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

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## UTILIZING PENTAX DEDICATED FLASH UNITS

The compatible combination of the Pentax 645 and one of the Pentax dedicated auto flash units will allow convenient use as indicated in the table below. When using the AF400T, connect the unit to the hotshoe contact of the camera via the 4P synch cord B. Do not attempt to couple the cord

to the X-synch socket, otherwise, the camera's flash coupling capability will fail to function. A dedicated flash unit, when used with the Pentax 645, may not fire if the subject is too bright for flash photography.

FLASH COUPLING FUNCTIONS OF THE PENTAX 645	AF400T, AF280T <sup>*</sup> AF200T, AF080C	AF260SA, AF200SA AF160SA, AF240Z
Upon completion of charging  will be displayed in the external LCD display window and  on the viewfinder LED display.	○	○
With any photographic mode, the shutter speed is automatically switched to the synchronized speed of $\times$ setting (1/60 sec.), upon completion of charging. (When using an ordinary flash unit other than the dedicated TTL auto flash units, the aperture ring should be set to an appropriate f/stop other than the "A" positioning)	○	○
If the aperture ring of the A lens is set to the "A" position, the 645's flash coupling function automatically switches the aperture to the necessary f/stop to enable TTL auto flash control.	○	○
Whenever the auto flash unit has emitted an appropriate luminosity, a visual marking (  ) will light up or blink in the viewfinder, immediately after flash discharge.	○	
With the use of a dedicated TTL auto flash unit, the flash luminosity may be automatically controlled by the measuring of the light volume reflected off the film plane while photographing.	○	
When the Metered manual mode is used, synchronized flash photography is possible at shutter speed at 1/60 sec or lower.	○	○

\* indicates Pentax dedicated TTL flashes



AF200Sa



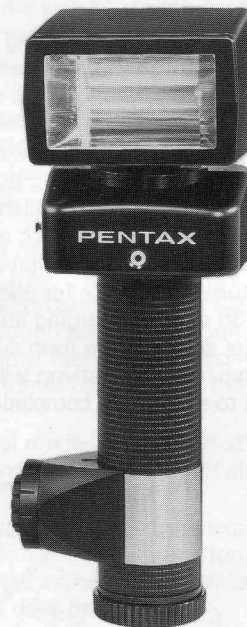
AF200T



AF280T



AF080C

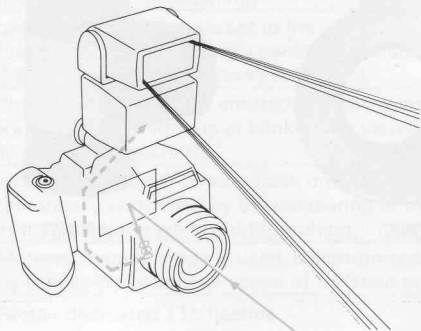


AF400T

## TTL AUTO FLASH OPERATION

### TTL auto flash unit

As illustrated, the light entering through the taking lens strikes the film plane; a separate exclusive photo sensor registers the light reflected off the film plane and flash luminosity thereby is automatically controlled. Since only the light reflected from the subject is used for measuring purposes, an accurate exposure is obtained. All available f/stops on the lens may be also used for TTL auto flash control although there are some limitations regarding the flash-to-subject distance for each preset f/stop. Completion of flash charging automatically adjusts the shutter speed to the flash synchronization speed of 1/60 sec. The ➡ marking will appear in both windows to signify the completion of flash charging.



**Aperture set to respective f/stops** [either in Aperture-priority AE or Metered manual mode]


- Set the aperture ring to desired f/stop.
- Simultaneously with the completion of TTL auto flash charging, the viewfinder LED will indicate the flash synchronization speed of 1/60 sec.

**Aperture set to "A"**, [either in Programmed AE, Aperture-priority AE or Shutter-priority AE],

- Upon completion of the flash charging process of the TTL auto flash, the viewfinder LED display will indicate the flash synchronization speed of 1/60 sec. and the aperture of f/4 with ISO 100 film (f/8 with the AF080C ring flash).
- ※ With a film of a different speed, the f/stop will automatically change. However, the maximum flash-to-subject distance will remain unchanged. Refer to the operating manual of your flash unit.
- ※ The standard 75mm f/2.8 lens is the only one that can be used with the AF080C Ring Light. (Use the 58 → 49mm Adapter Ring to fit the flash on the lens.)

## PROGRAMMED AUTO FLASH OPERATION

- When combined with a Pentax dedicated auto flash (AF400T, AF280T, AF200T or AF200SA), a predetermined f/stop is automatically set, should the aperture ring be set at the "A" position.

The completion of flash charging will automatically switch the shutter speed to 1/60 sec. The  indication appears in the external LCD window and the viewfinder LED, indicating that the charging has been completed.

**Aperture set to "A"** [Programmed AE, Aperture-priority AE or shutter-priority AE],

- Adjust the flash mode selector of the AF200T, AF280T or AF400T, to the auto position (red, green or yellow).
- Simultaneously with the completion of the charging, the viewfinder LED display indicates 1/60 sec. According to the auto positions (red, green or yellow), the f/stop automatically varies as shown in the table below. (f/4 with AF200SA with ISO 100 film)

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

(With ISO 100 film)

(Example: Should the selector of the AF200T be positioned at the "red" indication (ISO 100 film) the aperture automatically adjusts to f/2.8.)

- As the film speed changes, the f/stop automatically changes; however, the maximum flash-to-subject distance remains unchanged. Also refer to your flash unit operation manual.

**Aperture set at a given f/stop** [either Aperture-priority AE or Metered manual mode],


- Adjust the selector of the auto flash unit to "AUTO" position (red, green or yellow).
- Set the f/stop in accordance with the flash calculation guide found on the flash unit.
- With a dedicated auto flash unit, the completion of the charging automatically adjusts the shutter speed to 1/60 sec.

(In metered manual mode, flash synch at a slower shutter speed under 1/60 sec. is also possible.)


- In this case, although you can set the exposure compensation button with the indication shown in the viewfinder, the exposure compensation function, in effect, does not work.

## Common use for TTL auto and external auto flash modes

### Flash synchronization at a slower speed:

In Metered manual mode, the shutter speed in the area of 1/125 sec. through 1/1000 sec. will automatically switch to 60 (1/60 sec.) with the completion of flash charging. All speeds slower than 1/60 sec. can be used for flash synchronization according to the requirements, thus permitting flash photography with synchronization at a slower shutter speed. Simultaneously with the completion of flash charging, the  marking indication will appear in the external LCD and within the viewfinder's LED.

### Auto flash confirmation mark ()

In each of the photographic modes, the auto flash confirmation marking will appear. Should the flash photography take place within the flash coupling range of the TTL auto flash units (TTL and the Programmed auto flash units), the  marking on the viewfinder's LED display will be lit or will flicker immediately following flash discharge, which indicates "auto flash confirmation". Its appearance assures that proper flash exposure has been rendered to the subject.

Flash coupling range to activate the auto flash confirmation mark may vary depending upon certain limitations according to the subject situation. With the AF200T, the auto flash confirmation is also signified by an audible buzzing.

## DEDICATED FLASH PRECAUTIONS

- When setting the flash mode selector to MS (Manual synch.) or to the M (Manual) position utilizing a dedicated auto flash unit, adjust the aperture to the respective f/stops. The same procedure must apply to multiple flash operation. Setting to the "A" position will not provide proper exposure.  
The functions of the MS or M may vary depending upon the type of dedicated auto flash unit in use. It is recommended that the flash unit instructions be read and followed for optimum results.
- TTL and external auto flash operation is possible at 60 (1/60 sec. fixed) or B.  
When the shutter speed has been set at the B position, the B shutter speed will not switchover to that of flash synchronization, even when flash charging has been completed.
- Should the power switch of a dedicated flash unit be kept ON, the power source timer for the camera's exposure meter will be kept turned ON. Once the charging process has been completed, do not fail to turn the flash unit's power switch to the OFF position as soon as the flash is no longer required.

## USING ORDINARY FLASH UNITS

Shutter speed ranges for flash synchronization

Shutter speed	1/1000	1/500	1/250	1/125	1/60	1/30	1/15	1/8	1/2	1 ~ 15	B
Electronic flash units						Electronic flash unit					
Flash bulbs						MF flash bulbs					
								M and FP flash bulbs			

### Electronic flash units

When using a clip-on type flash unit equipped with a hot shoe bracket, attach the same directly onto the hot shoe of your Pentax 645. Should a cord be required for flash/camera connection, utilize a synch cord to fit into the camera's X-synch socket. As indicated in the above table, flash synchronizatin is possible at the shutter speeds from 1/60 sec. through 15 secs., and B.

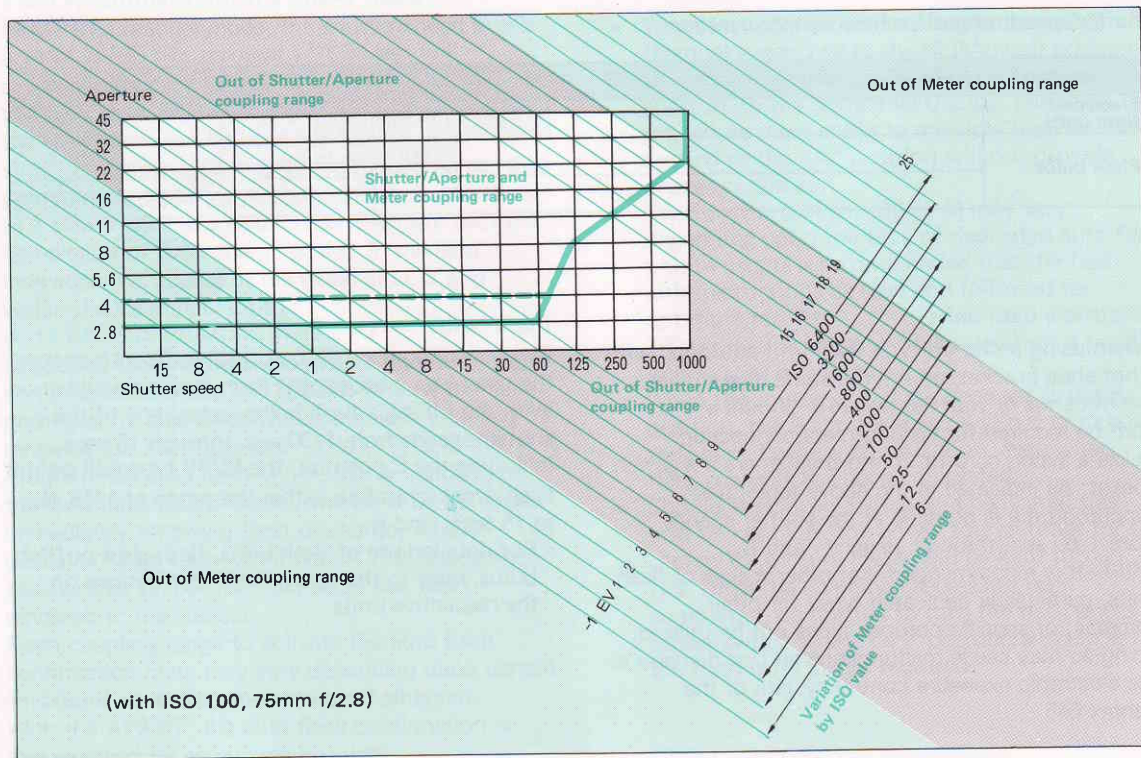
**Note:** It is recommended that other makes of flash units, particularly dedicated types for other cameras, or specific purpose types not be utilized; doing so may cause malfunctions and/or damage to the electronic exposure control system of the Pentax 645.

### Flash bulbs

By connecting a synch cord to the X-synch socket, the use of an independent flash gun is possible. With the MF type flash bulbs, select any of the shutter speeds from 1/30 sec. through 15 secs. including the B position; the M/FP type will permit flash synchronization within the range of 1/15 sec. to 15 secs. and B.

※ For detailed use of flash units, flash guns or flash bulbs, refer to the operational instructions on the respective units.

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





### Programmed AE Diagram

The Pentax 645's shutter/aperture combination in the Programmed AE mode is shown in the chart. The green line represents the variation of shutter speed and aperture combination with the standard 75mm f/2.8 lens (w/ISO 100 film). Note that only the shutter speed slows down after the lens reaches its limit of f/2.8 in combination with a speed of approx. 1/60 sec. Using 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 the lens in use. For example, with an f/4 lens the program adjusts the combination as shown by the green dotted line. When using a lens with a different maximum/minimum aperture, or film with a different ISO film speed, refer to the fine green and dotted green lines seen in the Programmed AE diagram. The limit of the meter coupling range will vary if a lens other than the 75mm f/2.8 standard lens is utilized.

### Meter Coupling and Shutter/Aperture Coupling Range

Meter coupling range indicates the range of subject luminance within which the built-in exposure meter functions to control exposure.

The shutter/aperture coupling range is that part of the meter coupling range within which the shutter speed and f/stop can be combined for proper exposure control.

With the 75mm f/2.8 standard lens and ISO 100 film, the meter coupling range extends from EV 3 (f/2.8, 1 sec) to EV19 [f/22, 1/1000]. In the diagram at the left, the diagonal lines from the left top to lower right will move in parallel depending on the ISO rating.

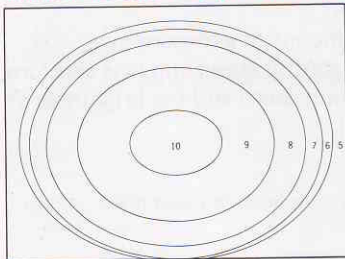
The diagram within the frame illustrates the meter coupling and shutter/aperture coupling ranges.

EV (Exposure Value)

EV represents the amount of exposure by a combination of the shutter speed and lens aperture, determined by the film speed and the brightness of the subject.

## SPECIAL TECHNIQUES

Meter-sensitivity pattern (EV)



## EXPOSURE COMPENSATION



Automatic exposure cameras tend to underexpose backlit subjects and to overexpose spotlighted subjects appearing on a stage, etc.

To increase the exposure determined automatically against a bright background, the +1, +2 and +3 compensating controls are provided.

To decrease the exposure of the subject spotlighted against a dark background, the -1, -2, or -3 compensating controls are used.

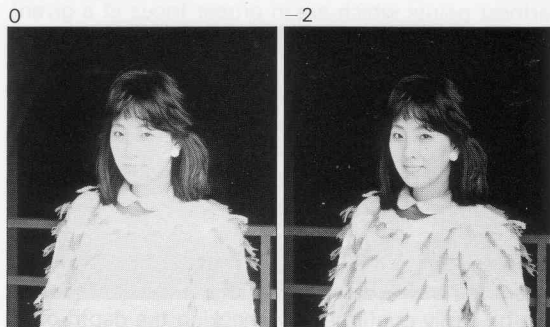
The compensating controls are operated by depressing the selecting button ("up" or "down") while depressing the exposure compensation button [ $\pm$ EF] at the same time. When depressing only the exposure compensation button [ $\pm$ EF], the EF information flickers in the external LCD window. When the exposure compensation is utilized, the



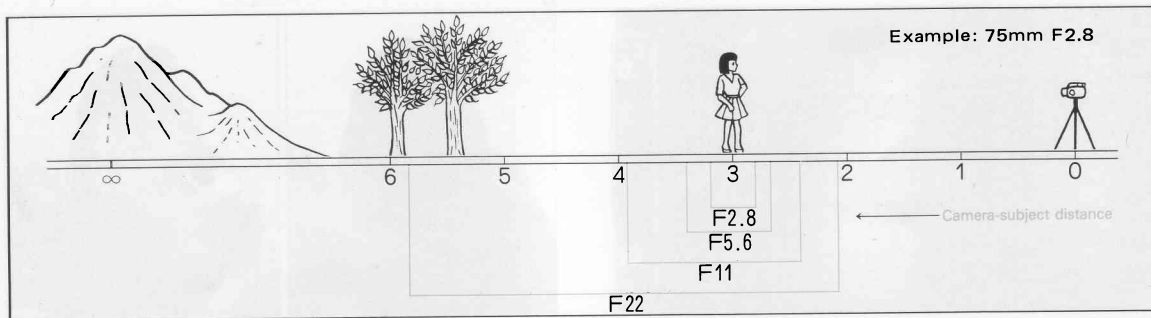
compensation index in use will be indicated on the EF display in the external LCD window. The + or - LED flickering sign in the viewfinder above the f/stop information will also be seen. Return to "0" position immediately following use. Exposures may be compensated automatically by adjusting the shutter speed in Aperture-priority AE, the f/stop in Shutter-priority AE, and the programmed value in the Programmed AE.

When photographing in Metered manual mode, the correct exposure sign 'OK' must be first obtained, then compensate by adjusting the shutter speed or f/stop.

- ✱ In LS, 60 and B mode, exposure compensation does not work although due information is displayed.



## DEPTH-OF-FIELD



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

The depth-of-field increases as the aperture becomes smaller; as the focal length of a lens becomes shorter; or the camera-to-subject distance is extended further back. By varying the f/stop, the range "in focus" will change accordingly, allowing the creating of different photographic effects in your pictures.

As illustrated in the pictures on the right page (examples of f/2.8 and f/22), the range "in focus" can be easily confirmed by checking the depth-of-field scale on the lens and previewing through the viewfinder (See page 58.)



f/2.8 [2.83 ~ 3.20m]



f/22 [2.04 ~ 5.82m]

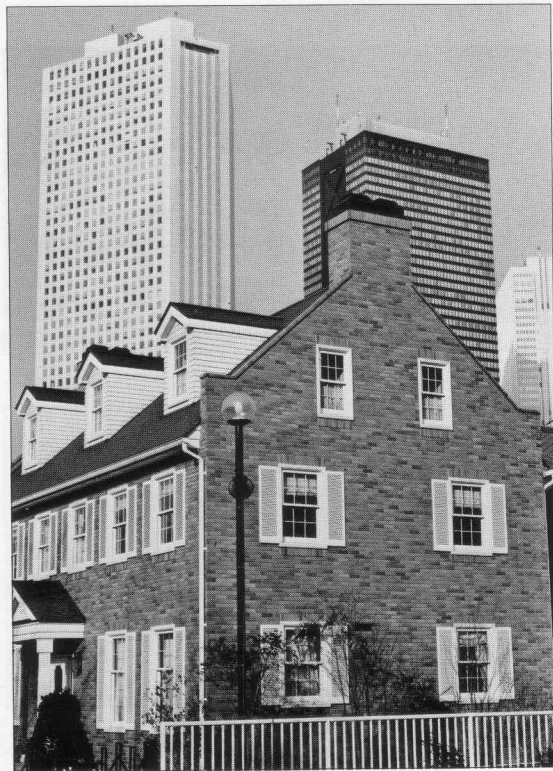


## DEPTH-OF-FIELD PREVIEW

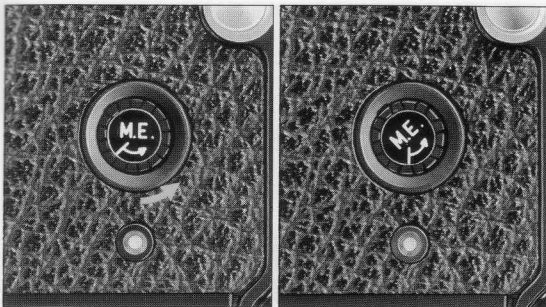


Should the lens possess an automatic diaphragm, the viewfinder can be kept bright with the aperture fully opened regardless of the preset  $f$ /stop. When the **preview lever** is depressed in the direction of the arrow, aperture will stop down to the preset value, and the depth-of-field can be confirmed through the viewfinder. The aperture will return to maximum when the **preview lever** is released. The depth-of-field cannot be confirmed while the lens is set to "A".

**Note:** Exposure value measured during preview may register incorrectly. While depth of field is being previewed, the shutter cannot be released.



## MULTIPLE EXPOSURE



Setting multiple exposure is possible by pushing and simultaneously turning the multi-exposure ring in the direction of the arrow. When the shutter is released while in this state, the first exposure is made. Repeat the same for the second or third exposure, so that multiple exposure can be made on the same frame; only the shutter is cocked without film being advanced. The multi-exposure ring (M.E.) will automatically return to its original position immediately after shutter releasing function.

When cancelling multiple exposure, simply return the multi-exposure ring to its former position. After loading film, multiple exposure should not be

operated until the external LCD window exposure counter (EX) reads out "1" or larger. Should the shutter be accidentally released in this state, the motor will merely continue to run idly for about 30 seconds without winding the film.

In this case, turn off the main switch, take out the film holder once and cancel the multi-exposure ring setting. Then, newly start the correct procedure.

Set the C/S switch to S position when using the multiple exposure.

### ※ M.E. = Multiple Exposures

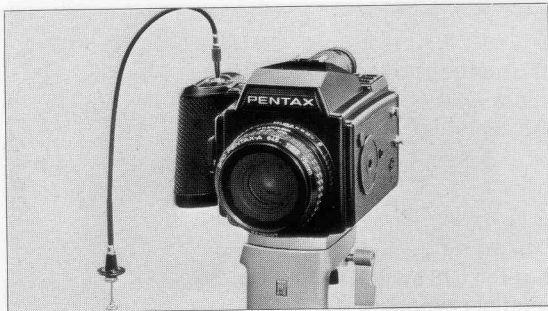
#### Multiple exposure operational sequence:

1. Set the multi-exposure ring
2. Initial photographing of the subject
3. Reset the multi-exposure ring
4. Secondary photographing of desired subject.

By repeating the steps 3 and 4, multiple shots on a single frame are possible. Exposure counter indicator will remain stationary. To return to normal shooting, just release the shutter without setting the multi-exposure ring.

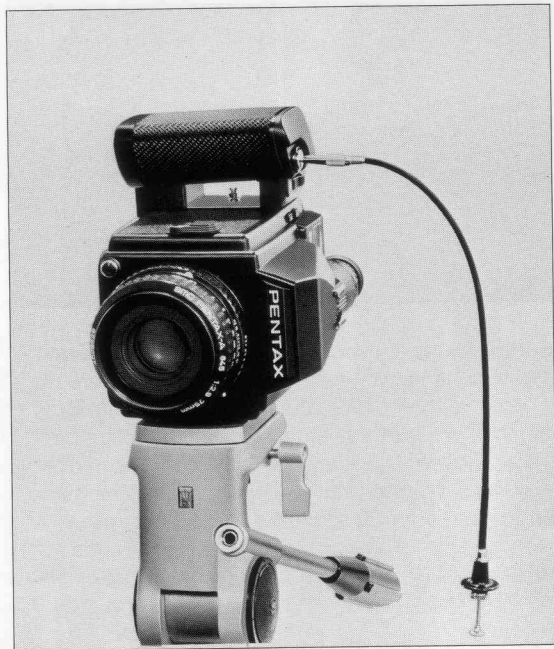


## TRIPOD SUPPORT



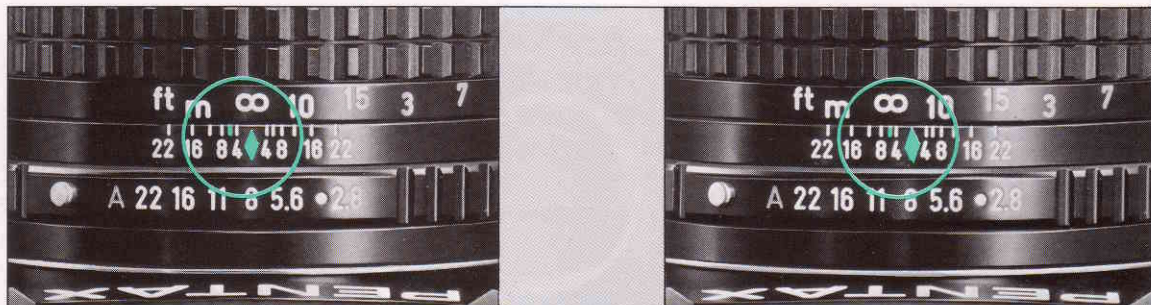
When photographing at slower shutter speeds, the use of tripod and cable release is suggested to prevent possible camera shake. As illustrated, the Pentax 645 has been provided with two tripod sockets for vertical and horizontal format positioning of the camera. In both positions, the sockets have been specially devised to align closely with the optical axis of the lens.

✱ To check the exposure data when the Cable Switch A or Cable Release is used, push the Cable Release halfway with your finger.





## INFRARED INDEX MARK



1. Adjust the distance scale (set at the “in-focus” point).

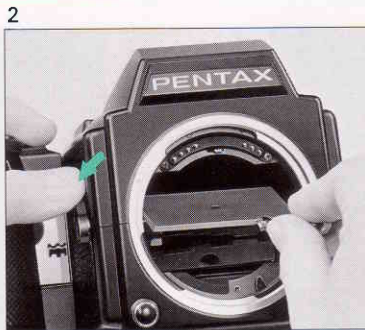
2. Then move to the red infrared index mark.

In the taking of infrared photographs using infrared film and R2 or O2 filter, it will be necessary to compensate for the difference between the visible light and infrared light focus.

As illustrated, read the camera-to-subject distance on the distance scale of the lens while focusing through the viewfinder; turn the focusing ring until the distance setting aligns with the red infrared index marking (red line). The picture shows an example where the camera-to-subject distance is set at infinity ( $\infty$ ).

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

## INTERCHANGING FOCUSING SCREENS



To interchange the focusing screen (F.S.), it will be necessary to first remove the lens from the camera body and turn off the main switch.

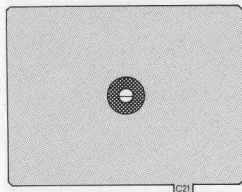
1. As seen in the photo, firmly hold the camera with the lens mount facing up, and slide the focusing screen release button in the direction of the arrow, using the tweezers supplied with the new focusing screen set.
2. The focusing screen will release together with the retaining frame. The left lever located within the lens mount should be held down by depressing the preview lever. Remove the focusing screen from the frame with the same tweezers, and fit it into the groove in the case

of the focusing screen to be replaced.

3. Carefully place the new screen on the frame using the tweezers provided while depressing the preview lever. Push the frame up utilizing the other end of the tweezers as illustrated, until it snaps into position.

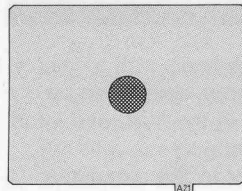
The focusing screens are made out of a special optical plastic; thus, careful handling is essential. To clean, use only a blower to blow away the dust. It should be handled only with the exclusive tweezers, held by the edges as illustrated.

## INTERCHANGEABLE FOCUSING SCREENS



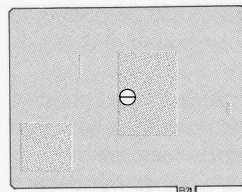
### UC-21 Split-image Microprism Matte

- The UC-21 focusing screen is built-in standard focusing device for general use; the split image covers an area of 3.5mm in diameter, while the microprism area is 8mm in diameter, including a prism angle of  $6^\circ$ .



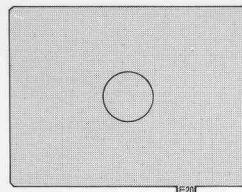
### UA-21 Microprism Matte

- For general use, with a microprism area of 8mm in diameter, and prism angle of  $6^\circ$ .



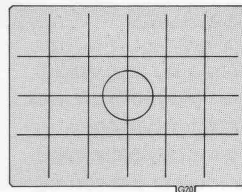
### UB-21 Split Image Matte

- General purpose screen possessing a prism angle of  $6^\circ$ . When combined with a lens with a maximum aperture smaller than  $f/5.6$ , the plain matte area is utilized for focusing.



### UE-20 Plain Matte

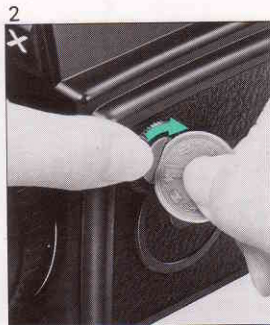
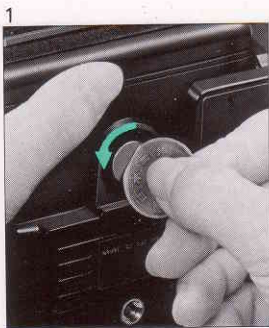
- All the screen surface except for the central spot (11mm diameter) is covered by the fresnel lens, and has been designed for the slower speed lenses with a maximum aperture smaller than  $f/5.6$ ; situations under which microprism and split-image areas are not clearly defined in focusing.



### UG-20 Section-line Matte

- A variation of the UE-20 plain matte screen; it includes sectional lines. Intervals of both vertical and horizontal lines are 9mm. It is suited particularly for the precise composing of a subject or for checking vertical or horizontal lines.

## MANUAL FILM WIND



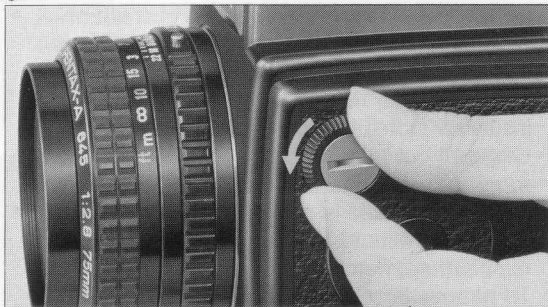
Manual film wind is possible during photographic functions, in the event motorized film advance has unexpectedly halted due to a drop of battery voltage; the remaining film may be manually rewound for removal.

Although continued photographing with the manual film wind is possible, it is not recommended for doing so since the shutter speed is fixed at the 1/50 sec. only.

1. Turn the film wind knob located at the bottom of the Pentax 645 counterclockwise using a coin or a similar tool, and remove it.
2. Thread the manual film wind knob into the small screw opening provided on the camera body,

and firmly tighten the screw knob with a coin or an appropriate tool. The cap removed can be accommodated and stored in the film wind knob chamber to prevent accidental loss.

3. Should the motor stop prior to the automatic film winding operation, wind the film manually by turning the knob clockwise as shown.  
※Although an audible clicking may be discerned while winding, disregard the sound and continue to wind.
4. When the red mark fully appears in the "shutter cocked" indicator, manual film winding has been completed with the simultaneous shutter cocking. A film wind stop device has not been



incorporated for the manual film winding. Even when a frame has been completely wound, the knob will continue to turn without engaging for the film winding/shutter cocking function.

5. By turning the knob slightly counterclockwise after completing a single frame winding, the shutter can be released and the reflex mirror kept at the up position. The mirror will return when the film is wound manually for the next frame. When you finish winding the designated number of frames of the roll by repeating the above procedure, you can continuously wind without releasing the shutter till it is completely wound up on the spool. After completing film winding operation keep the

film winding knob at the bottom of the camera body.

#### Notes:

- Should the knob be accidentally turned counterclockwise while you are winding manually, light leakage on the exposed film may occur through the fine slit of the shutter curtains. Precautions must be observed to avoid turning the knob in the opposite direction for this reason.
- Avoid leaving the camera with the reflection mirror in the raised position in bright light, since light leakage may occur following shutter release. In addition, directing the camera in this state toward the sun could cause the shutter curtains to scorch through the rays of the sunlight. Before replacing with new batteries in the grip, do not fail to remove the film winding knob; else, the motor-driven film winding operation (restored due to the battery replacement) will also activate the manual film wind knob to simultaneously rotate at a rate of high speed. Finger or hand injuries could result if they are in contact with the knob at the time.

To avoid overlapping, do not release the shutter before the red marking in a full circle becomes visible in the "shutter cocked" indication.

## MAINTENANCE

The Pentax 645 is a precision instrument. Please read the following instructions concerning handling/maintenance.

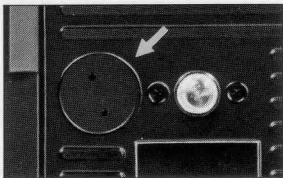
- Do not drop or strike the camera against solid objects. In the event the camera may have sustained a heavy blow or shock, it is recommended that it be taken to an authorized Pentax service facility for inspection and possible repair.
- Should the camera become drenched either by rain or water, wipe off with a soft dry cloth as soon as possible. When used at the beach or while boating, wipe off the exposed sections as soon as possible; salt air/moisture damage may occur if left unattended for long.
- Do not leave or store the camera in a hot and humid location; for example, the temperature of an automobile interior during the summer tends to rise rapidly. Gaseous release from insecticides such as naphthaline may also prove harmful to the camera. Camera should be stored in a cool, well-ventilated area if at all possible.
- The temperature range at which your camera will continue to function properly extends from 50°C to -20°C. Extremely low temperature reduces the efficiency of the batteries. Therefore, the camera should be protected against low

temperature conditions. Sudden changes of temperature will often cause condensation of moisture within or on the exterior of the camera. Do not subject the camera without proper insulated protection to sudden temperature changes; out into the cold outdoors from a warm room, or vice versa. It is suggested that the camera be placed in a vinyl bag; allow a wait of approx. 30 minutes for each 10°C change of temperature, before removing the camera.

- To remove dust on the lens and viewfinder glass, use a blower, followed by the application of a lens cleaning brush. Smudges such as finger prints should be carefully wiped with a clean, soft cloth moistened with a few drops of a lens cleaning solution available on the market. Wipe the lens surface gently out from the center toward the edges in a spiral.
- Never attempt to touch the reflex mirror and focusing screen, lens, etc., with the fingers; they can be scratched very easily.
- Do not touch or handle the shutter curtains with the fingers.
- Once immersed into water, the camera will be rendered inoperable. In such a case, contact your nearest Pentax service center.



- Periodical performance checks at least once or twice a year are recommended to maintain your camera in good working condition. If you have not used your camera over a long period of time, or when important pictures are planned on an assignment, a pre-check of the operating parts and/or trial shooting is suggested.
- Non-dedicated lenses or accessories used in conjunction with the Pentax cameras may cause malfunctions and/or damage to the camera components. Always use the Pentax exclusive lenses and accessories, the quality of which is totally guaranteed by us.
- It is a good practice to immediately note the lens and camera body number against possible loss.



#### Notes on the LCD (Liquid Crystal Display)

- Under high temperature conditions, approximately 60°C or above, the LCD window may turn black. Do not be concerned, it will return to normal once the temperature stabilizes.
- Under low temperature conditions, the display response time may slow down considerably. These phenomena do not indicate a breakdown of the LCD's; it is due to the inherent characteristic of the LCD's.

#### Notes on Reserve Battery

- A reserve battery, CR1220 lithium battery will be placed within the bottom of the camera body at the time of delivery. It supplies the required power to maintain memory for mode settings and exposure counter information, etc. during the period the grip has been removed from the camera body, or when the batteries in the grip have been depleted. The life of the lithium battery is 5 years. In case the mode setting and the exposure counter do not normally work, for instance, due to the removal/attaching of the grip, take the camera to an authorized Pentax service facility for replacement of the lithium battery (chargeable).

## SPECIFICATIONS

**Type** 6×4.5 format SLR camera with Multi-mode automatic exposure controls. Built-in motor drive.

**Exposure Modes** Programmed AE, Aperture-priority AE, Shutter-priority AE, Metered manual, TTL auto flash, Programmed auto flash and Leaf-shutter lens modes.

**Exposure Control Mode Selection** Via Mode setting buttons and Aperture ring of 645 lenses.

**Film** 120 film (15 exposures), 220 film (30 exposures) and 70mm roll film (about 90 exposures)

**Picture Size** 56 × 41.5 mm

**Lens Mount** Pentax 645 A mount (with electronic contacts)

**Shutter** Electronically-controlled vertical-run cloth focal-plane shutter, from 15 to 1/1000 sec., 1/60 sec., B. Electro-magnetic shutter release.

**Exposure Information in Viewfinder** LED indication for Lens aperture, Shutter speeds and Exposure factor warning, Out-of-meter coupling and Shutter/aperture coupling range warning, Flash-ready signal, Flash exposure confirmation signal, 60 (1/60 sec.), B (bulb), Leaf-shutter lens [LS, F--].

**External Indication** Liquid Crystal Displays (LCD) indicate Programmed AE [Auto, P], Aperture-priority AE [Auto, f/stop], Shutter-priority AE [Auto, shutter speed], Aperture-priority AE (lens aperture set manually) [Auto, F--], Metered

manual [M, shutter speed], 60 (1/60 sec.), B (bulb), Leaf-shutter lens [LS, F--], Exposure factor, ISO film speed, Exposure count, and Flash-ready signal.

**Flash Synchronization** Via hotshoe (X-synch. contact, dedicated flash contacts) and X-synch. socket. X-synch. speed at 1/60 sec. Slow shutter speed synchronization possible in Metered manual mode.

**Viewfinder** Keplerian telescopic viewfinder with Split-image/microprism Clear-Bright-Matte screen (Interchangeable focusing screens available.); Viewing area 92% vertical and 93% horizontal, 0.75X magnification with 75mm lens at infinity and -1 diopter. Diopter adjustment possible from -5 to +2 diopters.

**Mirror** Instant return mirror

**Film Loading** 120 and 220 films semi-automatically loaded with a start mark, 70mm film automatically.

**Film Winding** Automatic film winding by motor with Single/Consecutive shooting modes (Single: 1 frame/sec., Consecutive: approx. 1.5 frames/sec.). Film automatically stops at end of film trailer.

**Exposure Counter** LCD indication, additive type, automatic resetting. Automatically sets shutter speed at 1/1000 sec. up to first frame. Exposure count does not advance in multiple-exposure mode.



**Multiple Exposure:** Via Multi-exposure ring. cancellation possible.

**Exposure Metering:** Open-aperture, center-weighted TTL metering by GPD cells. Off-the-film metering for dedicated TTL automatic electronic flashes.

**Exposure Range:** From EV 3 (f/2.8 at 1 sec.) to EV 19 (f22 at 1/1000 sec.) with 75mm f/2.8 lens with ISO 100 film.

**Film Speed Usable:** ISO 6 ~ 6400.

**Exposure Compensation:** Via Exposure factor button. Setting at +3, +2, +1, 0, -1, -2 and -3.

**Depth-Of-Field Preview:** Via Preview lever when aperture set manually.

**Power Source and Battery Life:** Six 1.5V "AA" batteries (manganese, alkaline or Ni-Cd) for exposure control/display circuits and motor drive. Automatically turns power off 30 seconds after removing finger from release button.

	Power Source		
	Manganese Battery:	Alkaline Battery:	Ni-Cd Battery:
120 Film	Approx. 100 rolls	Approx. 250 rolls	Approx. 100 rolls
220 Film	Approx. 70 rolls	Approx. 170 rolls	Approx. 70 rolls
70mm Film	Approx. 20 rolls	Approx. 50 rolls	Approx. 20 rolls

**Memory Power Source:** One built-in lithium battery for exposure data memory circuits. Minimum battery life 5 years. (Replaced at Pentax service center).

**Size and Weight:** 147 (W) x 109 (H) x 117mm (D), 1.320g, 5.7" (W) x 4.3" (H) x 4.6" (D), 46.2 oz. (with grip and film holder without lens)

**Accessories:** Large eyecup 645, Body mount cap 645, Rear body cap 645 and Strap B.

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