORITY AE MODE



- Rotate the lens aperture ring to the desired f/stop. If the ring is locked at the "A" position, release it by depressing the aperture auto lock button.



- Set the red index of the shutter dial to AUTO.



- Pressing the shutter release button slightly; the shutter speed will be digitally indicated on the LCD inside the viewfinder. Further pressure will release the shutter. Shutter speed indication will disappear from both LCD indicators when the meter is automatically switched off by the built-in timer. Aperture-priority AE is the best mode for taking pictures with emphasis on depth-of-field. For more information, refer to page 46.

### Aperture-priority AE mode warnings

If the subject is very bright, you will see a flickering

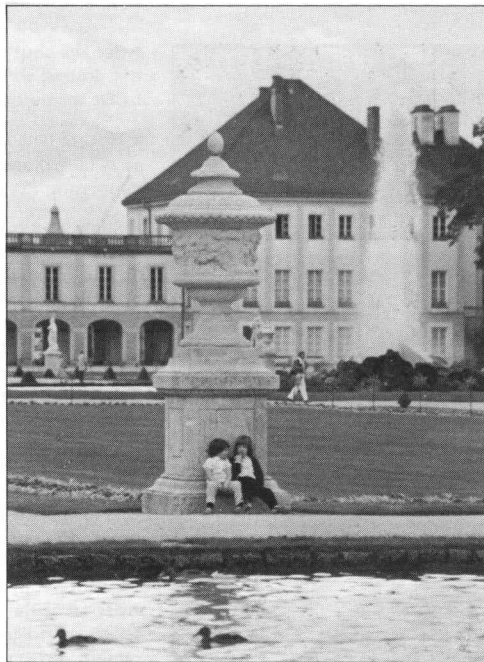


As remedy, shift the aperture ring towards smaller values (or, to the direction of  $f/22$ ).

If the subject is dark you will see flickering.

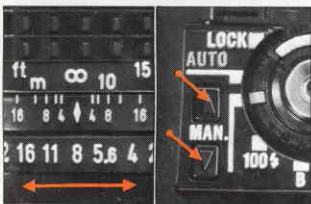


Rotate the aperture ring towards the lens' maximum aperture ( $f/1.4$ ). When the display stops flickering, you can take a proper exposure. If flickering continues even after the aperture is changed, the subject is too dark or too bright for a normal exposure. For very bright subjects, use a slower film or an ND filter, and dark subjects, use a faster film, flash or other artificial lighting.





## SELECTING THE METERED MANUAL MODE



- Set the shutter dial red-line index to "MAN." (manual) and select the desired shutter speed. The shutter speed will be displayed on LCDs inside the viewfinder.

- Rotate lens aperture ring to an F value. Should the lens be locked as A (auto) and should "E" appear in the viewfinder, release it by depressing the aperture auto lock button.

- Slightly depress the shutter release button, and you will see one of the following indications (+3, +2, +1,  $\pm 0$ , -1, -2, or -3) displayed on the aperture value window in the viewfinder. These figures show the steps of over- or under-exposure (EV value).

+ = over-exposure  
 $\pm 0$  = correct exposure  
- = under-exposure

Should the lighting condition go over the limit of three steps, the +3 or -3 indication flickers.

- For normal shooting, adjust the lens aperture so that correct exposure, indicated by  $\pm 0$ , is obtained. Should you select the lens aperture prior to the shutter speed, adjust the shutter speed to obtain the correct exposure.

If you prefer over- or under-exposure, you can freely select any exposure applying the indication as a guidance.

As soon as the meter switch is turned off by the built-in timer, the aperture indication goes out, but the shutter speed display remains on.

### Warnings for Metered Manual mode

The following indications will be given for over- or under-exposure.

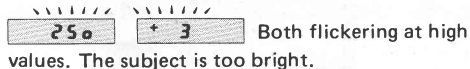


This indicates over-exposure of more than three steps. Change to a faster shutter speed (towards 1/1000 sec.), or select a smaller aperture by rotating the aperture ring toward f/22.

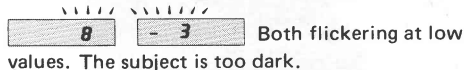


In this case, the exposure is more than three steps under. Change to a slower shutter speed (towards 15 secs.), or rotate the aperture ring towards f/1.4. When your shutter/aperture combination comes within the range of  $\pm 3$ , the flickering stops.

If the situation is beyond the meter coupling range, indications are as follows.



Both flickering at high values. The subject is too bright.



Both flickering at low values. The subject is too dark.

In either case, the subject is not within the meter coupling range. So you will not be able to obtain a proper exposure simply by changing aperture and shutter speed settings.



The combination of this camera and any Pentax dedicated auto flash unit allows a variety of convenient functions as outlined in the following page.

If your flash unit requires the use of a synch cord, connect the cord to the X-synch socket found on your Pentax camera.

Operations/functions of each electronic flash unit are fully explained in their respective operating manuals.

**Note:** When you use this camera with AF400T, connect the flash unit with 4P Sync Cord B to the camera hotshoe.

\*TTL Auto Flash units.

Flash functions of this camera with:	*AF400T	*AF280T	*AF200T	*AF080C	AF200S	AF160
Flash recycling displayed in Viewfinder by $\frac{1}{2}$ mark.	○	○	○	○	○	○
When camera is set at AUTO, shutter speed automatically switches to X-synch speed (1/100 sec) for flash photography.	○	○	○	○	○	○
Correct auto flash exposure is confirmed by lighting or flickering of $\frac{1}{2}$ mark immediately after the flash emission.	○	○	○	○		
In manual mode, flash photography is possible with shutter speeds slower than 1/100 sec.	○	○	○	○	○	○
Proper aperture is automatically set in Programmed AE mode.	○	○	○	○		

**Note:** When any of the above flash units other than the AF-160 is used with this camera with the flash mode set at AUTO, the flash may not fire if the subject is too bright for flash photography.

## SELECTING THE PROGRAMMED AUTO FLASH MODE

When you set the camera to the Programmed AE mode;

- Choose an Auto position on the flash mode selector (red, green, yellow) of the dedicated Auto Flash unit.
- As the Auto Flash unit recycles, the shutter speed will be automatically changed to the synchronization speed of 1/100 sec. and the lens aperture is also automatically set to the predetermined value shown in the table below according to the Auto position (red, green, yellow) you choose.

(With ISO 100 film)

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

For instance, if you set the flash mode selector to the red position of the AF200T, at ISO 100, the LCD indication shall be as follows.



When you use other films than ISO 100, the aperture will change according to the film speed registered on the camera.

✱



When you set the camera to the Aperture-priority AE or the Metered Manual mode;

- Select an Auto position on the flash mode selector (red, green, yellow) of the dedicated auto flash unit.
- Set the lens aperture to the designated value on the flash unit's calculator board.
- As the dedicated auto flash unit recycles the shutter speed is automatically changed to the synchronization speed of 1/100 sec.

#### Notes:

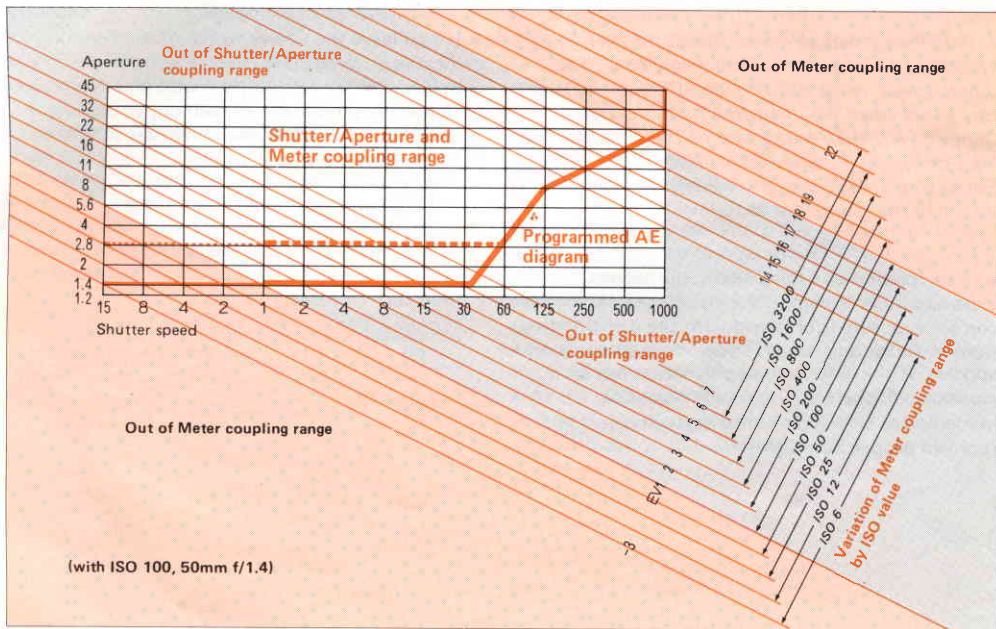
- In Metered Manual mode, speeds between 1/1000 and 1/125 sec. automatically change to synch. speed, while slower than 1/100 sec. speeds stay as are when the dedicated flash recycles. Choosing any slow speed, you can enjoy existing light photography with flash fill-in. For example, 1/15 sec. you have chosen may be shown in the viewfinder as follows;



- In each automatic flash mode, the correct exposure is confirmed in the viewfinder. When the correct exposure is obtained with the dedicated flash in Auto flash mode, this confirmation mark  appears. If the auto flash confirmation mark  appears or flickers on the viewfinder LCD immediately after light emission, the subject has received proper flash lighting.

- If you leave the power switch of the Pentax dedicated auto flash on in any mode, the camera's exposure control circuitry will also be automatically switched on. And it will remain on, consuming the camera's battery power. So remember to turn off the flash power switch.

# PROGRAMMED AE DIAGRAM, SHUTTER/APERTURE COUPLING RANGE, METER COUPLING RANGE.



The shutter-speed and aperture combination in the Programmed AE mode is shown in the chart. The red line represents the variation of shutter-speed and aperture combination with an  $f/1.4$  lens. Note that only the shutter-speed slows down after the lens aperture reaches its limit of  $f/1.4$  in combination with a speed of approx.  $1/30$  sec. When you use a lens with a different maximum aperture, the exposure program varies the aperture and the shutter-speed in combination until reaching the maximum aperture of your lens. For example, with an  $f/2.8$  lens the program varies the combination as shown by the red dotted line. Note that only the shutter-speed changes after the maximum aperture is reached. The fine red line in the Programmed AE diagram indicates the Automatic Exposure control range for a lens with minimum aperture smaller than  $f/22$ , or for a film with ISO speed other than 100. The fine red-dotted line indicates the range for a lens with maximum aperture smaller than  $f/1.4$ , or for a film with ISO speed other than 100.

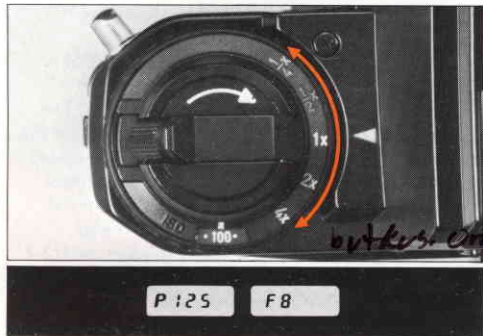
### **Meter coupling range and Shutter/Aperture coupling range**

The meter coupling range means the range of subject luminance within which the built-in exposure-meter works to control exposure. The shutter/aperture coupling range is that part of the meter coupling range within which shutter-speed and aperture value can be combined for proper exposure control. When you use a 50mm  $f/1.4$  normal lens and an ISO 100 film, the meter coupling range is from EV 1 ( $f/1.4$ -1 sec. or  $f/2$ -2 sec.) to EV 18 ( $f/16$ - $1/1000$  sec. or  $f/22$ - $1/500$  sec.). The range varies according to film speed (ISO). The variation of the meter coupling range is shown by slanting lines which shift with ISO ratings. The frame in the center shows the meter and shutter/aperture control coupling range.

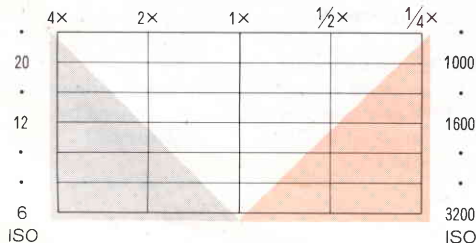
### **EV (Exposure Value)**

EV represents a combination of the shutter-speed and the lens aperture which is determined by the film speed (ISO) and the brightness of the subject.





**Exposure compensation range**



The automatic exposure system of this camera tends to underexpose backlit subjects and overexposed spotlighted subjects on a stage, etc. In such cases, you can compensate by setting the exposure compensation dial. When shooting a subject against a bright background (backlit subjects), increase the exposure by setting the dial either to 2X or 4X. When your subject is spotlighted against a dark background, decrease the exposure by setting the dial to 1/2X or 1/4X. To set the dial, turn the knurled ring. Use of the exposure compensation dial changes the shutter speed in Aperture-priority AE mode, the programmed value in Programmed AE mode, and the  $\pm$  values to which you adjust the exposure, in Manual mode.

## **Exposure compensation dial and Film speed scale**

At both extremes of the film speed scale, the use of the exposure compensation dial is limited as shown in the chart. Always return the exposure compensation dial to 1X when compensation is no longer required.

1X



2X

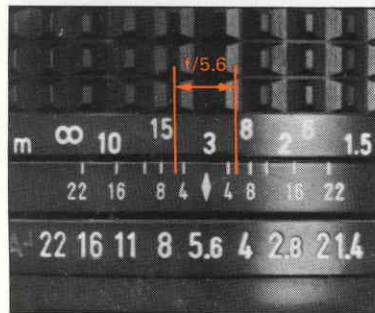
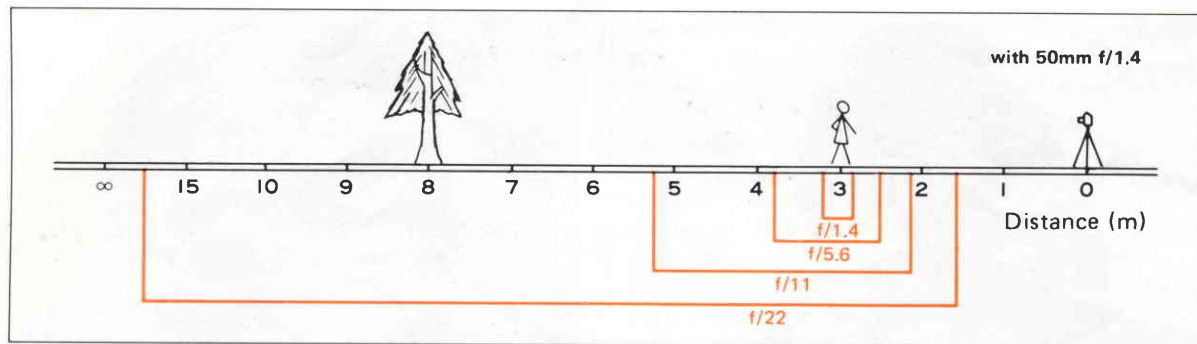


1X



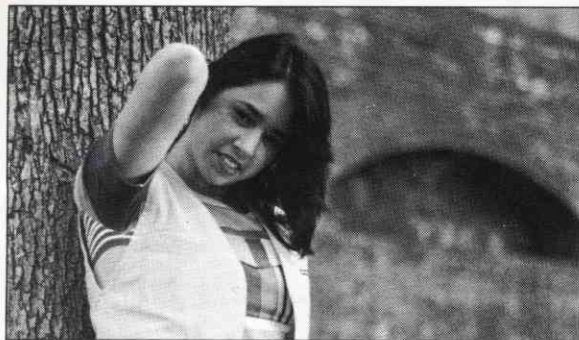
1/2X





Depth-of-field is the range between the nearest and farthest distances which are in focus at a given lens aperture.

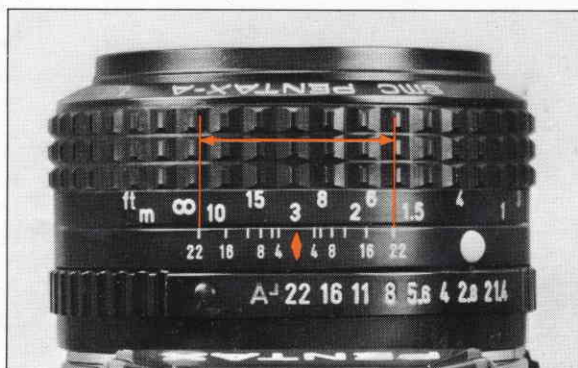
The minimum aperture (for example f/22) gives you the greatest depth-of-field, or area in focus. The maximum aperture (for example f/1.4) gives you the smallest depth-of-field. When you vary aperture value, the range "in focus" changes accordingly, so that you can create different photographic effects in your pictures. As illustrated in the pictures on the right (examples of f/1.4 and f/22), the distance range in focus can be confirmed by the depth-of-field scale on the lens.



f/1.4 (2.85 ~ 3.16)



f/22 (1.67 ~ 16.88)





### Depth-of-field preview

Your camera is equipped to help you preview just what will and what will not be sharp in your pictures. By depressing the preview lever near the lens mount, you can close the lens down to whatever aperture you have set. You can then preview how much sharpness you will get in your picture by examining the picture area on the ground glass. After previewing your picture, if you release the preview lever, the lens will return to full aperture for focusing. You cannot, however, preview the depth of field with your camera set in the Programmed AE mode.

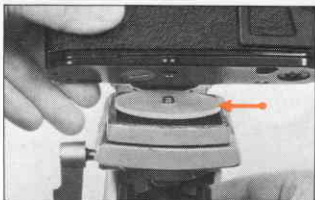
**Note:** Taking pictures with the preview lever depressed will result in incorrectly exposed pictures.

**Depth-of-field Table:** SMC Pentax-A 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 0.485	~ 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 1.748	~ 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 ~ ∞





### Tripod

In order to prevent large diameter lenses from interfering with proper mounting of the camera on a tripod, insert the accessory spacer ring. To prevent movement of the camera during long exposures, use a tripod and cable release.

### Bulb (B)

Bulb is used to make long exposures of more than 15 seconds. Set the shutter dial index (red line) to the "B" position, and the shutter will remain open as long as the shutter release button is depressed. The shutter speed LCD inside the viewfinder indicates "B". Bulb cannot be used when the aperture ring of an A lens is set at A (Auto). Should the "B" be set on the shutter dial, the "E" (error) indication flickers as a warning on the shutter speed LCD.

### Time Exposures

For time exposures use Pentax Cable Release Type 30 or 50 with the shutter dial set at "B."

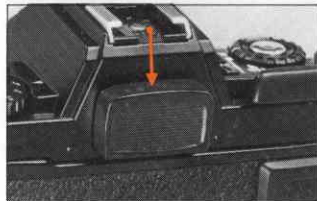
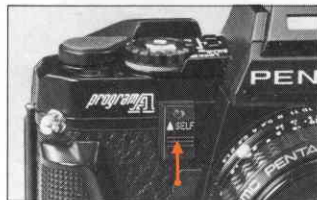


## SELF-TIMER

The self-timer is used when you want to include yourself in the picture with your family, friends, etc. Draw the self-timer lever in the direction of the arrow, and depress the shutter release button. The timer delays shutter release for about 12 seconds. Self-timer operation is indicated by red light.

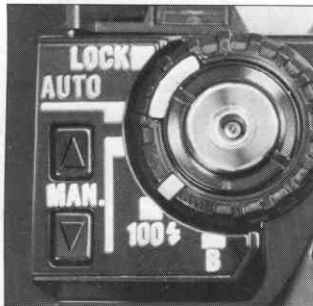
2 seconds before a shutter release, the frequency of flickering increases. The self-timer can be cancelled even after pressing the shutter, by returning the lever to its original position.

The self-timer cannot be used when "E" flickers on LCDs inside the viewfinder to warn you of an erroneous setting. When using the self-timer, cover the viewfinder eyepiece with the accessory finder cap; otherwise, light entering from the rear of the camera may make the shutter speed faster, adversely affecting the exposure.



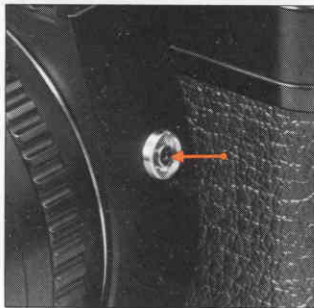


## USE OF NON-DEDICATED FLASH UNITS



- In using an ordinary flash unit, adjust the shutter dial index (red line) to 100  $\frac{1}{s}$ . The shutter speed will be indicated as 100 but there will be no LCD indication of f/stop.
- Set the lens aperture according to the camera-to-subject distance (Refer to the instructions accompanying the flash unit).
- When using a synch-cord, connect it to X-synch socket on your camera.

**Note:** Flash units available from other makers with dedicated flash coupling capability, special purpose flash units, etc., will tend to cause malfunctions or damage to the electronic systems of your camera.

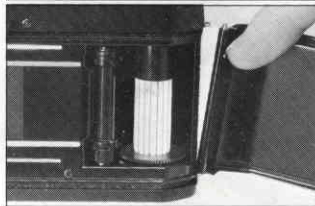
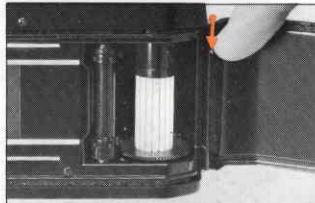
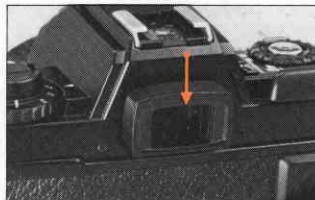


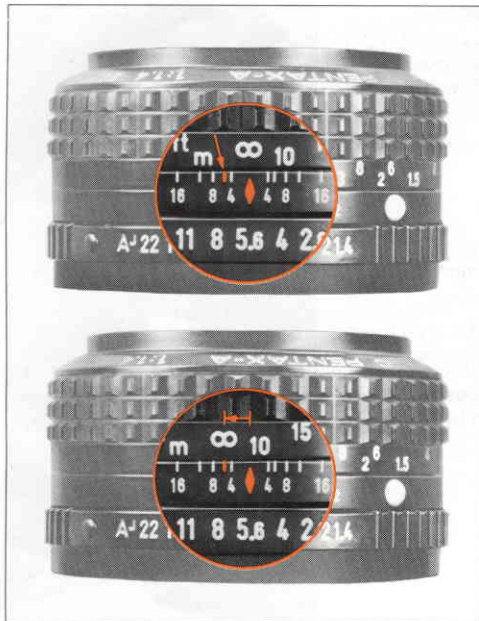
## DIOPTER ADJUSTMENT, CHANGING BACK COVER

Correction lenses M are available for the viewfinder. There are 8 auxiliary M lenses: -5, -4, -3, -2, -1, +1, +2 and +3D. Choose the one that suits your eye, and put it in the eyepiece accessory slots as illustrated. Before buying one, try it for yourself with the lens actually attached to your camera.

### Changing the back cover

The back cover must be removed from your camera to use such accessories as the Dial Data ME or Digital Data M data-imprinting devices. Open the back cover, and pull slightly while pushing down the back cover release pin to disengage the locking mechanism. Then the cover can be easily removed. When reattaching it, first put the lower back-cover-release lug into position, then match the upper lug with the release pin pushed downward. Release the pin to attach the back to camera body.





If you intend to take infrared photographs using infrared film and R2 or O2 filters, it is necessary to compensate for the difference between visible light focus and infrared focus. As shown on the left, note the subject-to-camera distance on the lens distance scale as you focus through the viewfinder and turn the focusing ring until that distance setting aligns with the red infrared index mark. The figure shows an example in which the subject-to-camera distance is set at infinity ( ∞ ).

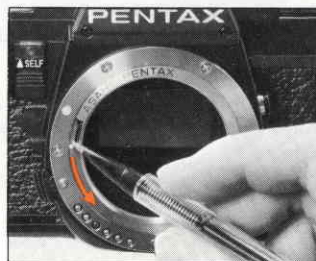
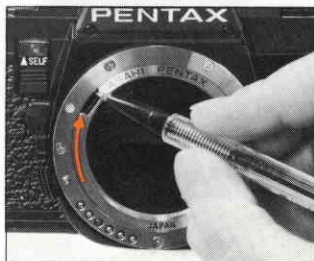
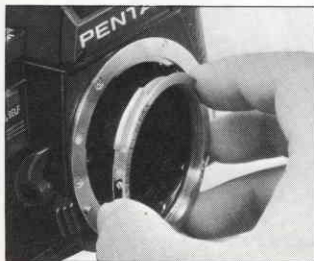
As for exposure control required in infrared photography, refer to the instructions contained in the film package.

Conventional screw-mount lenses can be easily attached to the lens mount of your camera by using the optional Mount Adaptor K. But there are some limitations.

- Put the Mount Adaptor K in the body mount by matching both marks.
- To lock it, rotate the adaptor clockwise ( $65^{\circ}$ ) with a pointed object such as a ball-point pen. Now your camera can accept any conventional Pentax screw-mount lenses.
- To remove the adaptor, press the spring pin on the adaptor with some pointed aid and rotate it counterclockwise until it stops.

### Limitations in using screw-mount lenses on this camera

- The distance scale of the lens is usable as it is, up to infinity ( $\infty$ ).
- Automatic diaphragm coupling doesn't function due to the difference in coupling system.
- The exposure is metered with aperture stopped down.
- Programmed AE mode cannot be used with screw-mount lenses.
- There is not automatic aperture setting even with dedicated flash units.



## HOW TO USE VARIOUS ACCESSORIES WITH YOUR CAMERA

- When you attach the following accessories to this camera, use the stop-down (or working aperture) metering mode or Metered Manual mode:

Bellows Unit III

Microscope Adaptor K

Helicoid Extension Tube K

Extension Tube K Set

Reverse Adaptor K 49mm/52mm

6 x 7 Lens Mount Adaptor K

Telescope Adaptor K

- When you attach the following accessories to this camera, use the Aperture-priority AE mode or Metered Manual exposure mode:

Auto Bellows A Set and M Set new

Auto Extension Tube K Set

Auto Extension Tube K-100mm/50mm

Rear Converter K T6-2X

**Note:** The scale and double cable release of the Auto Bellows M Set cannot be used with this camera.

- Use the Refconverter A because with the Refconverter M the viewfinder LCD of this camera is not visible.

- When using the Winder ME II with this camera, be sure to set the AUTO/125X indicator of the winder at AUTO. If set at 125X, it may cause malfunction.

- Do not use the older model Winder ME: it will not operate properly with this camera.

- The Programmed AE mode does not function with a Pentax dedicated flash set at "M" (manual) or "MS" (manual synchronization).

- As you set up for multi-flash photography with dedicated flash units, use this camera in the Aperture-priority AE or the Metered Manual mode.



Electronic flash AF160



Electronic flash  
AF200T



Electronic flash  
AF080C Ring light



Electronic flash AF200S



Electronic flash AF280T



Electronic flash AF400T

### **Motor Drive A**

For high-speed action sequences, equip your camera with this 3.5 frame-per-second motor drive. With this motor drive, you can use your camera in any mode for either single-frame or continuous shooting with adjustable speeds.



### **Winder ME II**

Capable of shooting about 2 frames per second, in addition to single-frame shooting. Four AA batteries used as power source.



### Digital Data M

The Pentax Digital Data M utilizes an LCD digital chronometer. Unlike other mechanical dial units, the Digital Data M enables you to record the year/month/date, and time of day on your photographs without having to use troublesome dials or knobs. The Digital Data M is easily interchangeable with the standard back, and can be used with your camera.





### CLEANING:

- Always keep the viewfinder eyepiece, lens and filters as clean as possible. To remove loose dust and dirt, first use the blower and then the brush. Do not try to wipe off granular dirt or dust — it's an excellent way of scratching the glass.
- Smudges, such as fingerprints, should be carefully wiped away with either lens tissue or a clean, soft cloth. Clean, plain cotton handkerchiefs that have already been washed a few times are particularly good for this. Breathing on the lens before wiping is effective; but be sure to wipe away all moisture completely. Commercial lens cleaners are also effective.
- Never touch the mirror or the shutter leaves. Minor dirt or spots on the mirror will not affect the clarity of your pictures.
- Take care not to drop the camera or knock it against anything solid. Accidents or rough handling can easily damage the internal mechanism, even though externally nothing seems to have been damaged.

### KEEP YOUR CAMERA DRY:

- Your camera is *not* waterproof. There are several places where water can get inside and do a great deal of damage. Take care to protect both body and lens from rain or splashing water. If your camera should get wet, dry it off immediately with a clean, soft cloth.
- If your camera becomes completely soaked, it may malfunction. In this instance, bring it as soon as possible to an authorized Pentax service center.

### STORAGE:

- Where to keep your camera while you are not using it is an important point. The best storage place is cool, dry, clean and well-ventilated. Because of the possible build up of humidity, it is risky to store your camera in a cabinet or closet. It's also a good idea to keep your camera in its bag or case while you are not using it.

## RESISTANCE TO TEMPERATURE EXTREMES AND CHANGES

The temperature range at which your camera will continue to function properly stretches from 50°C to -20°C. However, resistance to cold could be hampered by dirty oil. Therefore, if the camera is to operate at full efficiency in very cold conditions, it must be overhauled and all oil must be replaced. 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.

Extremely low temperature reduces the efficiency of the battery. Therefore, the camera should be protected against low temperature. Put the batteries into the camera right before shooting. For extremely low temperature, use new batteries.

**A few notes on the LCD (Liquid Crystal Display):**  
In high temperature, approximately 60°C or 140°F or above, the LCD may turn black. In low temperature, the response-time of the display may slow down considerably.  
These phenomena do not indicate either camera break-down or break-down of the LCDs themselves. They are characteristics of LCDs, and the LCDs will return to normal when the temperature becomes normal.

## SPECIFICATIONS

<b>Type:</b>	35mm SLR camera with multi-mode automatic exposure controls, electronically-controlled focal plane shutter, and open-aperture center-weighted Through-The-Lens metering.
<b>Exposure Control Modes:</b>	Programmed AE, Aperture-priority AE, Metered Manual, and Programmed Auto Flash mode.
<b>Exposure Control Mode Setting:</b>	By using combinations of settings on shutter dial and aperture ring of "A" series lenses.
<b>Film:</b>	35mm film.
<b>Format:</b>	24 x 36mm.
<b>Lens Mount:</b>	Pentax KA Bayonet (A Pentax K bayonet mount with electrical contact).
<b>Shutter:</b>	Seiko MFC-E5 vertical-run metal focal-plane shutter, automatic exposure and manual settings electronically-controlled speeds from 15 to 1/1000 sec., 1/100 sec., and B. Electro-magnetic shutter release with release button lock.
<b>Exposure Indication in Viewfinder:</b>	Liquid Crystal Display (LCD) for Automatic and manual shutter speeds, automatically set lens apertures, flash-ready sign with dedicated flashes, shutter-speed setting error warning, battery life warning, and Programmed AE indication (P).
<b>Flash Synchronization:</b>	Hotshoe (X-synch contact, dedicated flash contacts), X-synch at 1/100 sec.
<b>Dedicated Automatic Flash Coupling:</b>	Automatic setting of 1/100 sec. synch speed with dedicated automatic flash units. Slower than 1/100 sec. synch flash photography is possible at Manual mode setting.
<b>Self-Timer:</b>	Electronically controlled, delay time indication by flashing lamp approx. 12 sec. delay time, possible to cancel at any time; initiate process by pressing shutter release button.
<b>Viewfinder:</b>	Silver-coated pentaprism finder with split-image/micropism focusing screen; shows 92% of the picture area, 0.82X magnification with 50mm lens at infinity; -1.1 Diopter eyepiece.
<b>Mirror:</b>	Back-swing type instant-return mirror.
<b>Film Loading:</b>	Magic-needle loading.

**Film Transport:** Single-stroke, rapid wind lever with 135° throw and 30° standoff angle; Accepts Winder ME II, Motor Drive A.

**Exposure Counter:** Additive type, automatic resetting. Automatically sets shutter-speed at 1/1000 sec. up to '0' frame on the counter when shutter dial is set at AUTO or M.

**Film Rewind:** Crank type.

**Exposure Metering:** Open aperture, Through-The-Lens, center weighted, average area metering system with GPD cell.

**Metering Range:** EV 1 (f/1.4 1 sec.) — EV 18 (f/16, 1/1000 sec. or f/22, 1/500 sec.) with 50mm f/1.4 lens and ISO 100 film.

**ISO Range:** 6 — 3200.

**Exposure Compensation Exposure:** Compensation dial indexed at 4X, 2X, 1X, 1/2X and 1/4X.

**Depth-of-Field Preview:** Via depth-of-field preview lever when aperture set manually.

**Power Source:** Two 1.5V alkaline or silver-oxide batteries, or one 3V lithium battery.

**Metering Circuit Main Switch:** Switched on by shutter release button and remains on for about 30 sec., shut-off by built-in timer.

**Battery Warning:** When batteries grow weak, LCD alternately flashes exposure designations and 'ooo' sign. When batteries exhausted, LCDs go blank and shutter locks.

**Back Cover:** Standard camera back with spring catch, built-in memo holder/grip, fully interchangeable with Dial Data ME and Digital Data M.

**Size & Weight:** 131mm x 87mm x 47.5mm, 490g (body only, without batteries)  
131mm x 87mm x 84.5mm, 725g (with f/1.4 lens, without batteries)

to have serviced during the warranty period, regular handling and servicing fees may be charged by the manufacturer's representatives in that country. Notwithstanding this, your Pentax returned to the manufacturer will be serviced free of charge according to this procedure and warranty policy. In any case, however, shipping charges and customs clearance fees are to be borne by the sender. To prove the date of your purchase when required, please keep the receipts or bills covering the purchase of your equipment for at least a year. Before sending your equipment for servicing, please make sure that you are sending it to the manufacturer's authorized representatives or their accredited repair shops, unless you are sending it directly to the manufacturer. Always obtain a quotation of the service charge, and only after you accept the quoted service charge, instruct the service station to proceed with the servicing.

**This warranty policy does not apply to Pentax products purchased in the U.S.A., U.K., or Canada. The local warranty policies available from Pentax distributors in those countries supersede this warranty policy.**

- 33 Film rewind shaft
- 34 Film guide rails
- 35 Eyepiece accessory slots
- 36 Viewfinder eyepiece
- 37 Viewfinder frame
- 38 Sprocket
- 39 Film take-up spool
- 40 Back cover release pin
- 41 Back cover
- 42 Film pressure plate
- 43 Connector
- 44 Film chamber
- 45 Battery compartment cover
- 46 Tripod socket
- 47 Cordless contact terminal
- 48 Shutter blades
- 49 Film rewind button
- 50 Film transport coupler

