

III. ADVANCED OPERATIONS

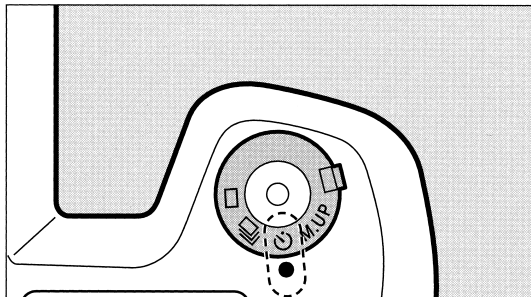
Consecutive-Frame Mode

Consecutive pictures can be taken by holding down the shutter release button.

Set the drive mode selector to .


- if the AF mode selector is set to [S], the camera focuses only the first picture. From the second picture, the pictures are taken consecutively with the focus locked at the first picture.

1

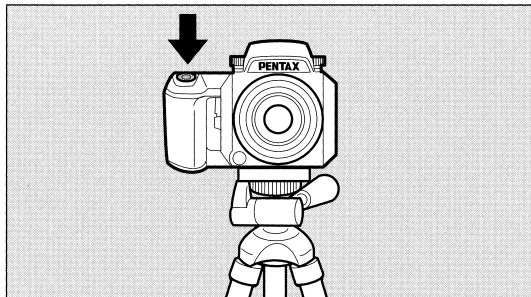



Self-Timer Mode

The self-timer mode delays the shutter release, and is useful for taking group shots that include the photographer. The shutter will be released about 12 seconds after the shutter release button is pressed.

1. Set the drive mode selector to .
2. Focus on the subject first using the autofocus frame and by pressing the shutter release button halfway down. Then press the shutter release button fully.

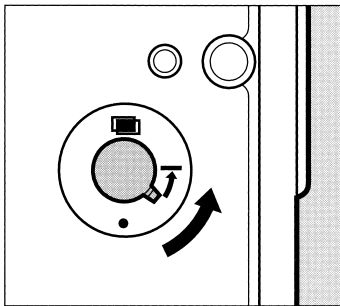
2



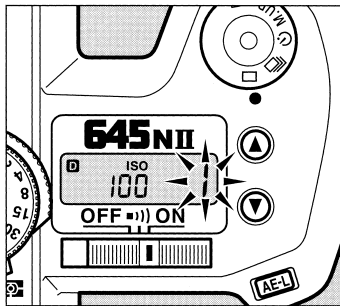
- The shutter will be released about 12 seconds later.
- When the Self-Timer is in operation. The audible PCV signal is heard and the rate increases for the last two seconds.
- To cancel the Self-Timer operation after it has been activated, move the drive mode selector to a position other than  or set the main switch to the OFF position.
- The Self-Timer delay time can be set to 12 sec. or 2 sec. (with mirror lock-up) with Pentax Function No. 4.

Multiplex Exposure Mode

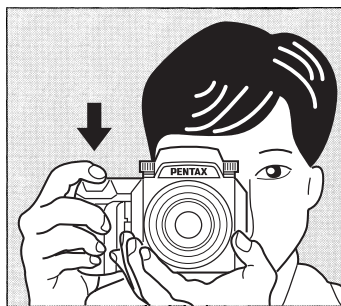
1



2



3

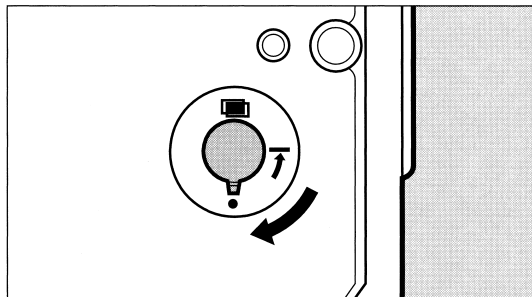


Procedure

1. Turn the multi-exposure switch in the direction of the arrow until it locks.
2. The frame counter on the LCD panel blinks.

3. Press the shutter release button to shoot an initial exposure. The film will not advance.

4

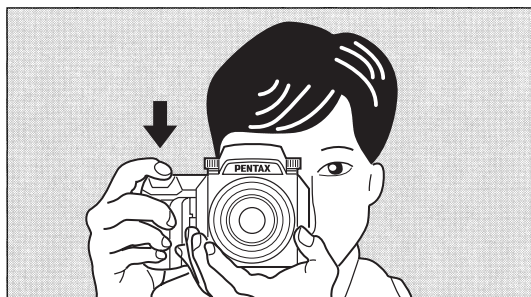


- 4. Return the multi-exposure switch to the original position to cancel the multi-exposure mode.**

Notes:

- To exposure the triple shot, leave the multi-exposure switch in the lock position and shoot the second shot. Then return the multi-exposure switch to the original position. The film does not advance at this stage. Press the shutter release button to shoot the third shot. The film will advance and the Single-Frame shooting will be restored.

5

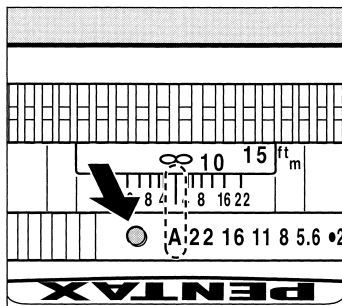


- 5. Recompose the frame, and press the shutter release button to shoot the second shot.**

- When using the Multi-Exposure Mode, you usually get the best result using a flash to illuminate the main subject against a dimly-lit background.
- To cancel the Multi-Exposure Mode, turn the multi-exposure switch to the original position.
- When using the Multi-Exposure Mode, the exposed frame may move slightly.
- With the data exposure imprinting set, the data of the last frame is imprinted.

Selecting an Exposure Mode

1



Using the Programmed AE Mode

Purpose

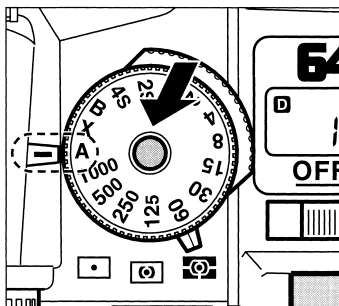
The camera automatically selects the optimum combination of shutter speed and aperture settings, making it easy to take a good photograph by just pressing the shutter release button.

To set

1. Set the lens aperture ring to **A**.

- Turn the lens aperture ring while holding down the aperture-A lock button.

2



3



2. Turn the shutter speed dial to **A** while holding down the shutter speed dial lock release button.

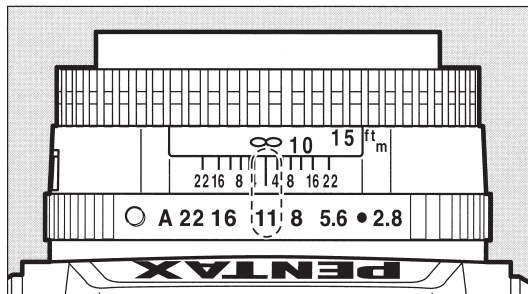
- The shutter speed dial can be released from **A** to another position in the same manner as above.
- When the shutter release button is pressed halfway, the shutter speed and aperture setting will be displayed in the viewfinder.
- You can shift the program line of Programmed AE Mode with Pentax Function No 4. See page 79 for more details.

*

*** Exposure Warning**

If the subject is too bright or too dark, the shutter speed and aperture setting will blink in the viewfinder. If the subject is too bright, select a darker subject. Use a flash if the subject is too dark.

1



Using the Aperture-Priority AE Mode

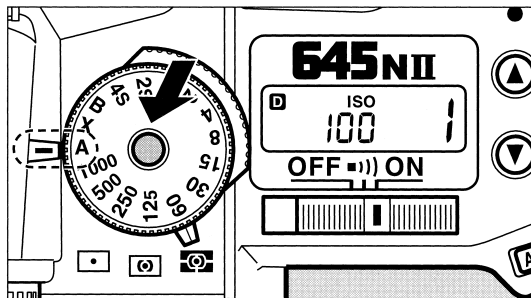
Purpose

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

To set

1. Set the lens aperture ring to the desired f-stop other than **[A]**.
- Turn the lens aperture ring while holding down the aperture-A lock button.

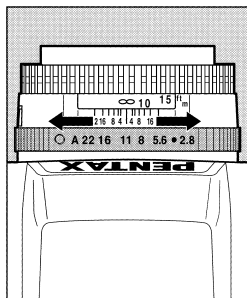
2



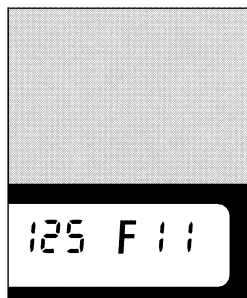
2. Set the shutter speed dial to **[A]**.

- The shutter speed dial can be released from **[A]** to another position while holding down the shutter speed dial lock button.

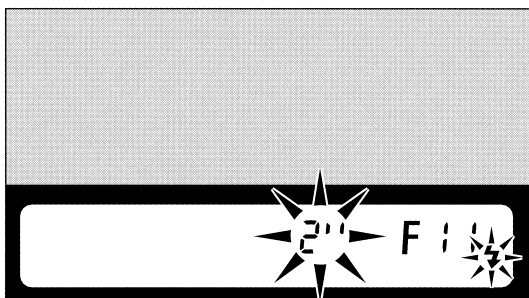
3



4



*



3. Set the desired f-stop.

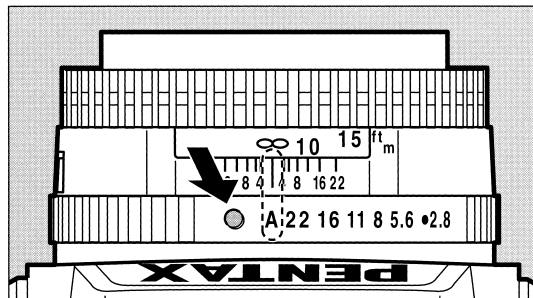
4. The f-stop that you have selected and appropriate aperture indication determined by the camera can be seen in the viewfinder when the shutter release button is pressed half-way.

- The approximate aperture indication appears in the viewfinder. It may not be the same indication as that you selected with the lens aperture ring especially when the A645 150mm f/3.5 or A 645 45-82mm Zoom f/4.5 is attached.

* Exposure Warning

If the subject is too bright or too dark, the selected shutter speed will blink in the viewfinder and on the LCD panel as a warning as shown. When the subject is too bright, choose a smaller aperture, if available; when it is too dark, choose a larger aperture, if available. When the shutter speed indication stops blinking, you can take the picture. If both shutter and aperture blink, it means that the exposure is out of metering range and unable to obtain a correct exposure even if the aperture is adjusted. Select a darker subject if it is too bright, or use a flash if it is too dark.

1

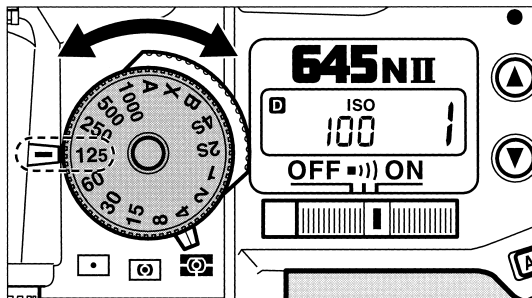


Using the Shutter-Priority AE Mode

Purpose

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

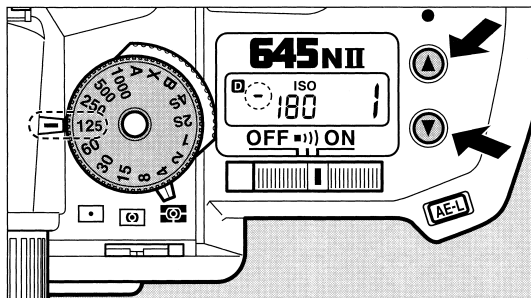
2



To set

1. Set the lens aperture ring to **A**.
2. Set the shutter speed dial to a shutter speed other than **A**.
 - To set the shutter speed dial to a position other than **A**, turn the shutter speed dial while holding down the shutter speed dial lock button.
3. Set the shutter speed dial to the desired shutter speed.

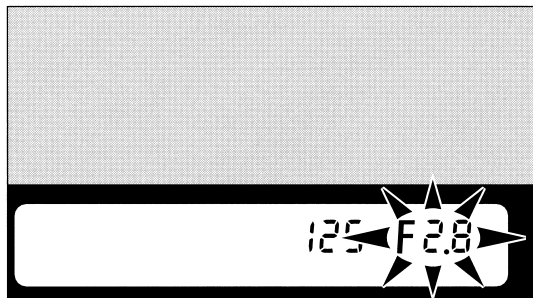
3



4. The shutter speed dial between 1/1000 to 4S can be set to 1/2 step by pressing the up/down button. The set shutter speed will be displayed on the LCD panel and in the viewfinder.

- If the shutter speed does not change to 1/2 step, confirm Pentax Function No. 1
- When the shutter release button is pressed half-way down, the shutter speed and the aperture value will be displayed in the viewfinder.
- In flash photography, when you use flash sync shutter speed of 1/60 second or a non-dedicated external flash unit, set the shutter speed dial to the \boxed{X} (1/60 of second) position.

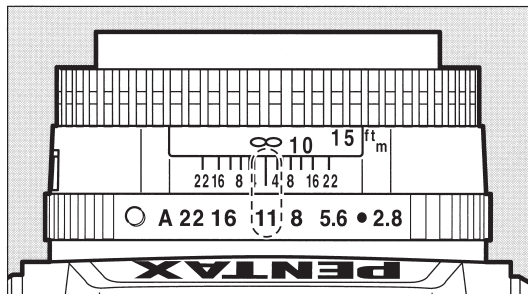
*



* Exposure Warning

If the subject is too bright or too dark, the shutter speed and aperture setting in the viewfinder blink. When the subject is too bright, choose a faster shutter speed. When the shutter speed indication stops blinking, you can take the picture. If both selected shutter speed and aperture blink, it means that the exposure is out of metering range and unable to obtain a correct exposure even if the shutter speed is adjusted. Select a darker subject if the subject is too bright. Use a flash if it is too dark.

1



Using the Metered Manual Mode

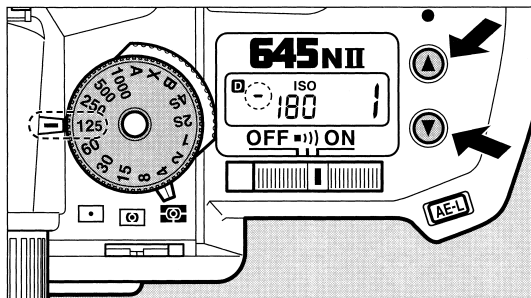
Purpose

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

To set

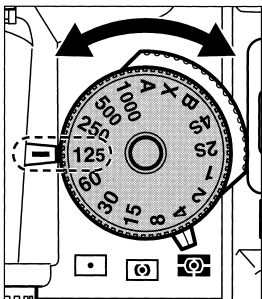
1. Set the lens aperture ring to the desired f-stop setting.
- Turn the lens aperture ring while holding down the aperture-A lock button.

2

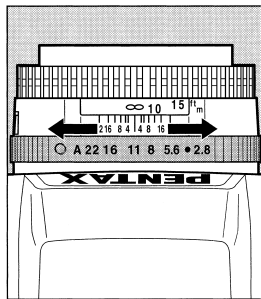


2. Set the shutter speed dial to the desired shutter speed.
 3. The shutter speed dial between 1/1000 to 4S can be set to 1/2 step by pressing the up/down button. The set shutter speed will be displayed on the LCD panel and in the viewfinder.
- If the shutter speed does not change to 1/2 step, confirm Pentax Function No. 1
 - To set the shutter speed dial to a position other than [A], turn the shutter speed dial while holding down the shutter speed dial lock button.
 - When the 645 LS (with leaf shutter) 75mm is attached, [LS] appears on the LCD panel.

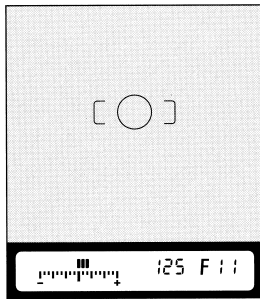
3



4



5



*



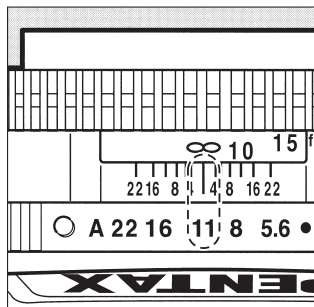
4. Turn either the shutter dial or lens aperture ring until a single bar is displayed in the center of the bar graph.
 5. When the shutter release button is pressed half-way, the shutter speed, approximate aperture and bar graph will be displayed in the viewfinder.
- When the bars are displayed to the \oplus side on the bar graph, it indicates overexposure and when the bars are displayed to the \ominus side, it indicates underexposure.
 - Moving one bar on the bar graph indicates 1/3 step (EV). However, when under or over exposure is set beyond + 3 or - 3 steps (3EV), \oplus or \ominus indicator will blink.

- In flash photography, when you use the flash sync shutter speed of 1/60 second or a non-dedicated external flash unit, set the shutter dial to the \boxtimes (1/60 of second) position.

* Exposure Warning

If the subject is too bright or too dark, the selected shutter speed will blink in the viewfinder as a warning as shown. When the subject is too bright, choose a smaller aperture; when it is too dark, choose a larger aperture. When the shutter speed indication stops blinking, you can take a picture. If both shutter and aperture blink, It means that the exposure is out of metering range and unable to obtain a correct exposure even if the aperture is adjusted. Select a darker subject or use a flash if it is too dark.

1



Using the Bulb Exposure Mode

Purpose

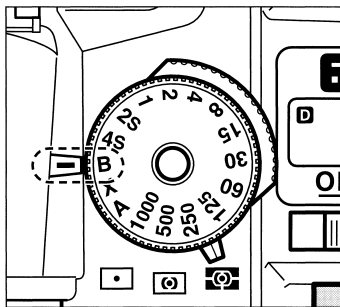
This mode is useful for the long exposures required for shooting night scenes and fireworks. The shutter remains open as long as the shutter release button is held down.

To set

1. **Set the lens aperture ring to the desired f-stop other than \boxed{A} while holding down the aperture-A lock button.**

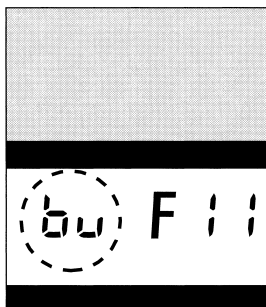
- Do not set the lens aperture ring to \boxed{A} . If doing so, the aperture will always closed to the maximum position.

2



2. **Set the shutter speed dial to \boxed{B} .**

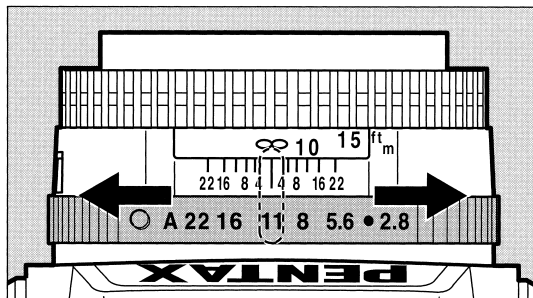
3



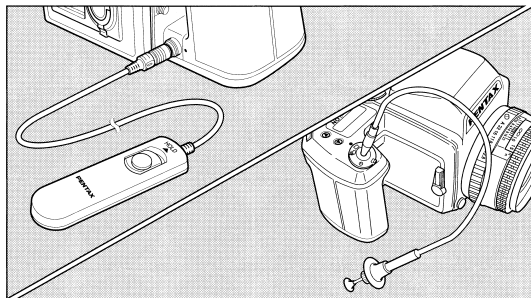
3. **An appropriate aperture will be displayed in the viewfinder when the shutter release button is pressed halfway.**

- Set the shutter speed dial to the \boxed{B} position. Turn the shutter speed dial while holding down the shutter speed dial lock button.
- The approximate aperture indication appears in the viewfinder. It may not be the same indication as that you selected with the lens aperture ring especially when the A645 150mm f/3.5 or A 645 45-85mm Zoom f/4.5 is attached.

4



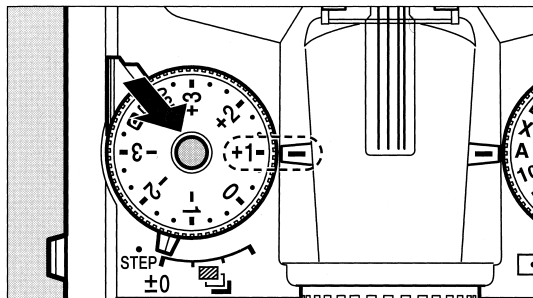
4. Adjust the desired aperture by lens aperture ring.



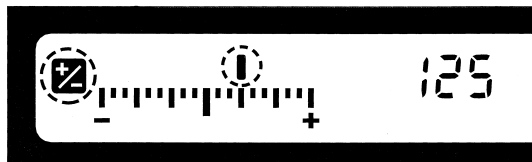
- When using this mode, use a steady tripod to prevent camera shake and attach the optional "Cable Switch CS-105 CS-130" or Release Timer Switch TS-110 after removing the Release Socket Cap.
- Up to approx. 8 hours exposure is possible with new alkaline batteries at room temperatures.

About Exposure Compensation

1






2




Purpose

The exposure compensation allows you to deliberately overexpose (brighten) or underexpose (darken) a subject, or to compensate for difficult lighting conditions which may fool the camera's built-in exposure meter.

To set

1. Turn the exposure compensation dial to the desired compensation value.
2. The exposure compensation dial locks at the  position. To set the exposure compensation dial to a position other than the  position, turn the exposure compensation dial while holding down the exposure compensation dial while holding down the exposure compensation dial release button.
3. The bar graph indicates the compensation value and  appear in the viewfinder.

- Exposure compensation does not work in the Bulb Exposure Mode.
- The exposure compensation range is -3 1/3EV to +3 1/3EV in 0.3EV step.
- The exposure compensation step can be selected from 0.3EV step to 0.5EV step with Pentax Function No.5. See page 79 for more details
- When the 0.5EV step is selected, two bars above the bar graph indicate a 0.5EV step.
- When exposure compensation is used in the Metered Manual mode, the bar above the bar graph indicates under or overexposure, it is not indicating the exposure compensation value.  is displayed.

When you take a picture that requires exposure compensation and it may be difficult to determine the correct exposure, use this mode to make three different bracketing exposures with different exposure levels.

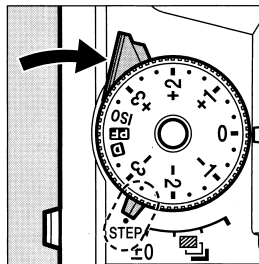
Selection of auto bracketing amount.

The auto bracketing amount can be selected from 1/3EV step or 1/2EV step.

To set

1. While holding the auto bracketing selector at the **STEP** position, press the up/down button to select the desired auto bracketing amount.
 - The bracketing amount can be set to 13 (1/3EV step) or 12 (1/2EV step).
2. Release the finger from the auto-bracketing selector. The selector returns to the ± 0 position to complete the set-bracketing amount.

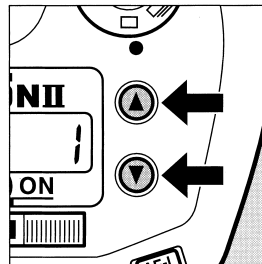
1



with 1/3EV set



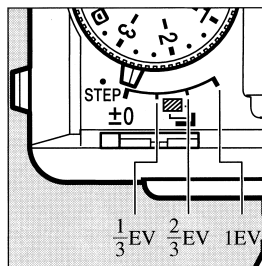
2



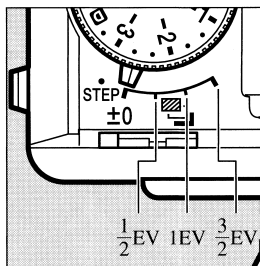
with 1/2EV set



with 1/3EV set



with 1/2EV set



1. Set the auto bracketing selector to the desired exposure compensation value.
 2. Press the shutter release button fully. Three pictures are taken consecutively according to the auto-bracketing switch you have set.
- Three pictures are taken consecutively as follows.

First picture: Correct exposure

Second picture: Underexposure

Third picture: Overexposure

- The sequence of the auto bracketing exposures can be changed with Pentax Function No.3.

- The camera automatically measures the exposure for each shot.
- The focus is locked at the first picture and remains locked until all pictures are taken.
- If you let go of the shutter release button during auto bracketing, the auto-bracketing will remain effective until the viewfinder indication goes off. After that, the camera returns to the shooting status before the first frame was taken.

Auto Bracketing Exposure Mode combined with the Exposure Compensation function.

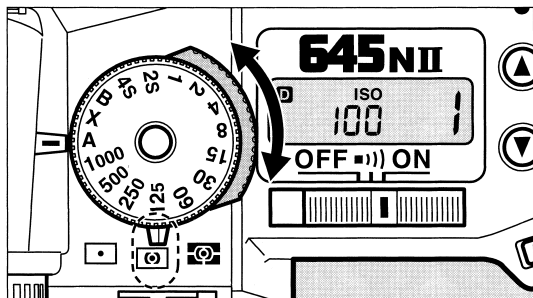
You can combine the auto bracketing exposure mode with the exposure compensation function.

The auto-bracketing will work in accordance with the exposure compensation value set.

Auto Bracketing Exposure Mode combined with the Metered Manual Mode.

You can combine the auto Bracketing exposure mode with the metered manual mode (except X sync speed).

The auto-bracketing will work with changing only the shutter speed. The bar graph of the metered manual mode is only displayed in the viewfinder. The bar graph of the exposure compensation value is not displayed.



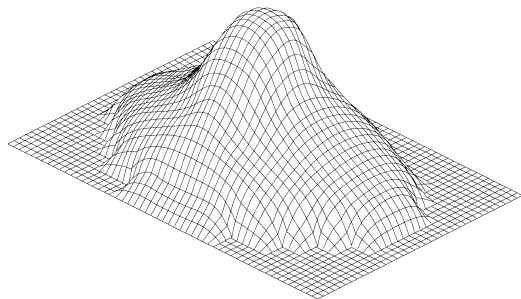
The Spot metering or Center-Weighted metering mode can also be selected in this camera. Select the desired metering mode with the metering mode selector.

Using the Center-Weighted Metering Mode

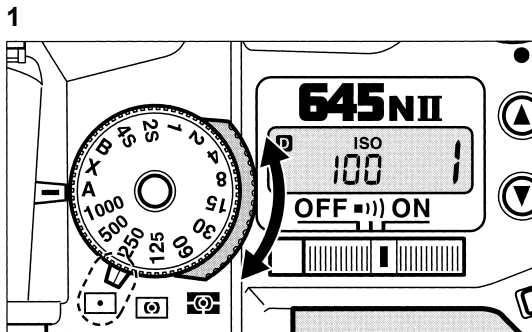
This metering system does not automatically compensate for backlit or spotlight scenes like the Multi(6)Segment Metering Mode. Creative exposure control is decided by the user.

To set

Set the metering mode selector to the  position.



- The metering pattern in the illustration above shows that the upper part of the pattern (in the center of the viewfinder) has more sensitivity to light than the lower part.
- In this metering mode, the camera does not automatically compensate the exposure in backlit or spotlighted scenes like the Multi (6)-Segment Mode. Creative exposure control is decided by the user.

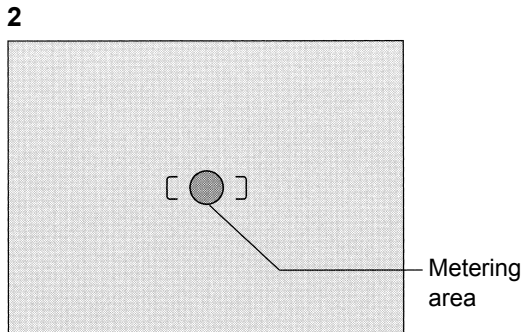


Using the Spot Metering Mode

The Spot Metering Mode measures light only in the small area in the center of the viewfinder.

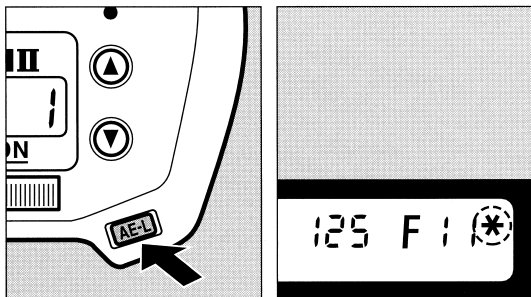
To set

1. Set the metering mode selector to





2. Measure the small area of the viewfinder as illustrated.

- If brightness is much different between the center and the other area of the photograph, exposure should be determined in consideration of the overall brightness. Otherwise, the picture will come out improperly exposed.



The AE lock function memorizes an exposure before shooting. The AE lock function is very effective when used along with the spot metering. Use the AE lock function to get a correct exposure when the subject occupies only a small part of the viewfinder.

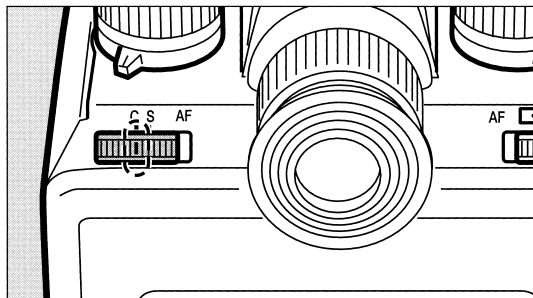
Position the area to be measured in the spot metering area and press the AE lock button. The exposure level is memorized and  is displayed in the viewfinder.

- As soon as the AE lock button  is pressed, and the camera stores the measured exposure level for 20 seconds. The AE lock function remains while the AE lock button is pressed.
- If the shutter release button is pressed halfway down while the AE lock timer is operating, the memorized meter reading will remain even if the AE lock button is released.
- The AE lock function cannot be used when the camera is set in the Metered Manual Mode.

How to cancel

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

Setting the Focus Mode Switch to the Continuous Position



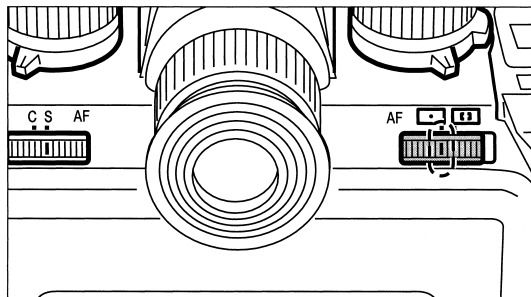
Predictive Autofocus Mode

When the camera senses subject movement during the autofocus operation, the camera will automatically switch the focus mode to the predictive autofocus mode to measure the speed of a moving subject, and predict where it will be at the moment of shutter release to maintain sharp focus on the subject. If the subject is moving too fast, the shutter may not be released.

If the shutter release button is held at the halfway position, the lens focuses continuously to follow the subject. The shutter can be released even if the subject is out of focus.

Set the focus mode switch to **C**.

1

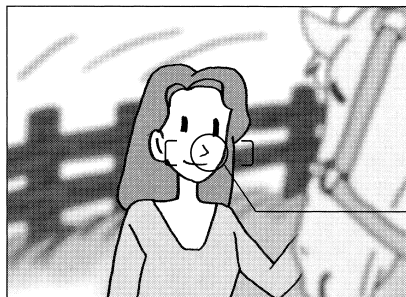


Select the Spot AF Mode to critically focus on a specific spot of the subject which is in the spot AF autofocus frame.

How to focus

1. Set the AF frame selector to .

2



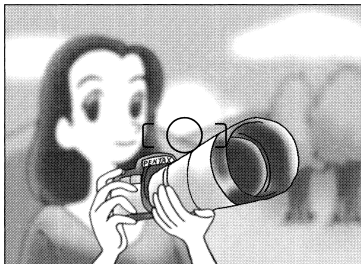
AF area

2. Focus on the main subject with the Spot AF frame.

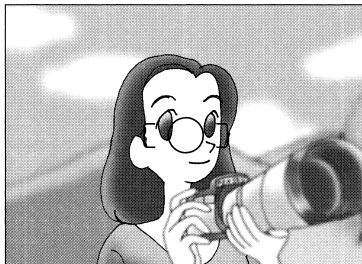
- When the main subject is off the Spot AF frame, use the focus-lock technique. See page 60.

Focus Lock Function

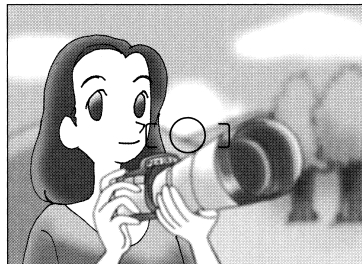
1



2




3



In the Spot Metering Mode, the camera focuses with the spot metering / focusing area of the viewfinder. If you shoot without positioning the spot metering / focusing area on the main subject, the main subject will not be focused properly.


Set the AF frame selector to .

1. When the composition does not allow the autofocus frame to be placed over the most important subject, the camera will focus on the background as shown in the illustration.

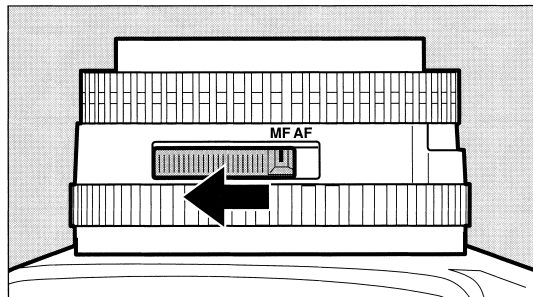
- The focus lock can be used in the 3-point AF Mode and Spot AF Mode.
- The focus lock does not operate when the AF mode selector is at .

2. To prevent this, focus on the main subject with the spot metering / focusing area. Press and hold the shutter release button halfway down. The in-focus indicator remains on, indicating that the focus is temporarily locked.

3. While holding the shutter release button halfway down, aim the camera or recompose the picture, then press the shutter release button fully to release the shutter.

- Lifting your finger off the shutter release button clears the in-focus indicator  in the viewfinder and cancels the focus lock function
- To refocus on another subject, lift your finger off the shutter release button.

1



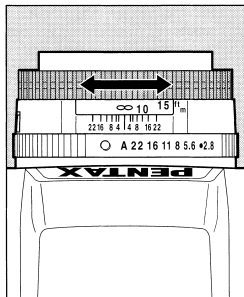
Using the in - focus indicator

How to focus

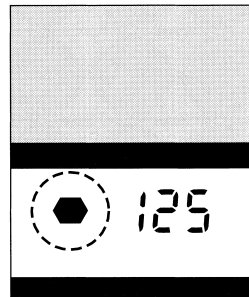
1. Set the lens in the manual focus mode.


- Switching between the autofocus and manual focus modes depends on the lens you use. For more details, read the operating manual of the lens.



2




3



2. While looking through the viewfinder, turn the focusing ring to the right or left while holding the shutter release button halfway down.
3. When the subject comes into focus, the in-focus indicator  lights up in the viewfinder. Press the shutter release button fully to take the photograph.

- The camera is not equipped with the focus mode selector.
- When the subject comes into focus, the focus indicator  lights up in the viewfinder. An audible PCV signal can be heard if the main switch is set to the  position.

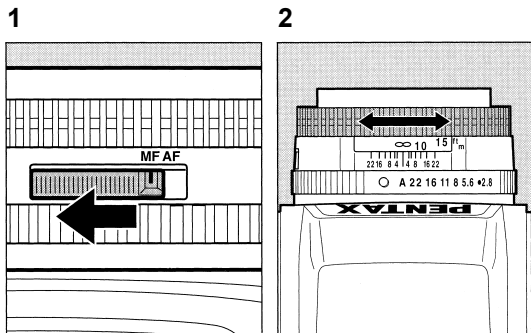
When the autofocus mode or the in-focus indicator is unsuited for focusing

When the autofocus function or the viewfinder's in-focus indicator  cannot be used when it's hard to autofocus the subject in the AF frame, focus the subject in the manual focus mode with the aid of the matte field in the viewfinder as you would with a non-AF SLR camera.

Notes on Accessories

The following conditions do not allow autofocus or manual focusing with the in-focus indicator in the viewfinder. Use the manual focus mode to focus mode to focus on the subject with the aid of the matte field surrounding the autofocus frame. See page 58 for manual focusing.

- a) When using special effect filters or "Magic Image Attachment".
- b) When using Extension Tubes or an Auto Bellows for close-up photography.






How to focus on the subject with the aid of the matte field

1. Set the lens in the manual focus position.
2. While looking through the viewfinder, turn the focusing ring to the right or left until the image in the viewfinder is clearest.

HARD-TO-AUTOFOCUS SUBJECTS

The autofocus system is highly precise, but not perfect. Depending on the brightness, contrast, shape, and size of your subject, the autofocus system may not operate. In such a case, use the focus-lock technique (see page 60) on another subject that is the same distance away, or set the lens to use the manual focus mode to focus the lens on the subject with the aid of the matte field in the viewfinder.

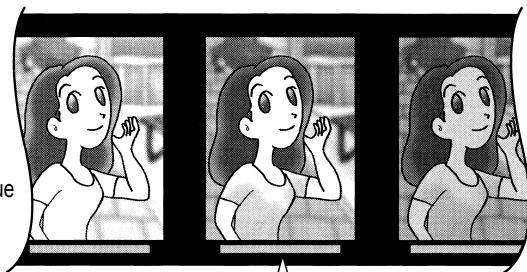
Subjects which may fool the autofocus system include:

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

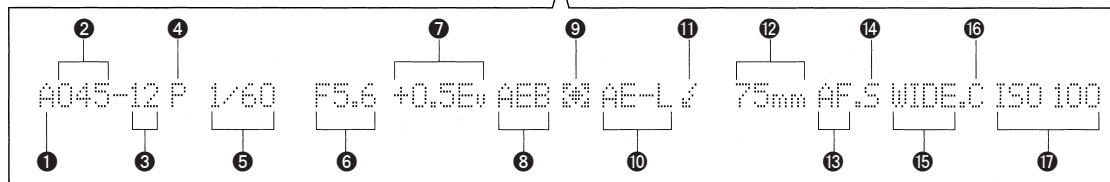
64 Imprinting the Exposure Data on the Negative

If a 645 A-or FA lens (autofocus) is attached, the camera imprints the following exposure data directly on the negative, outside of the picture frame with each exposure.

- ① Characters
- ② Number of Films
- ③ Number of Frames
- ④ Exposure Mode
- ⑤ Shutter Speed
- ⑥ Aperture Setting
- ⑦ Exposure Compensation Value
- ⑧ Auto-bracketing
- ⑨ Metering Mode

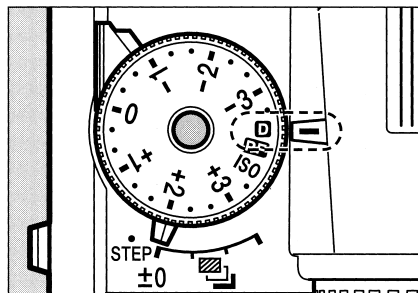


- ⑩ AE-lock
- ⑪ Flash status
- ⑫ Focal length of Lens
- ⑬ Focus mode
- ⑭ Autofocus mode
- ⑮ AF area
- ⑯ Focus point
- ⑰ Film speed

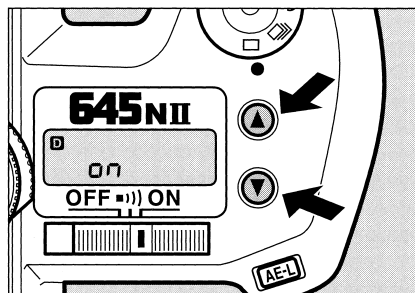


Data type	Imprinted description
Characters	Capital letter [A to G] is imprinted to identify the camera.
Number of films	[1-199] can be imprinted. Beyond 199, it returns to 1.
Number of frames	[1-95] can be imprinted.
Exposure mode	[M] (Metered Manual), [Tv] (Shutter-Priority AE), [Av] (Aperture-Priority AE) or [P] (Programmed AE) can be imprinted.
Shutter speed	[The shutter speed] displayed in the viewfinder is imprinted. For bulb exposure, up to [9999] seconds can be imprinted. Beyond 9999 seconds, [L. T.] will be in printed. [LS] is used for lens shutter, [X] for when the shutter speed dial is set to the X position.
Aperture setting	[Aperture value] displayed in the viewfinder is imprinted. When the 67 lens adapter or the 645 Helicoid Extension Tube having no lens information contacts is used, [F--] will be imprinted.
Exposure compensation value	When the exposure compensation is not enabled, $\pm 0.0\text{Ev}$ is imprinted. The exposure compensation value for the auto bracketing is also imprinted. If both auto-bracketing and exposure compensation are used, the sum is imprinted.
Auto bracketing	[AEB] is imprinted when the pictures are taken in auto bracketing mode.
Metering mode	[Multi-segment], [Center-Weighted], [Spot]
AE lock	[AE-L] is imprinted with the AE-lock function used.
Flash status	[F] is imprinted when a Pentax dedicated flash is fired.
Focal length of lens	[Focal length] is imprinted when the FA lens is attached. When the FA zoom lens is in use, [an approximate value of focal length] is imprinted. [---mm] is imprinted when an accessory such as the A-lens and rear converter is mounted.
Focus mode	[AF] is imprinted with the autofocus mode used. [MF] is imprinted with the manual focus mode used.
Autofocus mode	[S] is imprinted with Single AF mode used. [C] is imprinted with Continuous AF mode used.
AF area	[WIDE] is imprinted with the 3-point AF mode used. [SPOT] is imprinted with the spot AF mode used.
Focus point	When the 3-point AF is set, the focus point used is imprinted with L (left), R (right), or C (center).
Film speed	The film speed set from ISO 6 to 6400 is imprinted.

1



2



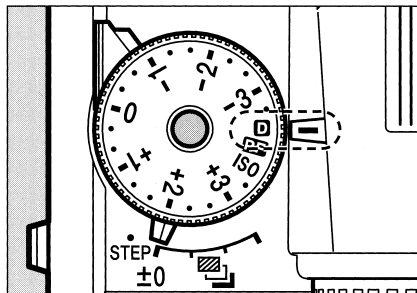
To set

1. Set the exposure compensation dial to [D]. [D] will be displayed on the LCD panel.
2. Press the up/down button repeatedly until [on] appears on the LCD panel.

If D is displayed on the LCD panel, the exposure data will be imprinted on the negative.

- With a 645 A- lens attached, the focal length of the lens will not be imprinted even if D is displayed on the LCD panel.
- With an accessory without the lens information contacts such as a helicoid extension tube attached, the focal length and aperture setting of the lens will not be imprinted even if D is displayed on the LCD panel.
- Since the exposure data are imprinted on the outside of picture frame, the data will not be seen on the actual photographs.
- The shutter cannot be released with the exposure compensation dial set to D.

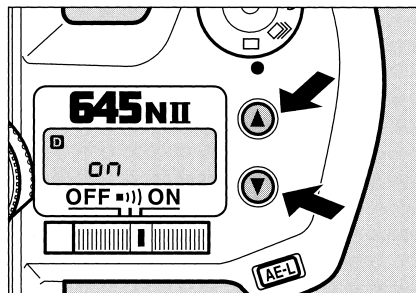
1



To cancel the Exposure Data Imprint Mode

1. Set the main switch to [ON].

2



2. Set the exposure compensation dial to [D].
3. Press the up/down button repeatedly to display [OFF] on the LCD panel.


Using a Pentax Dedicated External Flash

Using the TTL Auto Flash

1. Remove the hot shoe cover and attach a Pentax dedicated flash unit.
2. Turn the flash ON.
3. Set the flash to TTL Auto mode.
4. Confirm that the flash is fully charged.
5. Focus on the subject and release the shutter.

Auto Bracketing Exposure mode with a Pentax TTL dedicated flash

When the auto bracketing exposure mode is selected with a Pentax dedicated TTL flash in use, only the amount of flash output is varied.

- When the flash is fully charged, the ready lamp on the flash unit lights up. When the shutter release button is pressed halfway down,  appears in the viewfinder indicating the flash is ready.
- For more details, read the flash operating manual.

Exposure Compensation with a Pentax TTL dedicated flash

When the exposure compensation is set with a Pentax TTL flash in use, it makes possible to adjust the brightness of the background of the subject and the flash output at the same time.

AF500FTZ, AF330FTZ and AF360FGZ

- These flash units feature a built-in infrared spot-beam to assist the autofocus system in dim light and low-contrast conditions.
- The auto zoom function will automatically adjust the angle of discharge according to the lens focal length only when a 645 FA lens is in use.
- The AF500FTZ and AF360FGZ feature a wireless slave synch flash function.
- The flash effective range appears on the LCD panel only when an a 645 A- lens is in use, or FA lens is in use.
- Multiple flash burst on a single frame is possible with the AF500FTZ.
- In the Programmed AE, Shutter-Priority AE, or Aperture-Priority AE, the TTL Auto Flash Mode will be set automatically even if the flash is set to Manual.
- With AF360FGZ, the picture format size can be selected depending on the camera format being used.

AF240FT, AF400FTZ

- These flash units feature a built-in infrared spot-beam to assist the autofocus system in dim light and low-contrast conditions.
- In the Programmed AE, Shutter-Priority AE, or Aperture-Priority AE: TTL Auto Flash Mode will be set automatically even if the flash unit is set to Manual.
- When the flash unit is charged and left unused for about 5 minutes, the power will automatically be turned off to save battery power. Pressing the shutter release button halfway down will restart charging of the flash unit.

AF200T, AF220T, AF280T, and AF400T

- If the TTL auto mode is selected, these flash units can be used for daylight-sync shooting, because the shutter speed is adjusted according to the ambient brightness. The slower shutter speed varies according to the lens focal length. The shutter speed varies between 1/60 second and a lower speed which does not cause camera shake. However, when a 645 A-lens is in use, the shutter speed is set to 1/60 second. The aperture value will also be fixed but will vary depending on the ISO of the film being used.

- When using the Three-Level Auto (red, green, and yellow settings) mode, the aperture value is adjusted as shown in the table. When the flash is fully charged, the shutter speed also varies within the shutter speed range of 1/60 second to a lower speed which does not cause camera shake. The slowest shutter speed varies according to the lens focal length. When a 645A - lens is used, the shutter speed will be set to 1/60 second.

	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

Multi-burst flash with the Pentax dedicated flash

When discharging more than 2 Pentax dedicated flashes, make sure that they are of the same type, combine Type A with Type B or Type C with Type D. (refer to the overview of Flash Function on page 71).

Overview of Flash Function

CAMERA FUNCTION	TYPE A	TYPE B	TYPE C	TYPE D
After the flash is charged, the camera automatically switches to the flash-sync speed.	○	○	○	○
Automatic aperture setting in the Programmed AE Mode or Shutter-Priority AE mode.	○	○	○*1	○
Flash confirmation signal in the viewfinder	○	○		
TTL auto flash	○	○	○	
Auto flash	○*2		○*3	○
Slow-speed sync in the Shutter-Priority AE Mode or Metered Manual Mode	○	○	○*4	○
AF spotbeam	○	○		
Trailing-shutter-curtain sync flash	○	○		
Contrast-control flash mode	○			

TYPE A: AF500FTZ (*3), AF360FGZ, AF330FTZ

TYPE C: AF400T, AF280T, AF220T, AF200T, AF080C, AF140C

TYPE B: AF400FTZ, AF240FT

TYPE D: AF200SA, AF201SA

Notes:

- *1. When using a Type C flash (except AF220T) in the MS (Manual Sync) or M (Manual) modes, set the camera's exposure mode to the Aperture-Priority AE Mode, Manual or Bulb. The Program and Aperture-Priority AE Modes cannot be used because the actual required aperture value may change.
- *2. AF500FTZ and AF330FTZ do not have the auto flash capability.
- *3. AF140C and AF080C do not have the auto flash capability.
- *4. In the MS (Manual Sync) or M (Manual) mode, the Shutter-Priority AE cannot be used because the actual required aperture value may change.

Using other types of a flash

- Use of non-Pentax flash units may damage the camera. For the best results, use a Pentax dedicated flash unit.
- Some large studio type flashes may have reversed contacts and may not fire with the 645_{NI} camera. For further information, contact the manufacturer or local supplier of the flash unit. Also, some studio flash units may not be synchronized properly and a part of the image could be blacked out by the second shutter curtain. It is recommended, for safety's sake, to use a shutter speed one step slower than the flash sync speed.

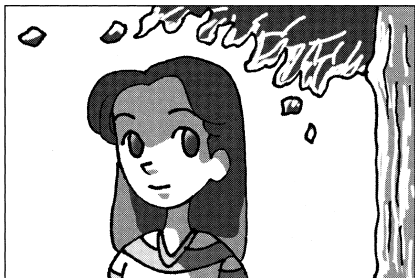
Daylight- Sync Shooting

Purpose

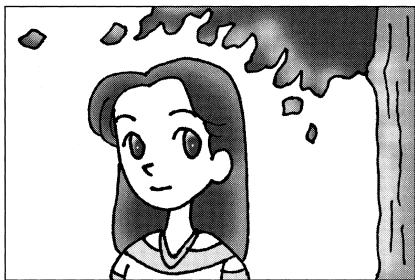
When taking a portrait in daylight, the subject's face may be covered by shadow. The use of a flash will help eliminate the unwanted shadow.

Daylight-sync photography is accomplished in the same manner as normal flash photography, so you simply press the shutter release button.

- If the background is too bright, it may be overexposed.



Without Daylight-sync



With Daylight-sync

Purpose

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

To set

With the Metered Manual Mode set

1. Turn the flash on.
2. Set the camera's exposure mode to the Metered Manual Mode.
3. Select an appropriate shutter speed (lower than 1/60 second) and aperture combination for a correct exposure.
4. Release the shutter.

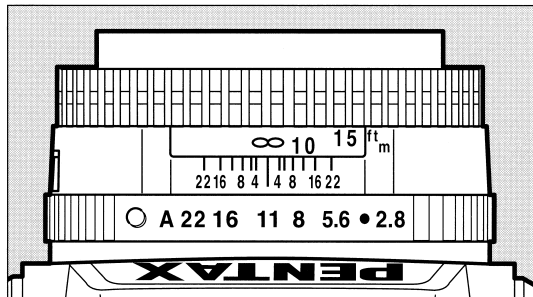
To set

With the Shutter-Priority AE Mode set

1. Set the camera's exposure mode to the Shutter-Priority AE Mode.
2. Set the desired shutter speed.
 - If the aperture in the viewfinder blinks, a correct exposure will not be obtained for the background. Adjust the shutter speed until the blinking stops.
3. Turn the flash on.
4. Take the picture.
 - If the power is on before the desired shutter speed is selected, the proper exposure for the back-ground will not be obtained. Be sure to select the shutter speed before the flash is turned on.
 - In the slow-speed-sync shooting, use of a tripod is recommended to prevent camera shake.

Using the Preview Lever

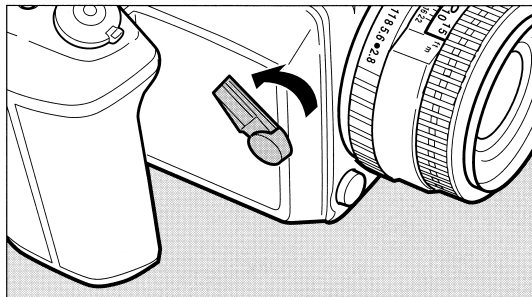
1



To confirm the depth of field in the viewfinder, press the preview lever.

1. Turn the lens aperture ring to a position other than the **A** position.

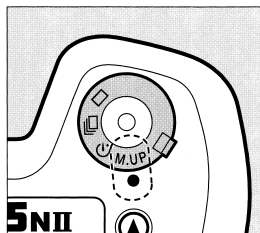
2



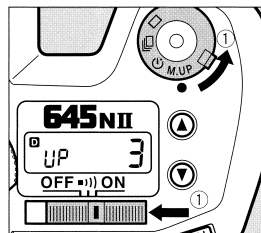
2. Press the preview lever. The aperture will stop down to the preset value, and the depth of field can be confirmed through the viewfinder.

- The lens aperture is closed down while holding the preview lever.
- The shutter cannot be released while pressing the preview lever.
- The depth of field cannot be confirmed with the lens aperture set to **A**.

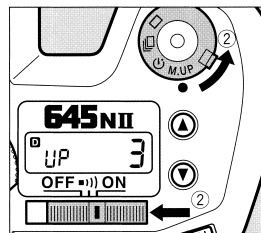
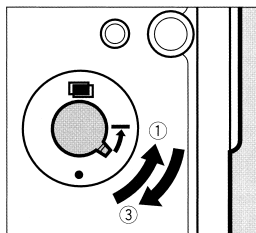
To set



To cancel 1



To cancel 2



This camera is equipped with a mirror lock-up function.

To set

1. Set the drive mode selector to **[M.U.P.]**.
2. Press the shutter release button fully to swing up the mirror.
3. Press the shutter release button again. The shutter is released.

- The exposure is locked just before the mirror goes up.
- The audible PCV signal's beeping can be enabled and will be heard with the drive mode selector set to **[M.U.P.]**.
- Mirror lockup cannot be used when using LS lenses with the lens shutter set.
- Mirror lockup cannot be operated when the batteries are exhausted or running low. The batteries run out quickly when using mirror lock-up for long hours.

To cancel

1. With the exposure mode set to the Aperture-Priority AE mode, Metered manual mode or Bulb exposure mode:

- ① Set the Drive mode selector to a position other than **[M.U.P.]** or set the main switch to **[OFF]**.

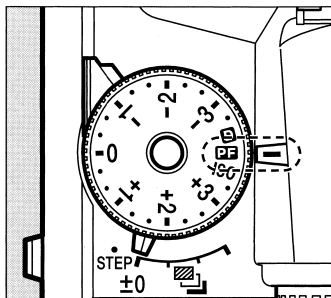
2. With the exposure mode set to the Programmed AE or Shutter- Priority AE mode:

- ① Set the multi-exposure switch to **[ON]**.
- ② Set the drive mode selector to a position other than **[M.U.P.]** or set the main switch to **[OFF]**.
- ③ Set the multi-exposure switch to the original position.

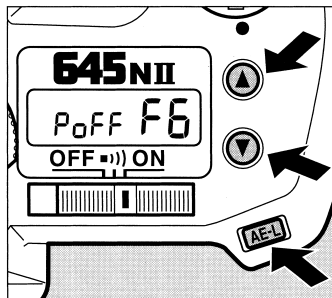
Note:

Without setting the multi-exposure switch to the ON position, the film is advanced by 1 frame when the mirror returns to the original position.

1



2



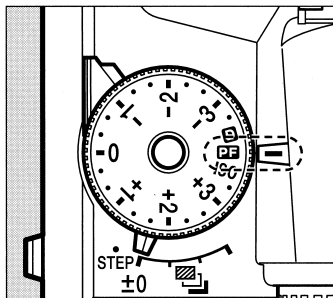
SETTING PENTAX FUNCTIONS

The camera provides 10 Pentax Functions so you can set the camera according to your preferences.

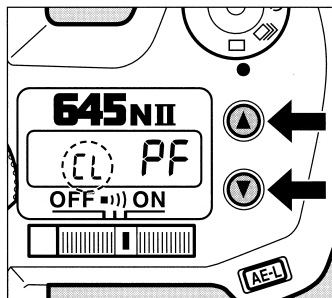
To set:

1. Turn on the camera. Set the exposure compensation dial to **PF**.
 - A Function No. and the setting content will be displayed on the LCD panel.
2. Press the up or down button to display the Pentax Function (No.0 to No.9) you want to set.
3. Press the AE lock button to select the setting content.
4. The Pentax function No. and setting content will be set when the exposure compensation dial is set to other than **PF**.
 - The shutter cannot be released with the exposure compensation dial set to **PF**.

1



2



Resetting the Pentax Function

To reset all the Pentax Functions to the initial settings.

1. Set the exposure compensation dial to **PF**.
2. Hold down the up and down buttons at the same time for more than 2 seconds. **CL** will be displayed on the LCD panel and all Pentax Functions are reset to the initial settings.

Setting Pentax Function

[PF 0] Imprinting the character (capital letters A - G)

If the imprinting is enabled, a capital letter can be imprinted on the negative.

If the user has more than two cameras, a different letter can be set to identify which camera was used with the film.

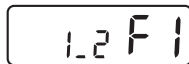
Pentax Function No.0

[PF 1] Setting the shutter speed step

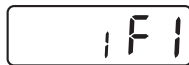
For use with the Shutter-Priority AE or Metered Manual Mode set, the shutter speed step can be set to either 0.5 or 1 EV step.

Pentax Function No.1

1/2EV step (initial setting)



1.0EV step (follows the shutter speed dial)

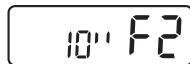


[PF 2] Setting the metering timer

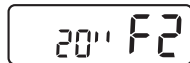
The metering will stay on for 10 seconds but can be changed to 20 or 30 seconds.

Pentax Function No.2

10 seconds (initial setting)



20 seconds



30 seconds



[PF 3] Setting the auto-bracketing sequence

You can set the sequence of the auto-bracketing exposures.

Pentax Function No.3

Proper exposure →

Under exposure →

Over exposure



Under exposure →

Proper exposure →

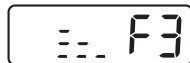
Over exposure



Over exposure →

Proper exposure →

Under exposure

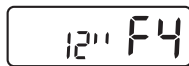


[PF 4] Setting the self-timer delay time

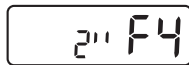
The self-timer delay time can be set to 12 sec. or 2 sec. If the 2 sec. self-timer is set, the mirror is locked up when the shutter release button is pressed and the shutter will be released after 2 seconds.

Pentax Function No.4

Self-timer delay of 12 sec.
(initial setting)



Self-timer delay of 2 sec.
with mirror lock-up

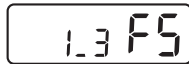
**[PF 5] Setting the exposure compensation step**

Set the exposure compensation step 1/3EV or 1/2EV step.

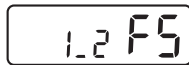
Pentax Function No.5

Selecting an exposure compensation step of 0.3EV or 0.5EV

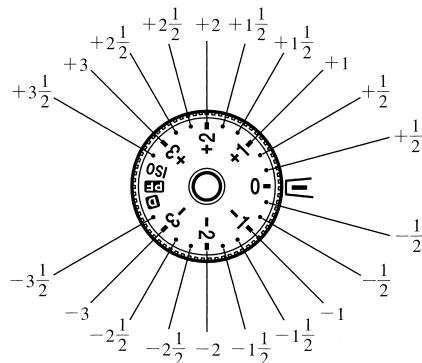
1/3EV (initial setting)



1/2EV



With the exposure compensation step is set to 1/2
Exposure compensation can only be set to 1/2 step even
if the exposure compensation dial is set to 1/3 or 2/3 step.



In the viewfinder, when the 1/2 step is set, two bars are
displayed on the bar graph.



[PF 6] Enabling/disabling the program line for shifting.

The program line of Programmed AE Mode can be shifted according to your shooting preferences.

Pentax Function No.6

Disabling the programmed line shift (initial setting)

P_{OFF} F6

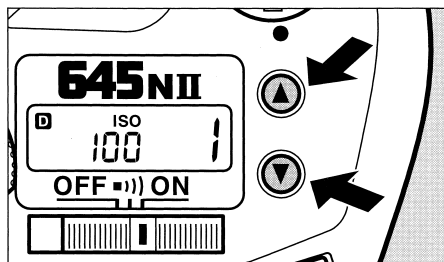
Enabling the programmed line shift

P_{ON} F6

With the programmed line shift enabled

The programmed line is shifted 0.5EV step each time the up/down button is pressed.

Holding the button will shift the program line continuously.



- The shutter speed increases and the aperture opens up by pressing the up button. Conversely, the shutter speed decreases and the aperture closes down by pressing the down button.
- The shifted shutter speed and aperture value are displayed in the viewfinder.
- To cancel the program shift, set the main switch to OFF or change the exposure mode.

[PF 7] Setting the frame counter indication

The frame counter can be set to a count-up indication or to a count-down indication.

Pentax Function No.7

Count-up indication
(initial setting)

0 _ _ F7

Count-down indication

_ _ 0 F7

[PF 8] Enabling/disabling the display of the number of films taken and frame counter in the viewfinder

The number of films taken and the frame counter are displayed in the viewfinder while holding the Auto-bracketing selector to the **STEP** position.

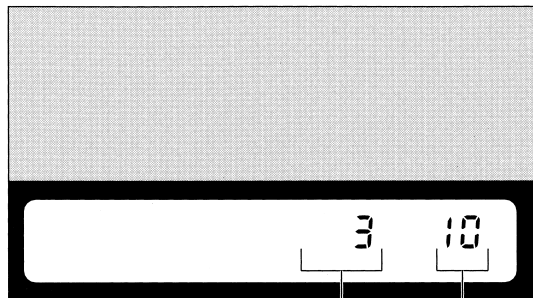
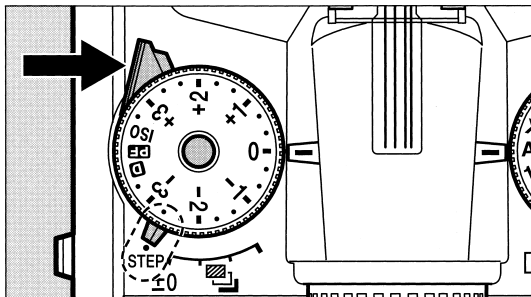
Pentax Function No.8

Disabling the display in the viewfinder (initial setting)

CoFF F8

Enabling the display in the viewfinder

Con F8



Number of films

Number of frames

How to display

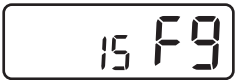
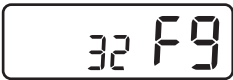
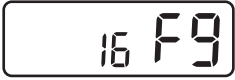
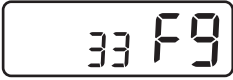
Hold the auto-bracketing selector to the **STEP** position. The total number of films taken and the current exposure counter are displayed in the viewfinder.

[PF9] Changing the number of frames taken

Changes the number of recordable frames when a 120 film or 220 film is used.

Pentax Function No.9

The number of recordable frames shown on the LCD panel is varied according to the type of the film holder attached.

LCD panel indication		Setting contents
With 120 film attached	With 220 film attached	
		15 or 32 frames (initial setting) With 120 film holder ... 15 frames With 220 film holder ... 32 frames
		16 or 33 frames With 120 film holder ... 16 frames With 220 film holder ... 33 frames

- With 16 or 33 frames set, focus may deteriorate on the 2nd frame taken in the Consecutive-frame mode.
- The number of frames taken can be changed before the 1st frame is taken. After the 1st frame is taken, the number of frames cannot be changed until the film is removed.

A number of dedicated accessories are available for this camera.

- **Cable Switch CS-105/CS-130**

A shutter release cord designed for use with the 645_{NII} and MZ-S. The cable length of CS-105 and CS-130 is 50cm and 3m respectively.

- **Release Timer Switch TS-110**

A dedicated shutter release device for interval and timer shooting with 645_{NII} and MZ-S.

- **Magnifier 645**

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

- **Refconverter A**

A right angle finder which attaches the viewfinder. The viewfinder magnification can be switched from 1X to 2X.

- **AF500FTZ**

A TTL Auto Zoom flash with a built-in AF spotbeam and a large guide number of 50 (ISO 100/m). It features slave-sync flash function, multiple-flash burst, contrast-control-sync flash and leading/trailing-curtain-sync flash mode.

- **AF360FTZ**

A P-TTL and TTL auto zoom flash with a built-in AF spotbeam and a guide number of 36 (ISO 100/m). It features a bounce-flash capability, slave-sync flash function, contrast control-sync flash, leading/trailing-curtain-sync flash and modeling flash mode.

- **AF330FTZ**

A TTL Auto Zoom flash with a built-in AF spotbeam and a guide number of 33 (ISO 100/m). It features contrast-control-sync flash sync and leading/trailing-curtain-sync flash mode.

- **AF220T**

A TTL Auto flash with a guide number of 22 (ISO 100/m). It features a bounce-flash capability.

- **Hot Shoe Adapter FG, Extension Cord F5P (L) and Off-Camera-Shoe Adapter.**

The adapters and cord allow the AF240FT, AF330FTZ, AF360FGZ, AF400FTZ and AF500FTZ to be used off the camera, while maintaining full electronic coupling to the camera.

- **Macro Flash AF140C**

A TTL macro flash unit with a guide number of 14 (ISO 100/m).

- **Filters**

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

- **Remote Battery Pack 645**

The remote battery pack is an accessory to keep batteries warm when photographing in extremely low temperatures.

- **Film back 645**

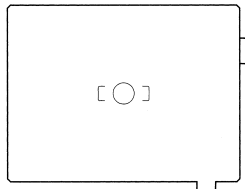
120 film back and 220 film back are available.

- **Quick Shoe Adapter QS-20/Quick Shoe Base QS-B1**

The camera can be attached or removed from the tripod in seconds.

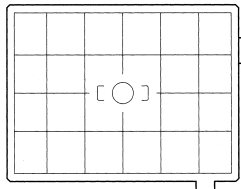
• Interchangeable screen

Four types of focusing screens including the standard focusing screen are available. (Please refer to the instruction sheets supplied with each screen for changing instructions.)



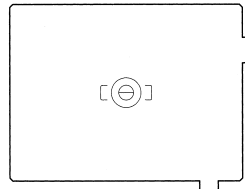
AS-80 (AF Center Spot Matte)

The standard focusing screen for general photography.



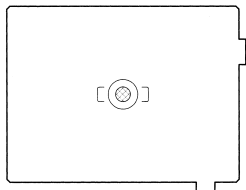
AG-80 (AF Cross-Lined Matte)

Designed to guide picture compositions. (9mm grid)



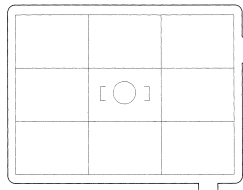
AB-82 (AF Sprit-Image Matte)

Matte screen with the spirit image.



AA-82 (AF Microprism Matte)

For general use, the matte screen with the microprism.



AL-80 (AF 9-Segment Matte)

Designed to guide picture compositions.
Nine rectangular areas divided by vertical/horizontal lines.

Notes on Accessories

When using an ordinary polarizing filter, a half mirror incorporated into the autofocus system reduces the effectiveness of the autofocus function when used in combination with an ordinary polarizing filter. Use a circular polarizing filter for proper autofocus operation.

Double Cable Release

When using the Auto Bellows 645 with this camera, the double cable release A is required for releasing the shutter. If your Auto Bellows 645 does not include the double cable release A, the double cable release A is available as an optional accessory.

How to attach

1. Attach the double cable release so that the end with the red end ring of the double cable release is connected to the socket with the red ring in the lower part of the front board of the Auto Bellows 645.
2. Connect the other end to the shutter release button.

Adjust the double cable release so that when the double cable release is pushed, the shutter is released after the lens is fully stopped down. If the shutter is released before the aperture is fully stopped down, adjust the cable by extending the end with the red ring or shortening the other end connected to the shutter button.

Adjustment procedures

To extend the length, turn the knurled front ring to the left (when viewed from the top), and then turn the back knurled ring to the left (when viewed from the top) while holding the front ring.

To shorten the length, turn the back knurled ring to the right (when viewed from the top), and then turn the front knurled ring to the right while holding the back knurled ring.