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## FILM SPEED ADJUSTMENT AND MEMO HOLDER

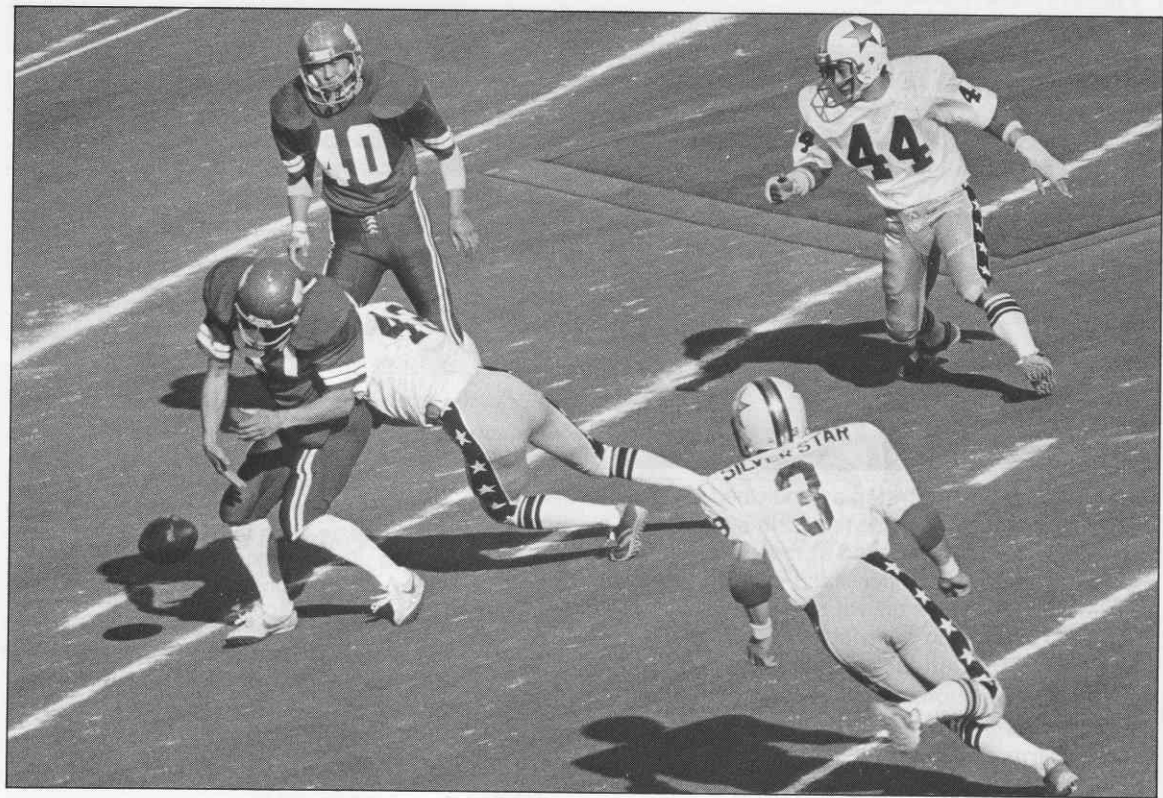
Film speed designations are found printed upon the film packages, for example, indicated as "ISO 100". By pressing upon the film speed button, the film speed set previously will flicker in the LCD window. To change the given film speed display, depress the selecting button (either "up" or "down") while simultaneously depressing the film speed button; the film speed will change in increments of 1/3 **between ISO 6 and 6400**. By continuously maintaining the selecting button pressure, the changes will keep on.

※ The "ISO" designation is identical with the "ASA" film speed information.

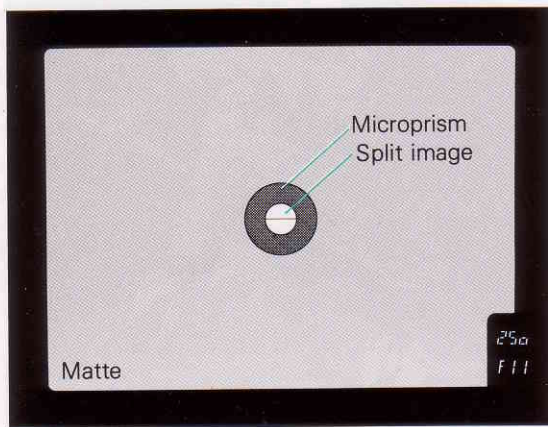
"up" button → towards higher ISO  
"down" button → towards lower ISO

Tear off the top cover of the film package indicating the type of film and speed and insert the same into the memo holder provided on the film holder. The memo holder may also be utilized to jot down pertinent data by substituting a piece of paper for writing purposes.





## VIEWFINDER DISPLAY



The shutter speed and f/stop are indicated via LED at the lower right of the viewfinder. In addition, other indicators are also found at the same location; flash data, exposure compensation warning, and leaf-shutter lens sign when utilized.

If the LED display for the shutter speed, f/stop, or  $\pm$  indication flickers like a flow, it may indicate that the photographic situation is "beyond the meter coupling range", or "exceeding the shutter/aperture coupling range".

(See also respective photographic modes.)

### Shutter information LED:

**1000** ~ **15"** ..... Shutter speed. 1000 indicates 1/1000 sec., and 15", 15 seconds. Indications are shown in full-stop increments.

**B** ..... Bulb, or Time exposure

**—** ..... Flash recycling completion, including auto flash confirmation (when the exclusive dedicated flash unit is involved).

**L5** ..... This displays itself when a leaf-shutter lens is being used.

### Aperture information LED:

**F1.7** ~ **F45** ..... Aperture value F/1.7 through 45, displayed in 1/2-stop increments.




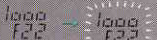

**F--** ..... No f/stop indicated in the following instances: When photographing in the Aperture-priority AE mode with the aperture ring adjusted to the appropriate f/stop; or when the shutter has been set to 60 (1/60 sec., fixed), or to B (Bulb).

**+ -** ..... Exposure compensation warning (flickering)

**03** ~ **OK** ~ **-3** ..... Employing the Metered manual mode, over or under exposures are indicated in steps; 03 to -3 ("0" denoting "+"). "OK" indicates "proper exposure".

※ Whenever the power source timer of the exposure meter has been turned OFF, the LED display within the viewfinder will vanish; however, the external LCD indications will remain visible.

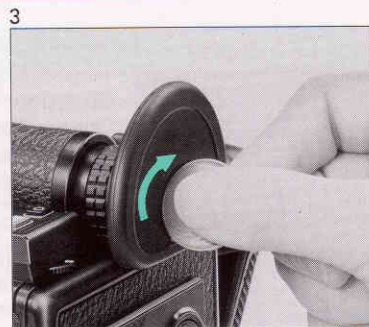
## LED MODE WARNINGS IN VIEWFINDER

LED display	Meanings
 	<p>Situation "beyond the shutter/aperture coupling range". Shutter speed or f/stop display flickers like a flow in sequence; adjusting the shutter speed or f/stop will correct this condition, and pictures may then be taken safely.</p>
 	<p>Situation "beyond the meter coupling range". * In respective modes, the displays of the f/stop and shutter speed will simultaneously register the flow-like flickerings in sequence to warn the operator. Photographing without compensation or adjustments will result in erroneous exposures.</p>
	<p>Exposure compensation warning. The + or - LED display flickers. This indicates that the exposure has been compensated with the exposure compensation button.</p>

- Normal flickering or flow-like flickering in sequence of the LED indicator within the viewfinder advises of several precautions.
- Some of the warnings, as examples, are set forth in the above table: (Examples may differ according to the maximum aperture of the lens in use, subject brightness, or ISO film speed.)
- "Beyond the meter coupling range" indicates that the exposure metering ability has gone past the maximum limit due to the fact that the subject's brightness range is either too high or too low to register effectively.
- "Beyond the shutter/aperture coupling range" means that the shutter speed/aperture combination has gone past the limit even if the situation remains within the range.
  - \* When the subject brightness range is too high, use an ND filter; if too low, use auxiliary light or high speed film to correct the problem.



## EYECUP 645



Two types of eyecup, a standard and another larger-sized one are provided as accessories; they may be utilized according to a given situation. The larger is constructed of rubber and designed to fit close to the face for easy shooting.

1. The standard eyecup may be easily detached from the viewfinder by rotating the cup to the left; to attach, the process is simply reversed.
2. In attaching the larger eyecup, first remove the standard eyecup, matching the eyecup pin with the fitting eyepiece hole.
3. The larger eyecup should be firmly affixed by turning the fixing screw to the right with a coin; detaching may be accomplished by reversing the previous action.

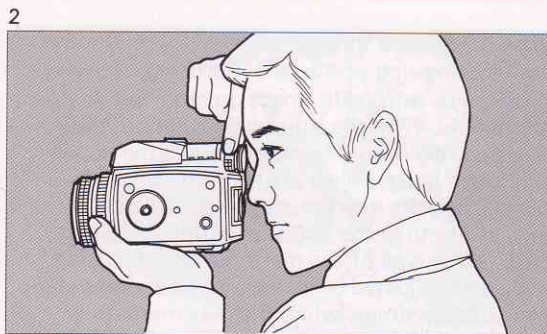
※ When using accessories such as the Refconverter 645, make certain that the eyecup is first removed.

## DIOPTR ADJUSTMENT



The eyepiece is equipped with a diopter adjusting ring. Accurate focusing of the viewfinder image becomes possible only with the diopter adjusting operation.

1. As illustrated, the diopter adjusting ring possesses a diopter adjusting index. Whenever the arrow indications of + and - appear at the top, it indicates that the ring is positioned at -1 diopter. If far-sighted, rotate the diopter adjusting ring in the direction of the arrow for the + marking to the left side. However, should you be near-sighted, the diopter adjusting ring must be rotated for the - marking to the right side.



- It is recommended that the diopter ring adjustment be performed prior to a shooting session to fit with your visual requirements, avoiding adjustments during picture taking.
2. To adjust diopter, as illustrated, direct the camera to face a bright/plain color background; then, rotate the diopter adjusting ring to a point whereby the border-line of the microprism and matte field can be seen most clearly. Adjusting is generally made easier when the focusing screen image is blurred or out of focus.

## FOCUSING PROCEDURE

View the subject through the viewfinder, and rotate the focusing ring of the lens. Focusing is possible in three ways; using split-image, microprism, and/or matte field. With the split-image method, the focusing ring should be rotated until the upper and lower image halves are perfectly aligned. When using the microprism collar, control focusing until glitter vanishes within the collar area. In the case of the matte surface, focusing should be adjusted until the image becomes sharp and crisp. At times, when the maximum aperture of the lens in use is limited in f/stop capability (less than  $f/5.6$ ; example,  $f/8$ ), the split-image or microprism collar may not render a satisfactory focusing view. In this event, the use of the matte field is recommended; or, an appropriate interchangeable focusing screen 645 (separately available) can be used. (Refer to P-62 for further details concerning this particular use.)



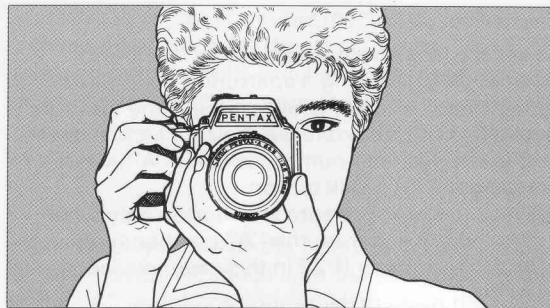
**Out of focus**



**In focus**



## RECOMMEDED CAMERA HOLDING POSITIONS



It is important that the camera be held correctly to minimize camera shake, which can result in blurred pictures. It is suggested that the Pentax 645 be handled for familiarization prior to actual use.

Basically, two methods of camera holding as illustrated, are recommended; both involving the secure holding of the camera against the face using both hands. The shutter should always be released gently; a sudden depressing of the shutter may cause an accidental camera shake situation. Stand with both feet firmly placed insuring a strong, steady posture. The left elbow should be drawn in contact with the body.

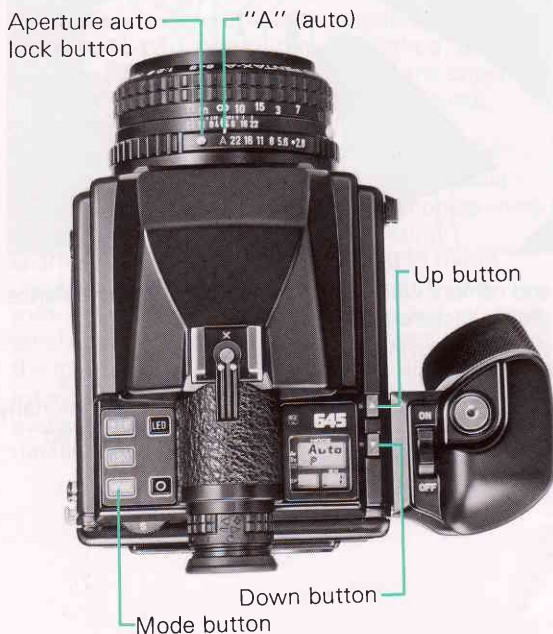
Utilizing a tree, wall, table, etc. to support the body



and camera will help in stabilizing grip and balance during picture taking.

When employing a slower shutter speed or a telephoto lens, it is highly recommended that a durable tripod and cable release (available optionally) be utilized to prevent camera shake and blurred pictures.

## SWITCHING TO "A" (AUTO) AND SETTING PHOTOGRAPHIC MODE



### Switching to "A" (Auto)

To set the lens aperture ring to the "A" (Auto) position, align the ring's aperture — "A" index (green) with  $\blacklozenge$  index while pressing the aperture auto lock button. To release the auto lock, turn the ring to the desired f-number (except "A") while pressing the "A"-lock button.

- Press the aperture auto lock button only when turning the ring from the "A" position to the largest f-number (f/22 in this case) or vice versa.

The following exposure modes can be set depending on the position of the aperture ring:

<b>"A" (auto)</b>	Programmed AE
	Aperture-priority AE
	Shutter-priority AE

<b>Respective f/stops (other than "A")</b>	Aperture-priority AE
	Metered manual
	60 (1/60 sec., fixed)
	B (Bulb)

### Setting photographic mode

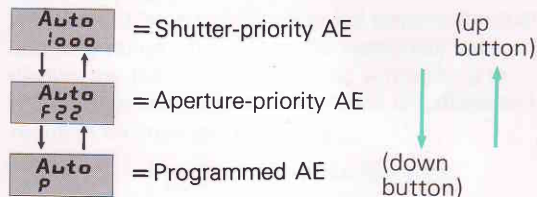
Depressing of the "up" (front) or "down" (rear) selecting button, while simultaneously holding down the mode button as in the picture, adjusts the photographic modes in the external LCD Window as shown on the right column.

### Setting f/stop and shutter speed

When employing either the Aperture-priority or the Shutter-priority AE mode with the aperture ring set at the "A" (auto) position, or when using the Metered manual mode with the aperture set to the respective f/stops, the selection of a f/stop or shutter speed is possible by depressing one of the selecting buttons. The LCD indicates an incremental change in steps by a single depressing of the selecting button, and continued changes by maintaining pressure upon it. The maximum point by moving the "up" button is 1000 (1/1000 sec.) or F22 (\*); the "down" button will stop at its lowest point of 15" (15 sec.) or F.2.8 (\*).

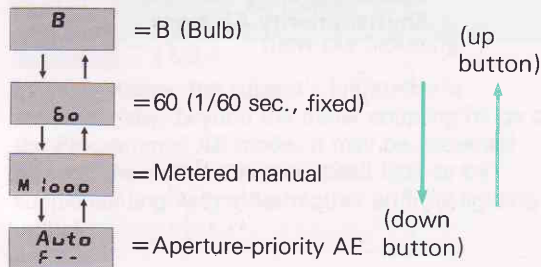
\* The f/stop will be displayed within the aperture range of the lens in use.

### Aperture set to the "A" (auto) position:



\* Displayed f/stop or shutter speed indicates the numerical value automatically set at the time within the camera's exposure control circuitry.

### Aperture set to each f/stop and also at the time of blank exposures:



\* Only M 1000, 60 or B functions when releasing the shutter without a film holder.

## PHOTOGRAPHIC MODES WITH THE APERTURE SET AT "A" (AUTO)

**Programmed AE mode  
Aperture-priority AE mode  
Shutter-priority AE mode**

## PROGRAMMED AE MODE

1



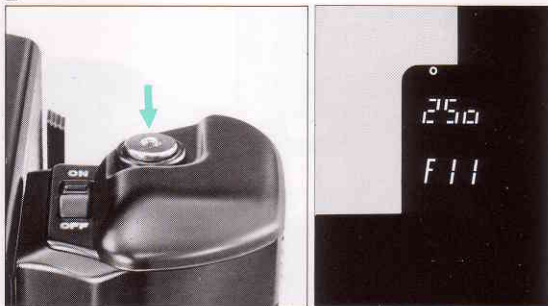
### Programmed AE

The Pentax 645 has been designed to control the f/stop and the shutter speed, which automatically vary at the same time depending upon the subject's brightness; thus, is able to determine the proper exposure. This feature is ideally suited for those who favour spontaneous or candid photography.

1. With the Programmed AE mode, "Auto" and "P" are displayed on the external LCD window.

The camera mode can be switched to the Programmed AE by depressing the selecting button ("down"), while simultaneously depressing the mode button; this action will show Auto and P indications within the window.

2



2. After turning on the main switch, a slight depressing upon the shutter release will reveal in the viewfinder LED the shutter speed and f/stop automatically programmed by the camera circuit. Additional pressure will release the shutter, enabling photographing.

### Visual warnings during Programmed AE control:

While utilizing this mode, and should the shutter speed and f/stop combination fall beyond the meter coupling range, the LED in the viewfinder will display the following indications; attempting to photograph the subject under these situations will result in an improper exposure.



In this particular instance, the subject brightness is over the maximum range, or the given situation exceeds the meter coupling range of the Programmed AE mode. It may be remedied by either using a slower speed film or employing an ND filter available on the market.



In this instance, the subject's brightness is extremely low, beyond the meter coupling range of the Programmed AE mode. It may be corrected through the use of a higher speed film, or by supplementing with a flash/other artificial lighting unit(s).



## APERTURE-PRIORITY AE MODE

1



### Aperture-priority AE

Predetermine the f/stop to meet with a given photographic situation; the shutter speed will automatically adjust itself and provide the proper exposure in line with the subject's brightness. This method is ideally suited whenever the depth-of-field is considered important in general or portrait photography.

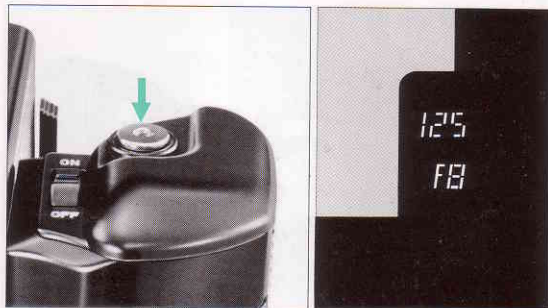
1. In this mode, the "Auto" and f/stop are externally displayed in the LCD window. Whenever a mode is switched from another to this particular setting, the display can be made visual by depressing the selecting button (either "up" or "down") and the mode button

2



- simultaneously.
2. Desired selection of the f/stop can be effected with the depressing of the "up" or "down" selecting button. The "up" button should be operated when the aperture choice is toward the minimum aperture (example, f/22); the "down" button, when the aperture desired is toward the maximum aperture opening (f/2.8, etc.). A single depressing moves the value in 1/2 incremental stops, while continuous f/stop increments are possible by maintaining pressure upon the selecting button.

3



3. After turning on the main switch, the LED displays of the shutter speed and f/stop will visually appear within the viewfinder by a slight depressing of the shutter release button; additional pressure upon the shutter will cause the same to release for shooting.

### Visual warnings during Aperture-priority AE control:

The following indication will manifest itself within the viewfinder if the given photographic situation exceeds the shutter/aperture coupling range. The shutter speed will appear as follows:



If the maximum aperture (f/2.8, etc.) appears, it should be reset by moving the same toward the direction of the minimum aperture (f/22, etc.). The process should be reversed in the similar manner, when the displayed value is the minimum aperture (f/22, etc.) by changing the aperture in the direction of maximum aperture.

Should the situation return to normal, that is, within the shutter/aperture coupling range by changing the f/stop, the flow-like flickering will cease and proper exposure is indicated and photographs may be taken in this AE mode. Whenever the situation exceeds the meter coupling range for proper exposure, the following shutter speed/aperture value indications will appear:



(Please refer to the section concerning "Beyond meter coupling range", page 27.)

## SHUTTER-PRIORITY AE MODE

1



2



### Shutter-priority AE

The preselecting of a desired shutter speed will vary the aperture value automatically according to the subject's brightness. Proper exposure is controlled through the camera's AE capability. In addition to general photographic requirements, this mode is recommended for fast-moving subjects as found at sports events.

1. In this mode the external LCD window will indicate "Auto" and "shutter speed." If not, depress the "up" selecting button until the desired display appears in the window while simultaneously holding down the mode button.
2. Depress the "up" or "down" selecting button to set the required shutter speed. By depressing the "up" button, the speed is made faster; the "down" button depressing will slow the shutter speed. A single depressing will cause a single incremental change; the changing process becomes continuous in increments by holding it down.

3



3. Turn on the main switch.  
By slightly depressing the shutter release button, the shutter speed and aperture value are indicated by the LED within the viewfinder. Additional pressure will cause the shutter to release, thus completing exposure.

### Visual warnings during Shutter-priority AE control:

The following aperture indication appears within the viewfinder, whenever a given situation is beyond the shutter/aperture coupling range.



In the event the shutter speed is found to be somewhat higher, adjust the same to a slower point by setting the same in the direction of the 15" speed area.

When the speed is found to be slower, select a higher speed by moving the same toward the 1/1000 indication.

Should the situation return to normal, that is, within the shutter/aperture coupling range, by changing the shutter speed, the flow-like flickering in sequence will cease; proper exposure is indicated and photographs may be taken in this AE mode.

Whenever a given photographic situation exceeds the meter coupling range, the shutter speed and aperture value within the viewfinder appear as follows.



(Refer to page 27, "Beyond the meter coupling range".)



## APERTURE-PRIORITY AE MODE

1



### PHOTOGRAPHIC MODES WITH THE APERTURE SET AT APPROPRIATE f/STOPS

**Aperture-Priority AE mode**  
**Metered manual mode**  
**60 (1/60 sec., fixed)**  
**B (Bulb)**

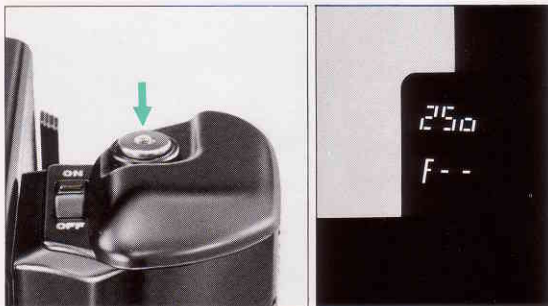
#### Aperture-priority AE

The Aperture-priority AE control is possible by adjusting the aperture ring to any of the f/stops other than the "A" position.

This method requires the presetting of the desired f/stop; depending upon the subject brightness, the shutter speed is automatically controlled for proper exposure.

1. In the Aperture-priority AE mode with the f/stop presetted (not displayed), the external LCD window will indicate "Auto" and "F-". To effect a switchover to this mode from another, depress the selecting button ("down") while also depressing the mode button, to allow the LCD of this mode to appear within the window.

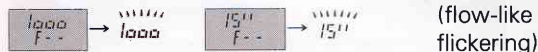




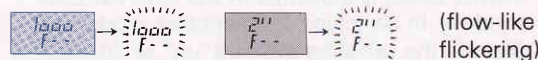
2. Rotate the aperture ring to select the desired f/stop. Turn on the main switch; a slight depressing upon the shutter release button will cause the LED indication of the shutter speed to appear in the viewfinder. Additional pressure on the button will release the shutter to photograph the subject.

### Visual warnings during aperture-priority AE control:

In the event light levels exceeds the shutter/aperture coupling range, the shutter speed within the viewfinder will be displayed in the following manner:



Should the maximum aperture be indicated, select a smaller aperture by rotating the ring toward the direction of its minimum aperture (f/22, etc.). However, if the aperture displayed is the minimum aperture (f/22, etc.), rotate the same toward the direction of the maximum aperture (f/2.8, etc.). When the combination reaches the shutter/aperture coupling range by changing the f/stop, the flow-like flickering in sequence will cease; proper exposure has been attained and photographs can be taken safely with this AE mode. Should the light level exceeds the meter coupling range the shutter speed and "F--" indication within the viewfinder will appear as follows:



(Refer to page 27, "Beyond the meter coupling range.")

## METERED MANUAL MODE



### Metered manual

Proper exposure is obtained by adjusting the shutter speed and f/stop according to the exposure meter indications visible in the viewfinder.

Utilizing this mode, the photographer is able to control the exposure value (over/under exposure) as may be required for his photographic purposes.

1. When using this Metered manual mode, the shutter speed is indicated in the external LCD window. In switching from another mode, depress the selecting button ("up" or "down"), while simultaneously depressing the mode button so that the manual mode "M" is displayed by the LCD.

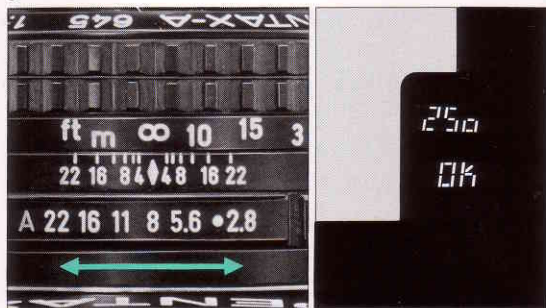


2. Select desired shutter speed by depressing the selecting button ("up" or "down"). After turning the main switch ON, slightly depress the shutter release button; the shutter speed and one of the following numerical indications 03~OK~-3 will be displayed by the LED within the viewfinder. Factors 03~OK~-3 indicate the exposure amount (EV) in steps.

03	02	01	OK	-1	-2	-3
OVER			CORRECT			UNDER

For situations not covered by the  $\pm 3$  steps, 03 or -3 indication will flicker like a flow. "0" as shown in 01~03 indicates an "OVER" exposure situation.

3



3. Control the aperture and/or shutter speed until the "OK" designation appears in the viewfinder, signifying "proper exposure". Intentional "over exposure" or "under exposure" for special effects to enhance the photographic subject is possible by adjusting the exposure within the range of the  $\pm 3$  steps. Then, having completed your own exposure determination, release the shutter to take the photograph.

### Visual warnings during Metered manual mode

Excessive "over/under exposure" will be indicated in the viewfinder in the following manner:



The flickering of "03" in sequence indicates that the exposure will render an over exposure exceeding +3 steps; that of "-3", an under exposure exceeding -3 steps.

Adjust either the shutter speed towards 1/1000 or rotate the aperture ring in the direction of the minimum aperture (F22). When an under exposure indication appears, set the shutter at a slower speed toward the direction of 15'', or change the f/stop by rotating the ring in the direction of the maximum aperture (f/2.8, etc.).

Once the exposure amount display falls within the range of  $\pm 3$  steps, the flow-like flickering in sequence will cease; photographing may then be commenced.

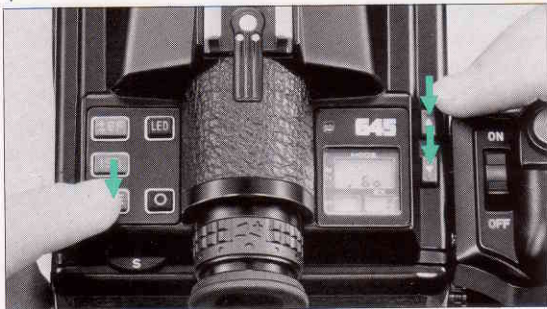
If the photographic situation exceeds the meter coupling range, the following display will appear:



(Refer to the section "Beyond the meter coupling range" on page 27.)

## UTILIZING 60 (1/60 sec.) POSITION

1



When using an ordinary flash unit with X synch. contact, select the 1/60 sec. flash synchronization mode. Although 1/60 sec. may be used for general photography without flash, there is no exposure meter indication.

1. The designation "60" is displayed within the external LCD window when the shutter speed is set at 1/60 sec. In the event another mode is displayed, a changeover to the 60 designation is possible by depressing the selecting button ("up" or "down") while simultaneously depressing the mode button. Turn the main switch ON; a slight depressing of the shutter

2



- release button will display the LED indications of "60" and "F--" within the viewfinder.
2. During flash photography, adjust the f/stop according to the camera-to-subject distance. (For further details, refer to the operating instructions supplied with the flash unit.)  
When utilizing the Pentax 645 and a flash unit via a synch cord as illustrated, connect the cord to the camera's X-synch socket. The threaded synch cord plug may be screwed into this terminal.



## UTILIZING B (BULB) POSITION

1



### B (Bulb)

The bulb position is used for time exposures requiring 15 seconds or more. While the shutter release button is depressed, the shutter will be open. The time exposures are recommended for firework displays, night scenery and/or astronomical photography.

Switching to the "B", the B display will become visible within the LCD window by depressing the selecting button ("up") while depressing the mode button at the same time.

With the main switch ON, depress the shutter button slightly, then, the "B" and "F--" will be

2



displayed by LED in the viewfinder.

When shooting at the B position, it is recommended that a sturdy tripod and the Cable Switch A or a cable release (available optionally) be employed to prevent possible camera shake.

The Cable Switch A or a cable release may be easily screwed into the shutter release button. Time exposures are made simple through the use of the Pentax Cable Release 50.

Cable Release 30 is not recommended for use.

✳ The long-time exposure consumes the battery power so greatly that even fresh alkaline batteries can be exhausted in about 40 hours.