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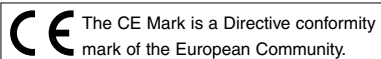
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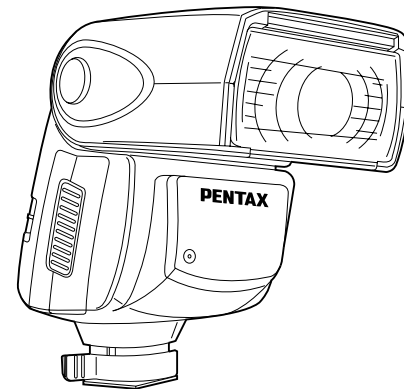
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# PENTAX®

## AF360FGZ

# AUTO ZOOM ELECTRONIC FLASH UNIT OPERATING MANUAL



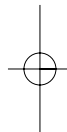
Thank you for purchasing the PENTAX Auto-flash AF360FGZ.

In addition to easy daylight sync photography with TTL auto, the AF360FGZ also allows wireless TTL auto (P-TTL) photography and high-speed sync. It is clip-on type flash which enable accurate focus adjustments even in dark locations with built-in AF-assist spotbeam.

Please read this instruction manual carefully first for proper use.

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\* The MZ-S is mainly used in the illustrations in these instructions.



## FOR SAFE USE OF YOUR FLASH UNIT

Although we have carefully designed this flash unit for safe operation, please be sure to follow precautions given on page 2.



### WARNING

This mark indicates precautions that, if not followed, could result in serious injury to the user.



### CAUTION

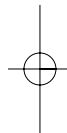
This mark indicates precautions that, if not followed, could result in minor or medium injury to the user or damage to the equipment.



is a symbol indicating items that are prohibited.




is a symbol emphasizing a warning.



## **WARNING**

- ⊘ The electronic circuits inside the flash contain high voltage working parts. Never attempt to disassemble the flash unit yourself.
- ⊘ Never touch internal parts of the flash unit if they become exposed from dropping the camera or for some other reason, as there is danger of an electric shock.
- ⊘ Do not expose the flash unit to water or moisture. This is to prevent electrical shock.

## **CAUTION**

- ⊘ Do not use the flash near anyone's eyes, as it may hurt them. Be particularly careful with the flash around infants.
- ⊘ Never try to disassemble, short or recharge the battery. Also, do not dispose of the battery in fire, as it may explode.
- ⊘ Misuse of the battery can cause hazards such as leakage, overheating, explosion, etc. The battery should be inserted with the "+" and "-" sides facing correctly.
-  Remove the batteries from the camera immediately if they become hot or begin to smoke. Be careful not burn yourself during removal.

## **PRECAUTIONS FOR YOUR FLASH UNIT**

- When using the flash unit off the camera, do not try to attach any metallic object to the electric contacts or to mount incompatible accessories. Otherwise, the TTL auto mechanism may be damaged or rendered inoperable. Use only compatible Pentax accessories.
- Never use solvents such as paint thinner, alcohol or benzene to clean the flash unit.
- Avoid leaving the flash unit for extend period in places where the humidity and temperature are very high such as in a car.
- Be careful not to subject the flash unit to strong vibrations, shock or pressure. Use a cushion to protect the flash unit when carrying it in a motorcycle, car, boat, etc.
- Shield the flash unit from salty air and water at the beach, splashing liquid of any kind, and rain. When the flash unit is subjected to rain or moisture, wipe it off with a dry soft.
- Replace the batteries at the same time. Do not mix battery brands, type or an old battery with a new one. It may cause explosion or overheating.
- Remove the batteries when not using for extended periods. Leakage of fluids may result and cause damage to inside of the flash unit.

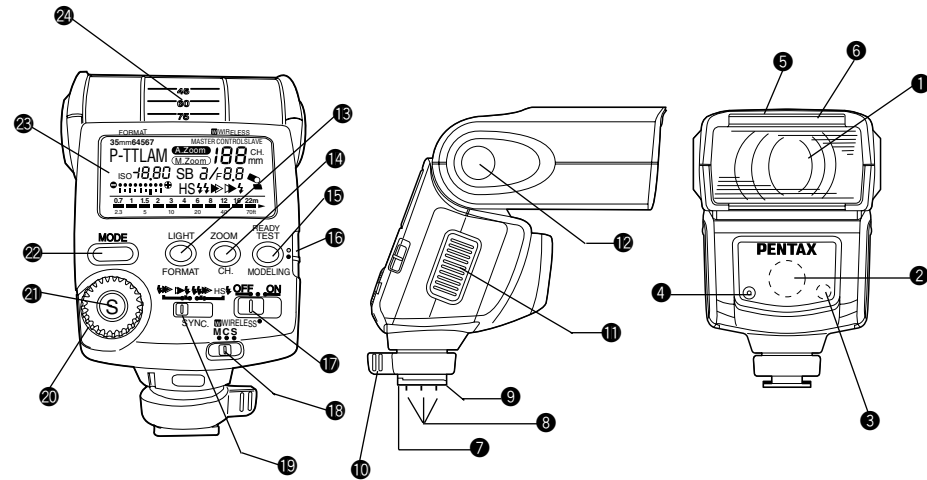
- When mounting the flash unit to the camera's hot shoe, hold the portion near the hot shoe bracket to avoid damage to the hot shoe, and do not mount/dismount it by force.
  - If the unit has not been used for an extended period of time, or is being readied for an important shoot, it is recommended that you take a test flash with the test button and test shoot with it. Test flash is also important to maintain optimum performance.
  - Manganese batteries are not recommended for use as they provide a lower number of flashes per set of batteries.
  - Battery performance may temporarily be hindered in low temperatures. Batteries should be kept warm in temperatures below freezing for proper performance.
  - Dark or low-reflectance subjects may result in underexposure. Set the camera's exposure compensation to the + side.
  - Do not attach any accessories having the wrong number of electrical contacts for the hot shoe or grip. Otherwise, TTL auto metering might not work properly.
- When using the AF360FGZ with SF 7 camera, set the flash mode to Auto flash (A) mode.

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




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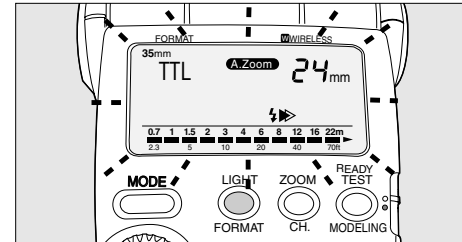
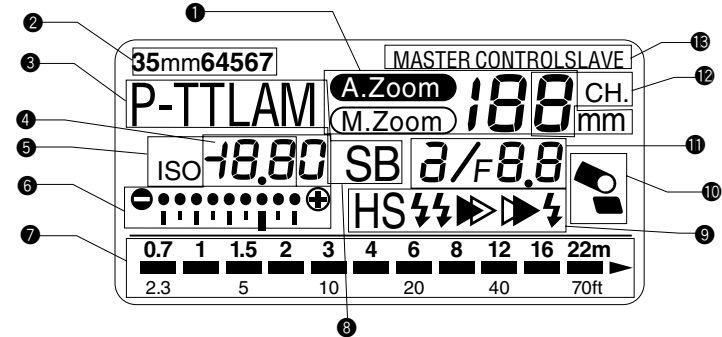
## NAMES OF WORKING PARTS

- |                              |  |
|------------------------------|--|
| ① Flash head                 | ⑬ LCD panel illumination button/Format button  |
| ② AF spotbeam emitter        | ⑭ Flash zoom button/Channel button             |
| ③ Slave sensor               | ⑮ Test button/Modeling flash button/Ready lamp |
| ④ Auto flash sensor          | ⑯ Setting switch                               |
| ⑤ Catchlight panel           | ⑰ Power switch                                 |
| ⑥ Wide - angle panel         | ⑱ Wireless mode switch                         |
| ⑦ Hot - shoe bracket         | ⑲ Sync mode switch                             |
| ⑧ Flash signal contacts      | ⑳ Adjustment dial                              |
| ⑨ Shoe lock pin              | ㉑ Select button                                |
| ⑩ Locking lever              | ㉒ Flash mode button                            |
| ⑪ Battery chamber cover      | ㉓ LCD panel                                    |
| ⑫ Bounce lock release button | ㉔ Bounce angle adjustment                      |



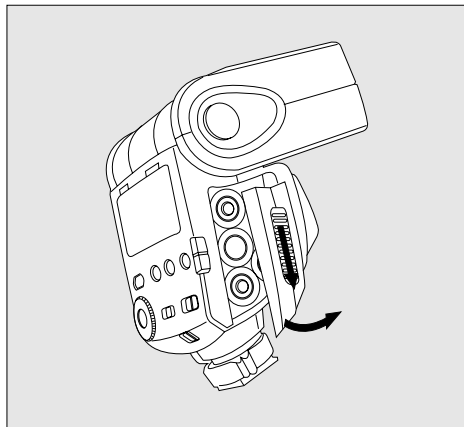
## LCD Panel Indication

- ① Zoom indicator : [A Zoom] → [MZoom] xxmm = 20, 24, 28, 35, 50, 70, 85 [35mm format]  
35, 45, 55, 70, 100, 135, 150 [645 format]  
55, 60, 70, 90, 120, 180, 190 [67 format]
- ② Format display : [35mm] → [645] → [67]
- ③ Flash mode display : [P-TTL] → [A] → [M] → [SB]
- ④ Flash exposure compensation indicator : [-3.0 ~ +1.0 stops, 0.5 stop increments]
- ⑤ ISO indicator : ISO 25 ~ 1600
- ⑥ Bar graph
- ⑦ Effective flash range indicator : [Closest distance] - [Maximum distance (in P-TTL, TTL, A modes)]  
Optimum distance in manual mode
- ⑧ AF spotbeam : [SB]
- ⑨ Synchronization mode indicator : [Leading-shutter-curtain sync: ] - [Trailing-shutter-curtain sync: ] - [Contrast-control-sync: ] - [High-speed-sync: HS ]
- ⑩ Bounce flash warning : [  ]
- ⑪ Flash adjustment display : [  /x x ]  
f/number display : F2 ~ F22
- ⑫ Channel indicator : Channels 1 ~ 4
- ⑬ Wireless mode indicator : [MASTER], [CONTROL], [SLAVE]

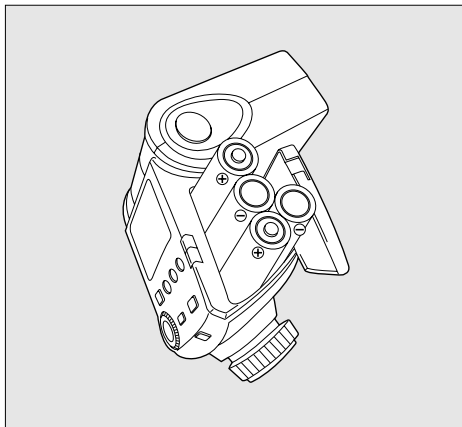


When in poorly lit locations and the display panel cannot be seen, pressing this button will illuminate the panel for about 10 seconds. Pressing it again will turn off the illumination. If the camera's exposure meter switch is also ON, the camera's display panel will also be illuminated. Additionally, if the camera's LCD illumination button is pressed, the AF360FGZ display panel will also be illuminated.

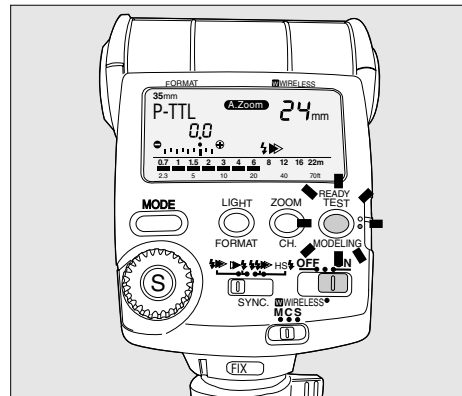
## INSERTING THE BATTERIES



- 1** Slide the battery chamber cover as shown in the figure to remove.



- 2** Insert four AA-size batteries, making sure the plus/minus marking(⊕,⊖) match the diagram inside the battery chamber cover.



- 3** When the power switch is set to the [ON] position, the Ready Lamp lights up indicating that the flash has been charged and is ready to fire. Then, by pressing the Test Button, the test-flash will fire. Auto check confirmation can be done in the Auto flash mode but cannot be done in the TTL or P-TTL mode.

## BATTERIES

This flash unit operates with four AA-size batteries as shown below.

Alkaline battery	: LR6
Lithium battery	: FR6
Nickel Hydroxide battery	: Ni-MH

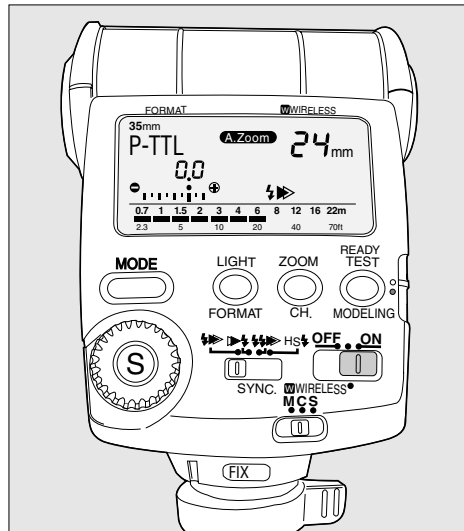
The flash unit charges in approximately 6 seconds with brand new alkaline batteries, 5 seconds with Nickel Hydroxide battery and 6 seconds with lithium batteries. If charging time takes more than 20 seconds, then the batteries are weak and should be replaced with the same type of new batteries.

- If the batteries are not inserted properly, the Ready Lamp will not light up. Insert the batteries correctly.
- If you let the flash unit fire in succession on lithium batteries, heated batteries would activate the safety circuit so that the firing is temporarily disabled. In this case, take time to reduce the battery temperature and it would bring you back to the normal condition of use.



## NOTES ON THE POWER SUPPLY

Sliding the Power Switch to the ON position will turn ON the power, sliding it to the OFF position will turn OFF the power.



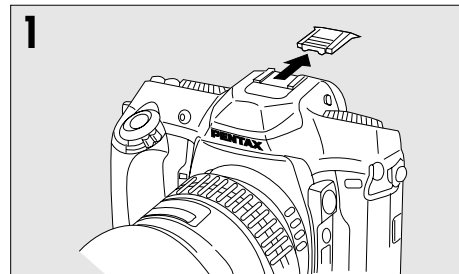
- Please refer to page 37 for the WIRELESS MODE position.
- When the power is turned OFF and ON again, the flash mode will be set to P-TTL and the Zoom position A. Zoom 24mm (35mm cameras), A. Zoom 45mm (645), and A. Zoom 60mm (67).

### Auto Power Off Function

When the flash unit is left unused for about 3 minutes with the power switch set to the [ON] position, its power automatically switches off to save on power. To restart charging of the flash unit, turn ON the power. If the flash unit is mounted on the autofocus cameras, press the shutter release button lightly to turn ON the power.

- The power will shut off after approximately 6 minutes only when set to auto flash mode [A].
- During wireless flash operation, the power will turn off after about 1 hour of non-operation.

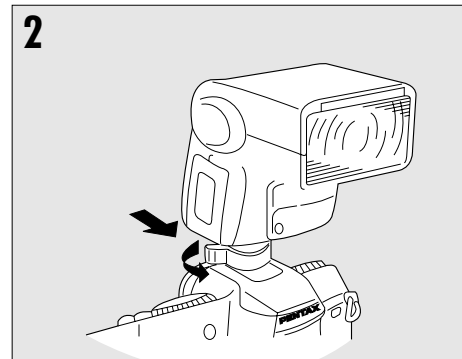
## MOUNTING TO CAMERA



- 1 Remove the hot shoe cover from the camera.

- 2 Slide the shoe bracket into the camera's hot shoe, then turn the locking lever in the direction of the arrow to secure it in place. To remove it, loosen the locking lever and slide it off the camera.

- When the flash unit is attached to the \*ist, MZ-S or MZ-L/MZ-6/ZX-L and the locking lever is turned toward [FIX →] to lock it, the locking pin will be extended for secure locking.



- Turn the locking lever in the opposite direction indicated by [FIX →] before sliding the shoe bracket into the camera's hot shoe.
- Mount or remove the flash unit to or from the camera's hot shoe while holding the portion near the shoe bracket to prevent damage to the hot shoe.
- The 67II does not come with a hot shoe. The optional hot shoe grip 67II should be used.

## AF360FGZ FLASH MODES

The AF360FGZ has the following flash modes. Select the mode best suited for the subject.

### 1 P-TTL auto flash [P-TTL]

Works with the Pentax \*ist, MZ-S or MZ-L/MZ-6/ZX-L camera.

A pre-flash is fired before the main flash fires so that the multi-segment metering sensor can measure the subject's distance, brightness, backlit condition, etc. The data obtained is incorporated to set the output of the main flash. This mode obtains more accurate results than with the conventional TTL mode.

### 2 TTL auto flash [TTL]

Based on the amount of light reflected off the film, the camera adjusts the flash output automatically to obtain a correct exposure.

This mode works with all autofocus Pentax cameras (except \*ist, MZ-S and MZ-L/MZ-6/ZX-L), LX, Super A, 645N, and 67II.

### 3 Auto flash [A]

The built-in flash metering sensor adjusts the flash output automatically.

Use with cameras that are not P-TTL or TTL Auto flash compatible.

### 4 Manual flash [M]

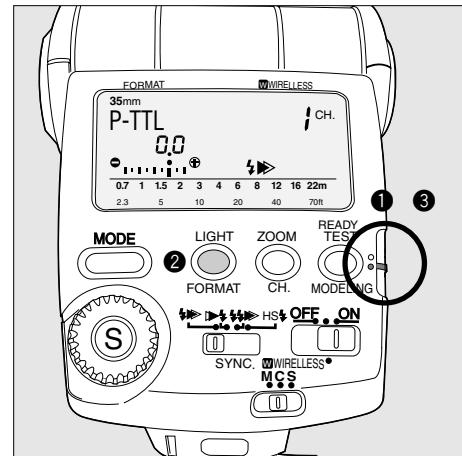
Use the flash unit's Guide No. to calculate the correct flash range and aperture. This mode works with all Pentax cameras.

### 5 AF spotbeam beam [SB]

Under low-light or low-contrast conditions, a red AF-assist beam is emitted to enable autofocus. The flash will not fire. This works in tandem with a Pentax autofocus camera.

## PICTURE FORMATS AND FLASH COVERAGE

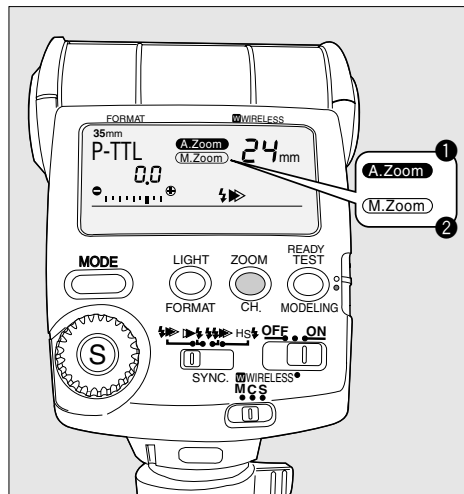
The AF360FGZ's flash coverage can be adjusted with the auto or manual zoom head to suit the camera's picture format (35mm, 6x4.5 cm, or 6x7 cm) and lens focal length. Follow the procedure below.



### 1 Camera Format Size: [FORMAT] setting

- ① Slide the setting switch down [yellow dot].
- ② Press the [FORMAT] button and set to the camera format size being used.
- ③ Slide the setting switch back up [white dot] when complete.

• When used with \*ist, MZ-S or MZ-L/MZ-6/ZX-L camera, the format size will automatically be set when the shutter release button is pressed halfway down. For all other cameras, set accordingly before using.



## 2 Setting the flash coverage

With the setting switch set to the [white dot], press the ZOOM button to set the suitable flash coverage matching the lens focal length.

- ① Auto Zoom (Auto lighting angle adjustment): [A. Zoom]  
When autofocus cameras are used with FA J, FA, F or FA645 lenses, the appropriate lighting angle will be automatically set.

- Auto Zoom will not function when set to Auto Flash [A].
- When using with Auto Zoom, make sure that [A. Zoom] is shown on the display panel.

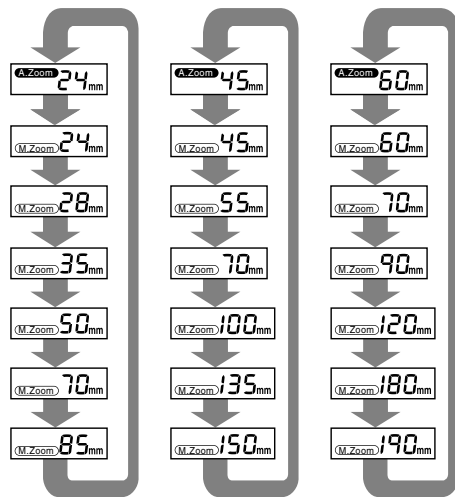
- ② Manual Zoom (Manual light angle adjustment): [M. Zoom]  
When using lenses that are not Auto Focus compatible (A lenses, A645 lenses, 67 lenses, etc.), adjust the lens focal length manually.

- In the manual zoom mode, refer to the LCD panel and set it so the flash coverage matches the lens focal length or set a flash coverage that is shorter than the lens focal length.

\* With the wide-angle panel.

35mm camera	645 camera	67 camera
20mm *	35mm *	55mm *
24mm	45mm	60mm
28mm	55mm	70mm
35mm	70mm	90mm
50mm	100mm	120mm
70mm	135mm	180mm
85mm	150mm	190mm

- When the wide - angle panel is used, the zoom button will not work. (The wide-angle panel is in a slit on the top of the flash head. Pull it out so that it covers the front of the flash head. If the catchlight panel is not necessary, leave it in the slit.)



35mm Camera

645 Camera

67 Camera

- In the [A.Zoom] mode, the flash head will zoom automatically to suit the lens focal length when you press the shutter button halfway to turn on the exposure meter.
- If [M.Zoom] is used with an autofocus lens (FA J, FA, F, or FA645 lens), the focal length on the LCD panel will blink if the flash coverage set manually does not suit the lens focal length.
- In the [A.Zoom] mode, if there is no lens focal length information, the flash coverage will be set automatically to 24mm with a 35mm camera. With a 645 camera, it will be set to 45mm, and with a 67 camera it will be 60mm.
- When using the wide-angle panel with 35mm cameras, fix the setting for both A. Zoom and M. Zoom to 20mm, to 35mm for 645 camera, and to 55mm for 67 camera.

## DEDICATED FUNCTIONS WITH THE PENTAX CAMERAS

With the AF360FGZ used with on Pentax autofocus cameras or 67II camera, the "dedicated" functions are as shown in the table below work.

Table of the Dedicated Functions

Flash Mode	TTL Auto Flash		Auto Flash*2		Manual Flash*3	
Camera type	Type A	Type B	Type A	Type B	Type A	Type B
TTL Auto Flash	○*1	○*4	×	×	×	×
Trailing-Curtain-Sync Flash	○	○*4	×	×	×	×
Slow-Speed-Sync Flash	○	○*4	○	○	○	○*4
High speed sync	○	×	×	×	×	×
Auto Switch to Flash sync Speed (X)	○	○	○	○	○	○*4
Flash Ready Confirmation Signal through the Viewfinder	○	○	○	○	○	○*4
Auto Check Confirmation Signal in the Viewfinder	○	○	×	×	×	×
Slave Flash Discharge	○	×	○	○	○	○*4
Wireless control flash	○	×	×	×	×	×
AF Spotbeam	○	○*5	×	×	○	○*5

Type A: \*ist, MZ-S, and MZ-L/MZ-6/ZX-L.

Type B: All Autofocus cameras (except: \*ist, MZ-S, MZ-L/MZ-6/ZX-L), 67II.

\*1: P-TTL auto flash

\*2: Can be selected when the camera is set to the manual exposure mode or exposure meter of the camera is off.

\*3: When the camera exposure mode is set to other than manual, it will automatically switch to P-TTL or TTL auto flash.

\*4: Except SF7 camera

\*5: Except SF7 and 67II cameras

## 1. COMBINATION OF EXPOSURE MODES WITH AF360FGZ (All autofocus cameras\*1)

Camera's exposure mode	Flash mode	Leading-curtain-sync			Trailing-curtain-sync		Contrast-control-sync*7		Slow-speed-sync		Slave discharge
		Autofocus camera*1	Z-10/PZ-10	SF series	Autofocus camera*1	Z-10	Autofocus camera*1	Z-10	Autofocus camera	Z-10/SF series	
Programmed AE [Hyper Program*2]	TTL*3	slower than X-sync speed *4	1/100	1/125~1/60 [1/100 ~1/60]	1/60 sec or slower *4, *6	1/60	1/60 sec or slower *4	1/60	×	×	×
Shutter-Priority AE in Hyper Program*2	TTL*3	slower than X-sync speed *5	—	—	1/60 sec or slower *5, *6	—	1/60 sec or slower *5	—	○	—	×
Aperture-Priority AE in Hyper Program*2	TTL*3	slower than X-sync speed *4	—	—	1/60 sec or slower *4, *6	—	1/60 sec or slower	—	×	×	×
Shutter-Priority AE	TTL*3	slower than X-sync speed	—	1/125~1/60 [1/100 ~1/60]	1/60 sec or slower *6	1/60 only SF series	1/60 sec or slower *4	—	○	×	×
Aperture-Priority AE	TTL*3	slower than X-sync speed *4	—	1/125 [1/100]	1/60 sec or slower *4, *6	1/60 only SF series	1/60 sec or slower *4	—	×	×	×
Metered Manual	TTL, A M	slower than X-sync speed	1/100 or slower	Flash sync speed or slower	1/60 sec or slower *6	1/60 or slower	1/60 sec or slower	*8 1/60 sec or slower	○	○	○
Bulb Exposure	TTL, A, M	○	○	○	○	○	○	○	○	○	○

\*1: Excluding the \*1st, MZ-S, MZ-L/MZ-6/ZX-L, Z-10, SF series \*2: Only Z-1, Z-1P, Z-5 and Z-5P.

\*3: Will automatically switch to TTL autoflash even when flash is set to manual [M]. When the camera exposure switch is on, auto mode cannot be selected and only P-TTL auto flash will be valid.

\*4: The low speed limit of the shutter speed will change according to the focal length of the lens being used.

\*5: The low speed limit of the shutter speed will change according to the surrounding lighting.

\*6: Sync speed will be 1/125 sec or less for cameras with flash sync speeds of 1/250 sec

\*7: Only possible with built-in flash (possible with 645N)

- **For trailing curtain-sync and contrast control-sync, TTL auto flash will be selected even when the flash is set to manual.**
- **The trailing curtain-sync and contrast control-sync display will be shown only when the camera exposure switch in on and the shutter button is pressed halfway down.**
- **The functions for Hyper Manual when the IF button is pressed are identical to when the camera exposure mode is in Programmed AE.**
- **Set the wireless slave mode to SLAVE2 when using a slave flash. (Refer to page 49.)**
- **When using with SF 7, TTL auto flash and Manual flash will not work. (Refer to page 27.)**

## 2. COMBINATION OF EXPOSURE MODES WITH AF360FGZ (\*1st, MZ-S, MZ-L/MZ-6/ZX-L)

Camera's exposure mode	Flash mode	Leading-curtain-sync	Trailing-curtain-sync	Contrast-control-sync	Slow-speed -sync	High-speed sync	Wireless
Programmed AE	P-TTL*1	Flash sync speed or slower	1/90 sec. or slower	1/60 sec or slower	×	×	○
Shutter-Priority AE	P-TTL*1	Flash sync speed or slower	1/90 sec. or slower	1/60 sec or slower	○	○	○
Aperture-Priority AE	P-TTL*1	Flash sync speed or slower	1/90 sec. or slower	1/60 sec. or slower	×	○	○
Metered Manual	P-TTL, A, M	Flash sync speed or slower	1/90 sec. or slower	1/60 sec. or slower	○	○	○
Bulb Exposure	P-TTL, A, M	○	○	○	○	×	○

\*1: Will automatically switch to P-TTL autoflash even when flash is set to manual [M]. When the camera exposure switch is on, auto flash cannot be selected and only P-TTL auto flash will be valid.

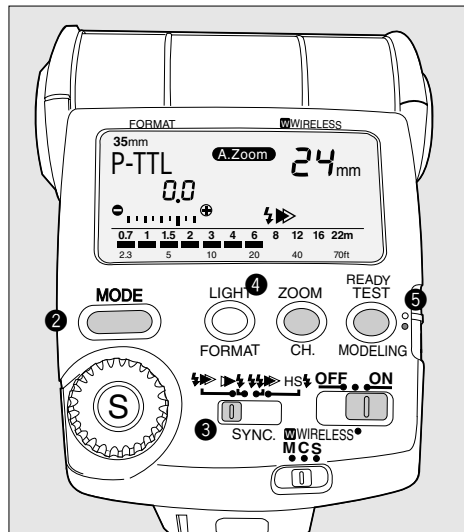
- **For trailing curtain-sync and contrast control-sync, P-TTL auto flash will be selected even when the flash is set to manual when the shutter is pressed halfway down.**
- **Set the wireless slave mode to SLAVE1 when using a slave flash. (Refer to page 49.)**

## 3. COMBINATION OF EXPOSURE MODES WITH AF360FGZ (67II)

Camera's exposure mode	Flash mode	Leading-curtain-sync	Trailing-curtain-sync	Contrast-control-sync	Slow-speed -sync	Slave discharge
Aperture-Priority AE	TTL MANUAL	1/30 sec.	1/15 sec.	1/15 sec	×	×
Metered Manual	TTL MANUAL	1/30 sec. or slower	1/15 sec. or slower	1/15 sec or slower	○	○
Bulb Exposure	TTL MANUAL	○	○	○	×	○


- **With trailing-curtain flash sync and contrast-control-sync, TTL auto flash will be set automatically even if the flash unit is set to M (Manual).**
- **The trailing-curtain flash sync and contrast-control-sync will be displayed only when the shutter release button is pressed halfway down to turn on the exposure meter.**
- **For slave flash, set the wireless slave mode setting to SLAVE2. (Refer to page 49.)**


## P-TTL AUTO FLASH (WITH \*ist, MZ-S, MZ-L/MZ-6/ZX-L)



A pre-flash is fired before the main flash so that the multi-segment metering sensor can measure the subject's distance, brightness, backlit condition, etc. The data obtained is incorporated to set the output of the main flash. This mode obtains more accurate results than with the conventional TTL mode.



### ■ Procedure

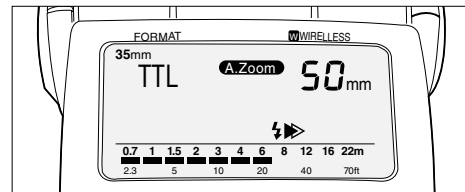
- 1 Turn on the camera.
  - 2 Turn on the flash unit.
  - 3 Set the sync mode switch to the leading-shutter-curtain sync [  ].
  - 4 With an autofocus lens FA J, FA and F, [A.Zoom] will be displayed on the LCD panel. With a manual zoom lens, set the focal length manually at [M. Zoom].
- After turning the power [ON], the setting will be [P-TTL] and [A.Zoom].

- 5 Check the effective flash range and that the flash is ready. Then take the picture.
  - 6 When a correct flash exposure is obtained, it will be indicated by the flash confirmation indicator. (In the camera's viewfinder, the [  ] symbol will blink several times, and [P-TTL] on the LCD panel will also blink for 2 sec.)
  - 7 If the flash confirmation indicator does not blink, it means the flash was insufficient. Move closer to the subject and take the picture again.
  - 8 If you are too close to the subject, the correct flash exposure will not be obtained even if the flash confirmation indicator blinks. Be sure to check the effective flash range on the LCD panel.
- If necessary, an exposure compensation amount can be set between +1.0 to -3.0 stops in 0.5-stop increments.
  - Cameras other than \*ist, MZ-S, MZ-L/MZ-6/ZX-L will display P-TTL but are not compatible with P-TTL. Please use the auto flash mode. (Refer to page 28)

### Display of Flash Effective Range

The shooting distance parameters will be displayed on the LCD panel. Make sure that you are within the flash effective range before taking pictures.

- The effective flash range is displayed when all autofocus cameras (except SF series cameras) attached with an FA J, FA, F or A lens and the Pentax 645N and 645NII. If the maximum range exceeds 22 meters (70 ft), [  ] will blink. If the flash effective range is 0.7m or less, [  ] will blink.
- The flash effective range varies depending on a ISO film speed, lens aperture in use, and/or the zooming position ( flash coverage angle ). When using a zoom lens, keep in mind the maximum aperture of the zoom lens changes when the lens zooms in and out.



**When Using the "A" ( AUTO ) Lens Aperture**  
 Programmed TTL Auto Flash is possible with the AF360FGZ when the Programmed AE or Shutter-Priority AE mode is set on a camera. The flash sync speed and aperture values automatically vary depending on the subject brightness as with the camera's built-in flash, making it suitable for daylight sync flash.

**When Setting the Lens to a Manual f/stop**  
 When the Aperture-Priority AE or Metered Manual mode is set on the camera, TTL Auto Flash is possible with the desired aperture selected to control the depth-of-field. The slow-speed-sync flash is also possible.

#### Calculating the Flash Effective Range

When setting the lens to manual f/stop, calculate the guide number at FULL output strength with the use of flash's zooming position and film speed. Divide the resulting guide number by the aperture in use. Thus, the maximum distance is obtained. The minimum distance is obtained in dividing this max. distance by approx. 10. However, if the shortest distance desired is 0.7m or less, the shortest distance will be 0.7m.

#### Example :

With ISO100 film and a 50mm lens at f/4

- ① For the zoom position = 50mm, and film speed at ISO100, the guide number is 30.
- ② The aperture is f/4,  $30 \text{ (guide number)} / 4 \text{ (aperture)} = 7.5\text{m}$  ( max. distance )
- ③  $7.5\text{m} \text{ ( max. distance )} / 10 = 0.75\text{m}$  ( min. distance ) Thus, flash effective range is approx. 0.75m - 7.5m.

#### P-TTL and TTL Auto Flash Effective Range

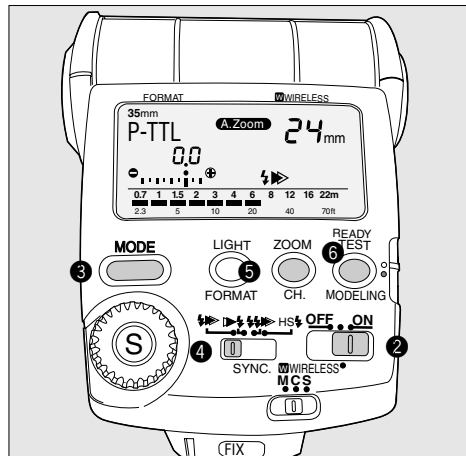
Format		ISO 100							ISO 400						
		Zooming position							Zooming position						
	35mm	20mm	24mm	28mm	35mm	50mm	70mm	85mm	20mm	24mm	28mm	35mm	50mm	70mm	85mm
	645	35mm	45mm	55mm	70mm	100mm	135mm	150mm	35mm	45mm	55mm	70mm	100mm	135mm	150mm
	67	55mm	60mm	70mm	90mm	120mm	180mm	190mm	55mm	60mm	70mm	90mm	120mm	180mm	190mm
f/stop	f / 1.2	1.2~11.7	1.8~17.5	1.8~18.3	2.1~20.8	2.5~25.0	2.8~27.5	3.0~30.0	2.3~23.3	3.5~35.0	3.7~36.7	4.2~41.7	5.0~50.0	5.5~55.0	6.0~60.0
	f / 1.4	1.0~10.0	1.5~15.0	1.6~15.7	1.8~17.9	2.1~21.4	2.4~23.6	2.6~25.7	2.0~20.0	3.0~30.0	3.1~31.4	3.6~35.7	4.3~42.9	4.7~47.1	5.1~51.4
	f / 2	0.7~7.0	1.1~10.5	1.1~11.0	1.3~12.5	1.5~15.0	1.7~16.5	1.8~18.0	1.4~14.0	2.1~21.0	2.2~22.0	2.5~25.0	3.0~30.0	3.3~33.0	3.6~36.0
	f / 2.8	0.7~5.0	0.8~7.5	0.8~7.9	0.9~8.9	1.1~10.7	1.2~11.8	1.3~12.9	1.0~10.0	1.5~15.0	1.6~15.7	1.8~17.9	2.1~21.4	2.4~23.6	2.6~25.7
	f / 4	0.7~3.5	0.7~5.3	0.7~5.5	0.7~6.3	0.8~7.5	0.8~8.3	0.9~9.0	0.7~7.0	1.1~10.5	1.1~11.0	1.3~12.5	1.5~15.0	1.7~16.5	1.8~18.0
	f / 5.6	0.7~2.5	0.7~3.8	0.7~3.9	0.7~4.5	0.7~5.4	0.7~5.9	0.7~6.4	0.7~5.0	0.8~7.5	0.8~7.9	0.9~8.9	1.1~10.7	1.2~11.8	1.3~12.9
	f / 8	0.7~1.8	0.7~2.6	0.7~2.8	0.7~3.1	0.7~3.8	0.7~4.1	0.7~4.5	0.7~3.5	0.7~5.3	0.7~5.5	0.7~6.3	0.8~7.5	0.3~8.3	0.9~9.0
	f / 11	0.7~1.3	0.7~1.9	0.7~2.0	0.7~2.3	0.7~2.7	0.7~3.0	0.7~3.3	0.7~2.5	0.7~3.8	0.7~4.0	0.7~4.5	0.7~5.5	0.7~6.0	0.7~6.5
	f / 16	0.7~0.9	0.7~1.3	0.7~1.4	0.7~1.6	0.7~1.9	0.7~2.1	0.7~2.3	0.7~1.8	0.7~2.6	0.7~2.8	0.7~3.1	0.7~3.8	0.7~4.1	0.7~4.5
	f / 22		0.7~1.0	0.7~1.0	0.7~1.1	0.7~1.4	0.7~1.5	0.7~1.6	0.7~1.3	0.7~1.9	0.7~2.0	0.7~2.3	0.7~2.7	0.7~3.0	0.7~3.3
	f / 32				0.7~0.8	0.7~0.9	0.7~1.0	0.7~1.1	0.7~0.9	0.7~1.3	0.7~1.4	0.7~1.6	0.7~1.9	0.7~2.1	0.7~2.3

Unit : m

# TTL AUTO FLASH

With the AF360FGZ, TTL Auto Flash is possible with all autofocus cameras (except \*ist, MZ-S, MZ-L/MZ-6/ZX-L), 645N, 67II, Super A, LX and 645 cameras.

•P-TTL Auto flash mode is set automatically with \*ist, MZ-S or MZ-L/MZ-6/ZX-L. See page 22.



## ■ Procedure

- 1 Turn on the camera.
- 2 Turn on the flash unit.
- 3 Press the flash mode switch until the indication [TTL] displays on the LCD panel.
- 4 Set the sync mode switch to Leading-shutter-curtain-sync, Trailing-shutter-curtain-sync (refer to page 57), or Contrast-control-sync (refer to page 35) according to the subject.
- 5 When using an FA J, FA,F or FA645 lens, set to the [A. ZOOM] mode. When using a manual focus lens, set to the [M.ZOOM] mode by pressing the flash zoom button.
- 6 Make sure that the subject is within the flash effective distance display and Ready lamp lights up before taking pictures.

7 When a proper exposure has been made, the auto check confirmation signal appears. ( the [ 4 ] symbol blinks several times in the camera's viewfinder and the [TTL] on the LCD panel blinks for two seconds. )

8 When the auto check confirmation signal does not appear, it indicates that the sufficient amount of light has not reflected from the subject. In this case, decrease the flash-to-subject distance.

• If you are too close to the subject, the correct flash exposure will not be obtained even if the flash confirmation indicator blinks. Be sure to check the effective flash range on the LCD panel.

• When using AF360FGZ with SF 7 camera, set the flash mode to Auto flash (A) mode. The flash and AF spotbeam will not work when the flash mode is set to other than Auto flash mode.

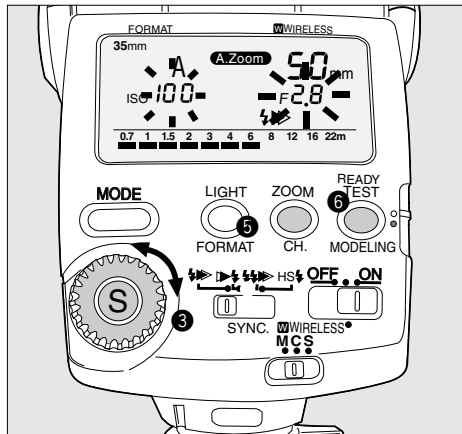
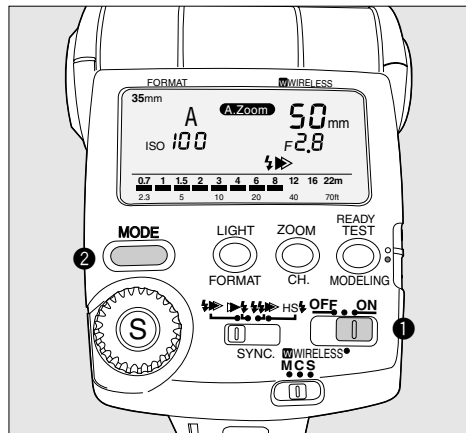
To enable to use TTL Auto flash, Manual flash and AF spotbeam functions with SF 7, please consult PENTAX service centers which are listed on the this operating manual for the modification.



## AUTO FLASH

The built-in flash metering sensor sets the flash output automatically.

- Use with cameras that are not P-TTL or TTL Auto flash compatible.



### ■ Procedure

- 1 Turn on the power switch.
- 2 Press the flash mode button so that auto flash [A] is displayed on the LCD panel.

- 3 Press the [S] select button so that [Aperture value] on the LCD panel blinks. Turn the adjustment dial to set the desired aperture value. Then press the [S] button so that [ISO] blinks on the LCD panel. Turn the adjustment dial to set the [ISO]. Next, press the select button once so that the blinking stops. This completes the setting.

- If you change the ISO film speed, the aperture value also varies accordingly. Set the aperture value after you change the ISO film speed.

- 4 Set the lens aperture to the same [Fno.] aperture you set with the flash unit.

- 5 Set the flash zoom position to match the lens focal length. Set this manually even with an autofocus lens.

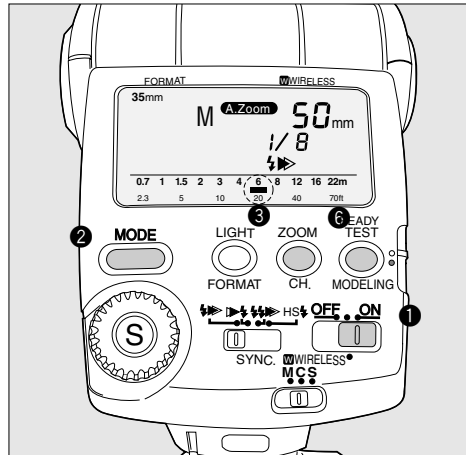
- Set manual regardless of the type of lens being used.

- 6 Check that the flash is ready, then take the picture.

- When the camera's exposure mode is Programmed AE or Shutter-Priority AE, the aperture value set on the flash will be automatically be set on the camera.
- When the photograph is properly taken, the auto flash confirmation display will appear. [The flash display panel [A] will blink for 2 seconds.]
- The possible photography distance range will be displayed on the LCD panel operational distance display bar graph.
- If the power is turned temporarily OFF, the flash will be set to P-TTL or TTL auto. Return the setting to Auto flash.
- The sync mode will be fixed in Leading-curtain-sync. Under the following conditions use Auto flash even for Auto focus cameras.
  - \* When the camera's exposure mode is metered manual mode.
  - \* When the camera's exposure meter switch is set to OFF.
  - \* With LX camera, set the shutter dial to "X" or lower. If you set the camera to "AUTOMATIC", the flash would fire for every shutter speed, causing in some cases synchronization failure.

# MANUAL FLASH

When the camera is set to manual exposure, manual flash can be set to suit the subject distance and aperture. The manual flash output can be set to 1/1, 1/2, 1/4, 1/8, 1/16, or 1/32. Manual flash mode can be used with all cameras (except SF 7, refer to page 27).



## ■ Procedure

- 1** Turn on the power switch.
- 2** Press the flash mode button [MODE] to display [M] [1/xx] on the LCD panel.
  - You can set the flash output from 1/1 to 1/32. See page 46.
  - When the autofocus or 645N camera's exposure mode is set to any mode except manual or trailing - shutter - curtain - sync mode, TTL auto flash will be set automatically.
- 3** Set the flash zoom position to match the lens focal length.
  - With an autofocus lens, [A.Zoom] will be set automatically.
- 4** Set the lens aperture.

## Guide number table

Zoom Position	Film speed ISO 100							Film speed ISO 400					
	Flash Mode Switch							Flash Mode Switch					
	1 / 1	1 / 2	1 / 4	1 / 8	1 / 16	1 / 32	1 / 2	1/1	1/2	1 / 4	1 / 8	1 / 16	1 / 32
85 mm	36	25	18	12.5	9	6	72	72	50	36	25	18	12
70 mm	33	23	16.5	11.5	8	5.5	66	66	46	33	23	16	11
50 mm	30	21	15	10.5	7.5	5.4	60	60	42	30	21	15	10.8
35 mm	25	18	12.5	9	6	4.3	50	50	36	25	18	12	8.6
28 mm	22	16	11	8	5.5	4	44	44	32	22	16	11	8
24 mm	21	15	10.5	7.5	5	3.6	22	42	30	21	15	10	7.2
*20 mm	14	10	7	5	3.5	2.5	28	28	20	14	10	7	5

\* With the wide - angle panel attached.

- For the flash zoom position for 645 and 67 camera lenses, see the camera's picture format on page 15.

- 5** The distance up to the subject distance shown on the bar graph is possible.
- 6** Check that the flash is ready, then take the picture.

### Example:

If the flash zoom position is 35mm, subject distance (between the AF360FGZ and subject) is 3 m, and film speed is ISO 100, the calculation will be as follows:

- ① With flash output [1/1], the Guide No. will be 25 (according to the Guide No. table).
- ② Aperture = Guide No. 25 / Subject distance 3 m = 8.3 Approx. 8 (f/No.)

## Guide Number ( GN )

Guide numbers indicate flash light intensity. The larger the number, the farther you can reach with your flash. From the guide number, you can easily obtain the proper aperture setting required for an optimum exposure.

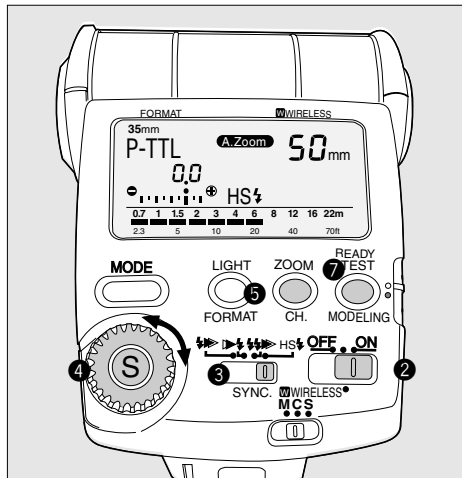
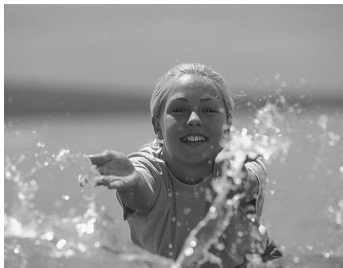
$$\text{Aperture [f-number]} = \frac{\text{GN/flash-to-subject distance [m]}}{\text{Example : GN33/3m = f11}}$$

- With autofocus cameras (except the SF series) attached with an FA J, FA or A lens and the 645N, 645NII cameras, a bar graph displayed on the LCD panel will indicate the approximate flash range.

## HIGH-SPEED SYNC MODE

When the AF360FGZ is used with the \*ist, MZ-S, MZ-L/MZ-6/ZX-L, shutter speeds faster than X-sync speed will still enable flash synchronization. Since there is no sync speed limitation, high-speed sync is effective for fill-flash in daylight.

- High-speed sync mode will be P-TTL auto flash.
- As can be seen in the table on page 34, as the shutter speed becomes higher, the guide number becomes smaller. Accordingly, it should be noted that the distance for taking pictures would become shorter.



### ■ Procedure

- 1 Turn on the camera.  
Set the exposure mode other than the Programmed AE.
  - 2 Attach the flash unit to the camera's hot shoe and turn it on.
  - 3 Set the sync mode switch to high-speed sync [ HS ].
- The flash will be set to High-speed-sync mode and [ HS ] will be shown on the LCD panel only when the shutter speed exceeds X-sync speed.
- 4 To set exposure compensation, press the [S] button so that [0.0] blinks. Then turn the adjustment dial to set the exposure compensation amount. Press the [S] button again to stop the blinking.  
The exposure compensation amount can be set from +1.0 to -3.0 stops in 0.5-stop increments.
  - 5 Set the flash zoom position to match the lens focal length.  
With an autofocus lens, the [A.Zoom] mode will set it automatically. With other lenses, use the ZOOM button in the [M.Zoom] mode to set the zoom position.

- 6 Check the flash range by looking at the bar graph on the LCD panel.
- 7 Check that the flash is ready, then take the picture.

- Please read the camera operating manual for camera operation.
- High-speed sync is possible with the camera separated from the AF360GZ (wireless). (Refer to page 44)

### High-speed Sync Guide Number [For ISO 100]

Zoom Position	Shutter speed					
	250	500	1000	2000	4000	6000
85mm	16.0	12.7	9.5	6.9	5.1	4.3
70mm	14.7	11.6	8.7	6.4	4.7	3.9
50mm	13.4	10.6	7.9	5.8	4.2	3.6
35mm	11.1	8.8	6.6	4.8	3.5	3
28mm	9.8	7.7	5.8	4.2	3.1	2.6
24mm	9.4	7.4	5.5	4.1	3.0	2.5
20mm	6.2	4.9	3.7	2.7	2.0	1.7

[Example]

Double the guide numbers for ISO 100 when using ISO 400 film.

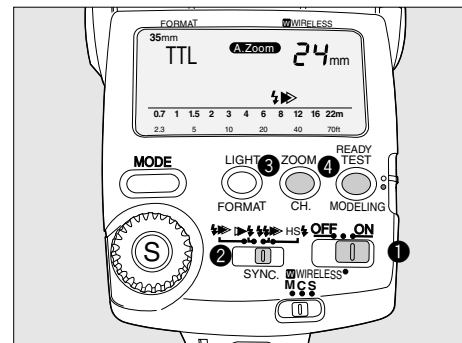
Lens zoom position = 85mm, shutter speed = 250

Guide Number for ISO 400 would be  $16 \times 2 = 32$ .


## CONTRAST-CONTROL-SYNC FLASH

When the AF360FGZ is used in combination with the camera's built-in flash, twin flash photography is possible with the output ratio of the light intensity controlled. The ratio of flash light intensity between the built-in flash and the AF360FGZ flash unit is 1:2.

- This method of photography is for the AF360FGZ separated from the camera. (Refer to page 57 on using the AF360FGZ separated from the camera.)



## ■ Procedure

- 1** Turn on the power switch.
- 2** Set the sync mode switch to the contrast-control position [  ]
- 3** Adjust the zoom position according to the lens in use.
  - With an autofocus lens, the [A.Zoom] mode will set it automatically.
  - If the AF360FGZ is much closer to the subject than the camera's built-in flash, use the [M.Zoom] mode to set the zoom position to a shorter lens focal length. Otherwise, the flash coverage may be insufficient causing a dark periphery in the picture.
- 4** Make sure that the flash ready lamp on the AF360FGZ lights up and camera's built-in flash is charged before releasing the shutter.



With contrast-control-sync flash

- If the camera's built-in flash is not used, leading-curtain sync photography will result even when the sync mode switch is set to contrast-control-sync with one flash unit.
- With contrast-control-sync flash and the \*ist, MZ-S, MZ-L/MZ-6/ZX-L cameras, the flash mode is set automatically to P-TTL. With other autofocus cameras, or 67II camera, TTL auto flash is set automatically.
- Instead of the camera's built-in flash, you can also use a flash unit having contrast-control-sync flash function.



With a single flash

- With the autofocus cameras and 67II cameras which do not have a built-in flash, you can use two or more flash units (AF360FGZ, AF500FTZ, or AF330FTZ) to set the contrast-control-sync flash mode. Regarding the flash output ratio, the flash unit set to the contrast-control-sync flash will be a "2" while the other flash unit will be a "1".
- The contrast-control-flash will not work with SFX, SFXn and SF 7.

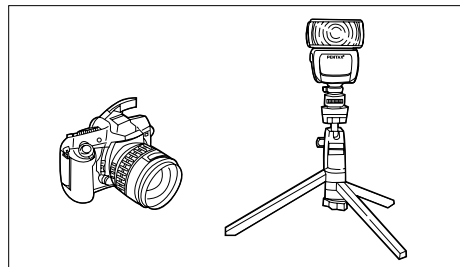
## WIRELESS MODE [\*ist, MZ-S, MZ-L/MZ-6/ZX-L]

TTL auto flash (P-TTL) control is possible without a cord connection between the camera and the flash unit when the AF360FGZ is used in combination with the \*ist, MZ-S, MZ-L/MZ-6/ZX-L.

- **Insure that the wireless mode setting is set to [SLAVE1] when using the \*ist, MZ-S or MZ-L/MZ-6/ZX-L in wireless mode.**  
(See page 49.)

### Notes on Wireless Flash Control (P-TTL photography)

Using with the camera's built-in flash.



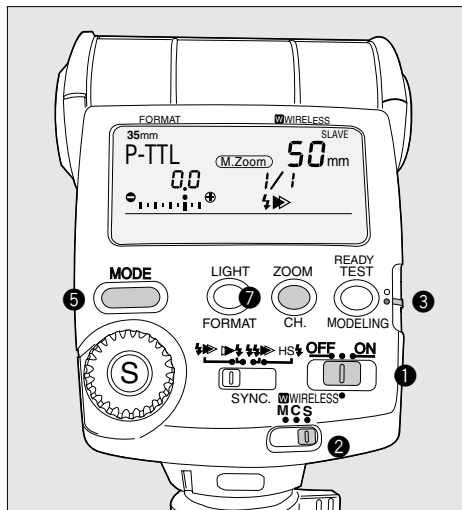
The following transfer of information is done with the built-in flash when the AF360FGZ is used wirelessly before emitting the flash.

- ① Shutter button is pressed
- ② The built-in flash emits a small control flash (relays the flash mode of the camera)
- ③ External flash emits a small control flash (relays confirmation of subject)
- ④ The built-in flash emits a small control flash (relays flash output to external flash)  
\* The built-in flash will emit a small control flash one more time after this to relay the flash duration time when HS (High-speed sync) is set.
- ⑤ External flash and built-in flash fire as main flash.

### • Control Flash and Main Flash

The purpose of the control flash of the wireless mode is to send information to the other flash unit before taking a picture. The main flash fires at the actual time a picture is taken in the same manner as traditionally done.

- When using a flash unit separated from the camera, use of the Off-camera shoe adapter F or the Off-camera shoe clip CL-10 is recommended.
- Keep the distance from the built-in flash and the AF360FGZ to the subject within 4 meters.

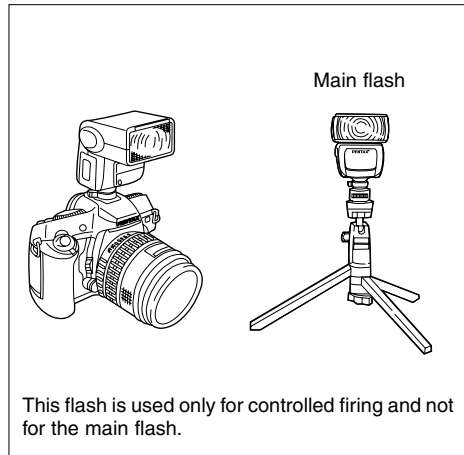


## ■ Procedure

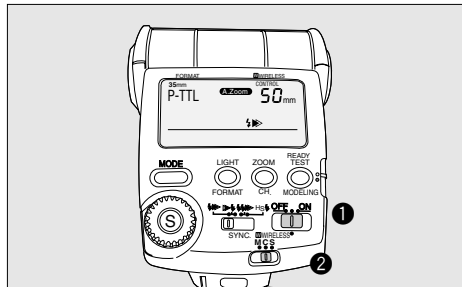
- 1 Set the flash unit's power switch to WIRELESS.
- 2 Set the WIRELESS mode switch to [S].
- 3 Slide down the setting switch to the [yellow dot]. Then press the [CH.] channel button to set the same channel as camera. Slide the setting switch up. See page 48 for Setting the channel.
- 4 After setting the channel, attach the flash unit to the camera's hot shoe and turn on the camera. Press the shutter button halfway. The camera's flash channel will then be set.
- 5 Press the flash mode button and set the flash mode to P-TTL mode.

- 6 Place the flash unit at the desired location.
  - 7 Set the zoom position with Manual [M. Zoom]
  - 8 Turn on the camera and ready the built-in flash. While pressing the camera's flash function button, turn the select dial until W appears.
  - 9 Check that both the AF360FGZ and built-in flash are ready, then take the picture.
- In the P-TTL mode, the flash amount adjustments [1/1,2/3,1/2,1/3] and flash exposure compensation [-3.0~+1.0] are possible. (Refer to page 46)
  - The camera side must be set to the wireless (W) or the AF360FGZ will not fire.
  - The built-in flash can be used as other than main flash, refer to the camera-operating manual for setting the custom function.
  - When using with \*ist or MZ-S, test flash can be performed before shooting to confirm that the flash fires in wireless control mode, refer to the camera-operating manual for setting the custom function.

Using two AF360FGZ flash units with one attached to the camera.



## Flash unit on camera

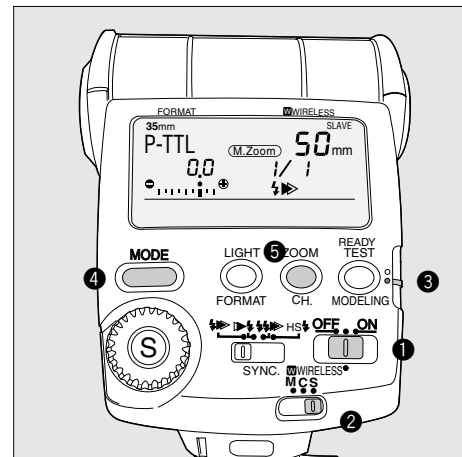


**1** Attach the AF360FGZ flash unit to the camera. Set the flash unit's power switch to WIRELESS.

- 1** Set the flash power switch to [WIRELESS]
- 2** Set the WIRELESS mode switch to [C].

• This flash unit will operate only to trigger the other flash unit to fire. It will not fire a real flash itself.

## WIRELESS FLASH



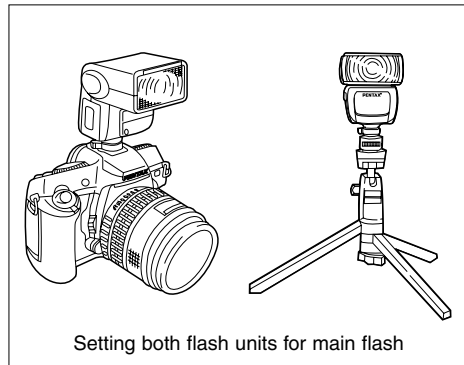
**2** Place the other flash unit(s) at the desired location(s).

- 1** Set the power switch to WIRELESS.
- 2** Set the wireless mode switch to slave [S].
- 3** Slide down the setting switch to [yellow dot]. Next, press the channel button [CH] and set the same channel as the AF360FGZ being attached then slide the setting switch back up.
- 4** Press the flash mode button and set to P-TTL.
- 5** Set the zoom position with Manual [M. Zoom].

**3** Check that the flash unit on the camera and the slave flash unit(s) are ready, then take the picture.

• The two flash units must be set to the same channel otherwise the flash unit separated from the camera will not fire.

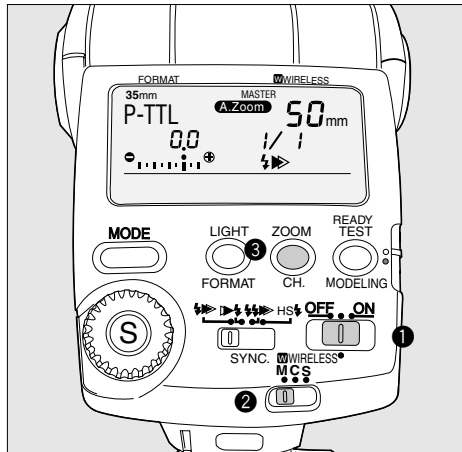
**Using two AF360FGZ flash units with one attached to the camera.**



**1** Attach the AF360FGZ flash unit to the camera.

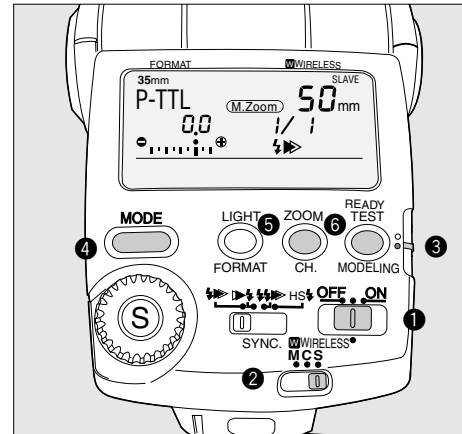
- ① Set the flash unit's power switch to WIRELESS.
- ② Set the wireless mode switch to [M].

**Flash unit on camera**



- ③ Set the flash zoom position to match the lens focal length. This will be automatically set when using auto focus lenses with [A. Zoom]. Set with the flash zoom button for other lenses.

**WIRELESS FLASH**



**2** Place the other AF360FGZ flash unit(s) at the desired location(s).

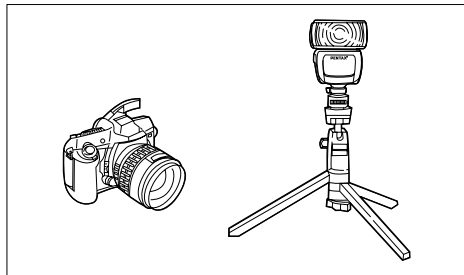
- ① Set the flash unit's power switch to WIRELESS.
- ② Set the wireless mode switch to [S].

- ③ Slide down the setting switch to [yellow dot]. Next, press the channel button [CH] and set the same channel as the AF360FGZ being attached then slide the setting switch back up.
- ④ Press the flash mode button and set the flash mode to P-TTL mode.
- ⑤ Set the zoom position to Manual [M. Zoom]
- ⑥ Check that the flash unit on the camera and the slave flash unit(s) are ready, then take the picture.

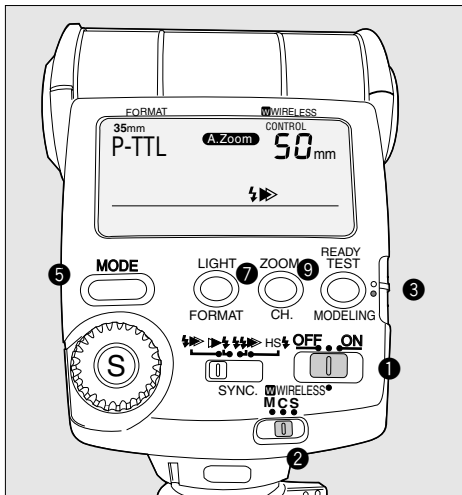
• The two flash units must be set to the same channel otherwise the flash unit separated from the camera will not fire.



## Using with the camera's built-in flash.



Wireless high-speed-sync is used.



### ■ Procedure

- 1 Set the flash unit's power switch to WIRELESS.

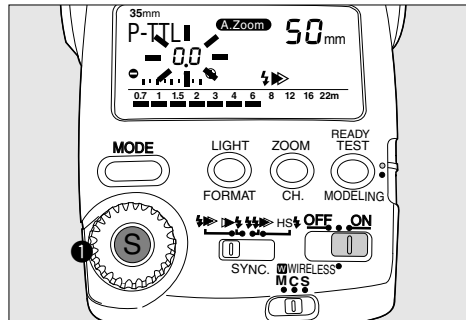
- 2 Set the WIRELESS mode switch to [S]. [SLAVE] will be appeared on the LCD panel.
- 3 Slide down the setting switch to the [yellow dot]. Then press the [CH.] channel button to set the channel (1 to 4) to be used. Slide the setting switch up.
- 4 After setting the channel, attach the flash unit to the camera's hot shoe and turn on the camera. Press the shutter button halfway. The camera's flash channel will then be set.
- 5 Press the flash mode button and set the flash mode to P-TTL.
- 6 Place the flash unit at the desired location.
- 7 Set the zoom position with Manual [M. Zoom].

- 8 Set the camera's exposure mode to other than the Programmed AE mode and ready the built-in flash. While pressing the camera's flash function button, turn the select dial until WHS appears.
- 9 Confirm that the camera's built-in flash is ready and then take a picture.

- It is possible to use the AF360FGZ in place of the built-in flash. The setting method is similar to pages 40 and 41. However, set both flash unit's sync mode selection switch to high-speed sync [HS $\frac{1}{2}$ ].
- P-TTL flash mode will be set when the shutter speed is slower than X-sync speed. High-speed-sync mode is set only when the shutter speed exceeds X-sync speed.
- The built-in flash will always be the control flash and not the main flash to fire.
- Please refer to the camera Operating Manual for camera operations.

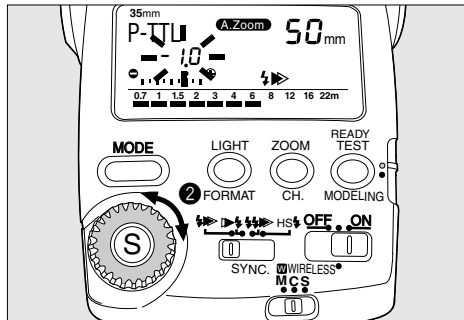
## SELECT BUTTON [S]/ADJUSTMENT DIAL FUNCTIONS

4 types of settings are available as shown on the following pages for the Select button and the Adjustment dial.

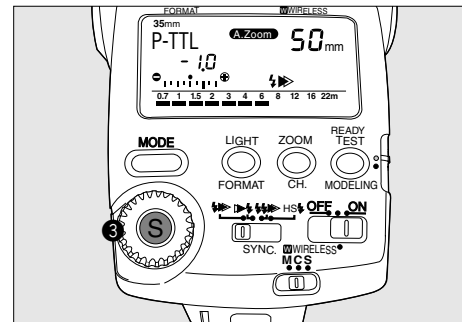


### Setting Procedure

- 1 Press the Select button [S] so that the number to adjust is blinking.



- 2 Turn the Adjustment dial and adjust the blinking number.



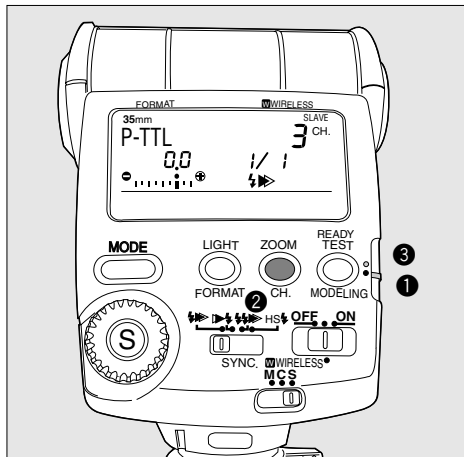
- 3 After adjustments, press the Select button [S] and stop the blinking.

- When using multiple flash units set to P-TTL or TTL Auto and adjusting the amount of light at the same time, use the camera's exposure compensation.

	Connected Flash Mode	Adjustment Range
1. Flash amount setting	Wireless [W] master flash [M] Wireless [W] slave flash [S]	1/1, 2/3, 1/2, 1/3
2. Flash amount correction	P-TTL Auto flash	-3.0 to +1.0 levels (EV) (0.5 steps)
3. ISO / F (aperture) setting	Auto flash [A]	ISO 25 to ISO 1600, F2 to 22 (with ISO100)
4. Manual flash amount	Manual [M]	1/1, 1/2, 1/4, 1/8, 1/16, 1/32

## WIRELESS CHANNEL SETTING

The channel of the camera and the flash unit should be set to the same channel. If both channels do not match, the wireless flash unit will not fire.



[Example] When channel is set to 3 CH..

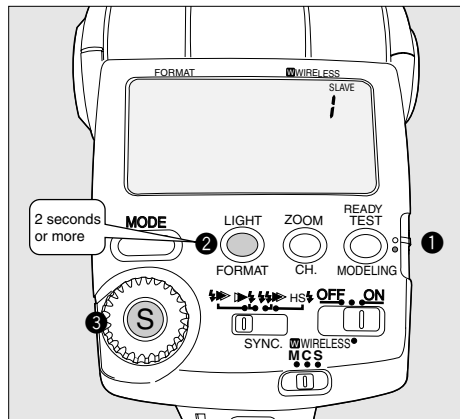
### ■ AF360FGZ Channel Setting

- 1 Slide the setting switch down to the [yellow dot side] and display the channel on the display panel.
- 2 Press the channel setting button and set to CH1, CH2, CH3 or CH4.
- 3 Slide the setting switch back up to the [white dot side] after setting.
- 4 When the AF360AFGZ is attached to the hotshoe of the camera and the power switch of the camera and the flash unit is set to on, and the shutter button is pressed halfway down, the channel of the flash unit will be registered on the camera side and become the same channel.

- The channel setting is to prevent confusion of wireless signals between the \*ist, MZ-S or MZ-L/MZ-6/ZX-L and AF360FGZ being used by other people. Set to a channel out of the 4 that is not being used by others.

## WIRELESS SLAVE MODE SETTING

To properly control the wireless slave, it is necessary to set the wireless slave mode settings for the camera being used.  
Set to SLAVE1 when using the \*ist, MZ-S or MZ-L/MZ-6/ZX-L camera and to SLAVE2 for all others cameras.



### ■ Setting function

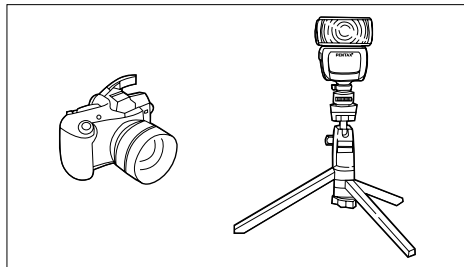
- 1 Slide the setting switch up.
- 2 Press the illumination button [LIGHT] for 2 seconds or more.  
SLAVE1 will be displayed.
- 3 Each time the Select button [S] is pressed, it will switch in the order of SLAVE1 → SLAVE2 → SLAVE1.
- 4 Press the illumination button to end the setting.

- If the AF360FGZ is set to SLAVE1 when used with other than the \*ist, MZ-S or MZ-L/MZ-6/ZX-L, the flash will not operate.
- If the AF360FGZ is set to SLAVE2 when used with the \*ist, MZ-S or MZ-L/MZ-6/ZX-L, the AF360FGZ will operate and flash at the control flash before the picture is taken.
- In SLAVE 2, fluorescent lamps flicker may contribute to flash unit's erroneous firing on rare occasions.

## SLAVE [IN THE MANUAL FLASH MODE]

The AF360FGZ can be used as a wireless slave unit whose flash is triggered by the camera's flash (either built-in or an external flash unit attached to the camera). A slave unit can be placed in various locations to obtain the desired flash effects.

- When set as a slave unit, the flash unit is used in the auto flash [A] or manual flash [M] mode.
- Set the wireless slave mode setting to SLAVE2. (Page 49 for Wireless slave mode settings)



### ■ Procedure

**1** Set the flash unit's power switch to [WIRELESS].

**2** Set the wireless mode switch to slave [S].

**3** Press the flash mode button [MODE] to set the auto [A] or manual [M] mode.

**4** Set the flash zoom position to suit the subject and place the flash unit at the desired location.

- To prevent accidental short-circuiting of the flash unit's hot shoe contacts, attach the Off-Camera Shoe Grip or Off-Camera Shoe Clip CL-10 when using the flash unit as a slave unit.


**5** Check that the ready lamp is lit on the camera's built-in flash or attached flash unit and the slave unit, then take the picture.

- When recharging is complete, the lamp will blink.

- Position the slave unit(s) so that the slave sensor can receive the flash fired by the camera's built-in flash or attached flash unit.
- The AF360FGZ will fire at the same time that the camera's flash fires.
- The distance between the camera's built-in flash or attached flash unit and the AF360FGZ slave unit's slave sensor can be up to 4 m when both flash units face each other directly.
- The slave unit will turn off automatically after about 1 hour of non-operation.
- Do not use red-eye reduction with the camera's flash. This will result in the AF360FGZ firing by the pre-flash. For the same reason, set the camera to manual focus when firing the flash continuously so that the AF spotbeam does not operate with cameras that have AF spotbeam functions.

## BOUNCE FLASH

With the AF360FGZ, you can tilt the flash head up or down to aim at the ceiling or wall to bounce the flash before it reaches the subject. Doing so creates softer light and shadows to make the picture look more natural. However, bouncing the flash will decrease the flash intensity by the time it reaches the subject. Therefore, use the P-TTL or TTL auto flash mode with bounce flash to ensure a correct exposure. The maximum upward bounce angle is 90° (click stops at 45°, 60°, 75°, 90°), and the maximum downward bounce angle is -10°. At the 0° angle, there is a locking mechanism. So when you want to tilt the flash head up or down, hold down the lock release button on the side of the flash head, then tilt the head up or down.

During bounce flash, [  ] will be displayed on the LCD panel. Also, the effective flash range will not be displayed. When the bounce angle is set to downward at -10° the effective flash range will blink.

### P-TTL, TTL Auto Flash Photography

The amount of reflective light will change according to the condition of the reflective surface, angle, and distance. However, with TTL auto flash units bounce flash photography can be relatively easily done. Confirm the flash confirmation indicator in the viewfinder or the flash unit's flash light confirmation display after taking pictures.

### Manual Flash Photography

The amount of light during bounce flash photography is greatly affected by the condition of the reflective surface, therefore test pictures should be taken beforehand or the changing the exposure and taking several pictures may be recommended.

- **When taking color photographs, if the reflective surface for the bounce flash is colored, the picture will be affected by the color and unless this is intentional, a white surface should be used.**
- **Bounce flash photography is greatly affected by the surrounding conditions. A photography manual and other references are recommended.**

## WIDE-ANGLE PANEL AND CATCHLIGHT PANEL

The AF360FGZ has a built-in wide-angle panel and catchlight panel at the top of the flash head, which can be pulled out and used as necessary.

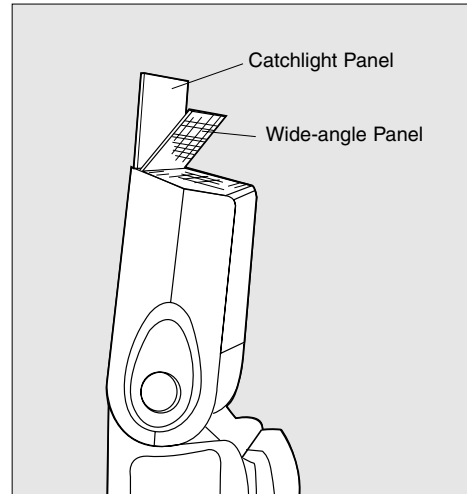
- **The catchlight panel and wide-angle panel is pulled out at the same time. When using only the catchlight panel, return the wide-angle panel to the storage area first.**

### 1. Wide-angle panel

This expands the flash coverage for a 20mm lens (645 is 35mm, 67 is a 55mm lens). When the wide-angle panel is used, the flash zoom position will be set to 20mm.

### 2. Catchlight

A catchlight is a reflection of a light source in the eyes. It usually appears as a white dot and makes the human subject look more lively. Set the bounce flash angle to 90° and get close to the subject before taking the picture.



## MODELING FLASH/TEST FLASH

Before taking the picture, firing a modeling flash helps you to see how shadows are cast on the subject.

### ■ Procedure

- 1 Slide the setting switch down [yellow dot].
  - 2 Check that the flash is ready, then press the MODELING button. The flash will fire continuously for one second.
  - 3 After firing the modeling flash, slide the setting switch up [white dot].
- **To prevent the flash tube from overheating or deteriorating, do not fire the modeling flash more than 10 consecutive times. After the tenth time, let the flash unit rest for at least 10 minutes.**
  - **When used with \*ist, the flash pop-up button on the camera can also be used for modeling flash.**
  - **When used with the MZ-S, the illumination button on the camera can also be use for modeling flash. (Please refer to the camera's operating manual)**

- **When used with the \*ist or MZ-S, modeling flash is also possible with wireless (Refer to page 37). (Refer to the camera operating manual for the camera settings).**

### ■ Test flash

Check that the flash is ready, then press the TEST button. The test flash can be operated.

## SLOW-SPEED-SYNC FLASH

When using a normal flash to photograph a subject in a night or evening setting, the background will appear very dark because a normal flash light cannot sufficiently light it. However, it is possible to balance both subject and background by using the flash to properly expose the foreground subject and a slow shutter speed to expose the low light background.

## AF SPOTBEAM

AF360FGZ feature a built-in red spotbeam projector to assist the autofocus system in dim light and low-contrast conditions. When using the flash with autofocus camera in dark conditions, the spotbeam will be projected automatically depending on the ambient lighting conditions. With the sync mode switch set to [S.B.], the AF360FGZ can be used exclusively as a focusing aid in dim light.

### Using the AF360FGZ Spotbeam Exclusively as a Focusing Aid

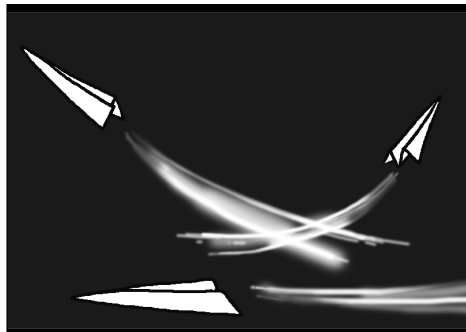
1. Set the main switch to the [ON] position.
2. Set the sync mode switch to the [SB] position.
3. Set the camera to the autofocus mode.
4. Press the shutter release button halfway down.

The AF spotbeam will automatically be projected lights up indicating that you are ready to shoot.

- **The AF spotbeam does not work in bright light conditions.**
- **If the In-focus indication does not light up in several seconds, it means that the subject is hard to autofocus. In this case, use the manual focus mode to focus on the subject.**
- **To change the composition, raise your finger off the shutter release button and press it halfway down again to recompose the picture.**
- **When using the AF360FGZ's built-in AF spotbeam, the AF spotbeam built into the camera will not operate.**
- **The AF spotbeam on the flash unit works accurately only when mounted onto the camera's hot shoe. The AF spotbeam does not operate accurately when the bounce flash is used.**
- **The flash does not fire when using the AF360FGZ spotbeam exclusively as a focusing aid.**
- **The AF spotbeam does not work with SF 7 camera, refer to page 27.**

## TRAILING-SHUTTER-CURTAIN SYNC FLASH

In normal electronic flash photography, the flash fires at the instant the first shutter curtain completes its travel. This is referred to as the leading-shutter-curtain sync flash. In the trailing-shutter-curtain sync flash mode, the flash is fired at the instant the second curtain begins its travel. This mode will freeze the subject with a blur appearing before the subject under a slow shutter speed condition. Using a leading-shutter-curtain sync flash will freeze the subject with a blur appearing after the subject.



### ■ Procedure

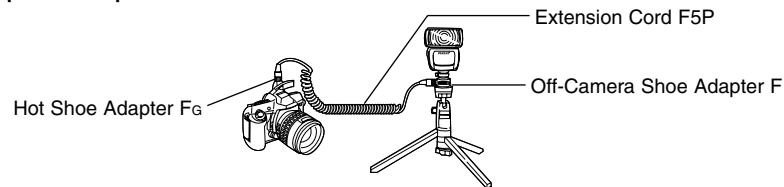
- 1** Set the power switch to the [ON] position.
- 2** Set the sync mode switch to the TRAILING CURTAIN [▶] position.
- 3** Set the zoom position according to the lens in use.
- 4** Confirm the Ready lamp lights up and then discharge the flash.

- P-TTL or TTL auto flash mode is automatically set when the flash fires even if the flash mode is set to the manual mode.
- The built-in flash on the SF/ZX-series and Z-10/PZ-10 cameras do not feature the trailing-shutter-curtain capability : it does not discharge when combined with the AF360FGZ.
- When the camera's exposure meter is switched ON, the trailing-shutter-curtain-sync mode will be automatically set on the flash unit.

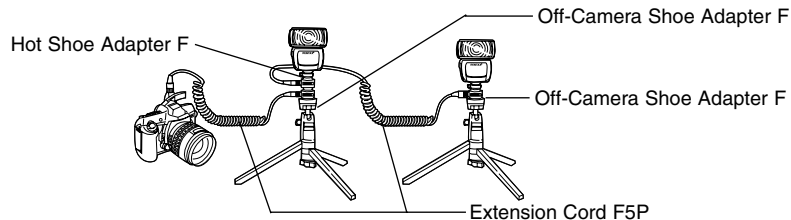
## USING THE AF360FGZ DETACHED FROM THE CAMERA

When using the flash unit while it is detached from the camera, refer to the diagram for correct connections.

- If you have an \*ist, MZ-S or MZ/ZX-series camera, be sure to attach Hot Shoe Adapter FG. Attaching Hot Shoe Adapter F will not activate the built-in flash from popping up.
- With other cameras, you can use Hot Shoe Adapter F instead of Hot Shoe Adapter FG.
- If you attach Hot Shoe Adapter F to the camera and attach the flash unit on top of it, the flash unit will be prone to slip off and cause an accident.



Using multiple external flash units.



# MAJOR SPECIFICATIONS

Type ————— Clip-on, TTL auto zoom flash unit with serial control  
Guide No. ————— In manual mode, six-step adjustment from 1/1 to 1/32.

[ISO 100]

Focal Length (Zooming position)	85mm	70mm	50mm	35mm	28mm	24mm	20mm*
[M 1/1] [=FULL]	36	33	30	25	22	21	14
[M 1/2]	25	23	21	18	16	15	10
[M 1/4]	18	16.5	15	12.5	11	10.5	7
[M 1/8]	12.5	11.5	10.5	9	8	7.5	5
[M 1/16]	9	8	7.5	6	5.5	5	3.5
[M 1/32]	6	5.5	5.4	4.3	4	3.6	2.5

Flash duration (1/2 peak each) — [M1/1] flash: Approx. 1/1200 sec. Fastest duration time: Approx. 1/20000 sec.  
Recycling time/Total flashes —

Battery Type	Recycling Time	Flashes
Alkaline [LR6]	Approx. 6 sec.	Approx. 250
Nickel Hydroxide [Ni-MH]	Approx. 6 sec.	Approx. 160
Lithium [FR6]	Approx. 6 sec.	Approx. 300

Consecutive Discharge ————— Approx. 2 frames/sec. for 50 times, at M 1/16 output (with alkaline LR-6 batteries)

Flash Coverage Angle ————— Auto zoom enabled with autofocus compatible camera and lens combination.

Zooming position	85mm	70mm	50mm	35mm	28mm	24mm	20mm*
Vertical Coverage	23°	26°	34°	45°	53°	60°	85°
Horizontal Coverage	31°	36°	46°	60°	70°	78°	98°

\*Wide-angle panel used.

Color temperature ————— Daylight (Suited for daylight color film)  
Effective flash range ————— Approx. 0.7 m - 5.4 m (Guide No. 30, ISO 100, f/5.6)  
AF spotbeam ————— Red beam emitted under low light or low-contrast conditions.  
Effective range: Approx. 1 m - 7 m (According to Pentax's testing conditions.)  
Compatible film speed ————— ISO 25 - 1600  
Flash modes ————— P-TTL auto, TTL auto, auto, manual.  
Flash exposure compensation — In P-TTL mode, -3.0 to +1.0 steps (0.5-step increments)  
With wireless slave: [1/1 → 2/3 → 1/2 → 1/3]  
Flash amount setting ————— With wireless slave: [1/1 → 2/3 → 1/2 → 1/3]  
Manual: [1/1 → 1/2 → 1/4 → 1/8 → 1/16 → 1/32]  
Flash sync mode ————— Leading-shutter-curtain sync, Trailing-shutter-curtain sync, Contrast-control-sync, High-speed-sync, modeling flash  
Wireless flash ————— [Control system] Optical pulse transmission  
[Wireless position] Master [M], control [C], slave [S]  
[Channels] 1 to 4  
Compatible modes: P-TTL, auto [A], manual [M]  
Effective range: Approx. 4 m (According to Pentax testing conditions.)  
Bounce flash ————— Vertical bounce possible, click stops provided, lock provided at 0° (-10°, 0°, 45°, 60°, 75°, 90°)  
Power saving ————— Automatic power-off: After approx. 3 min. of non-operation with the power [ON], 6 minutes in Auto, After 1 hour in the wireless mode.  
Power quick-on: By pressing the camera's shutter button halfway  
Red-eye reduction ————— Operates with autofocus cameras equipped with red-eye reduction feature.  
Modeling flash ————— [MODELING] button fires flash consecutively for 1 second.  
Wide-angle panel ————— Pull out manually and flash zoom position sets to 20mm.  
Catchlight panel ————— Pull out manually.  
LCD panel illumination ————— [LIGHT] button illuminates the LCD panel for about 10 sec. or press button again to turn it off.  
Power source ————— Size-AA batteries × 4, Alkaline LR6, Nickel Hydroxide (Ni-MH), or lithium FR6  
Dimensions and weight ————— 70 mm (W) × 110 mm (H) × 115.5 mm (T) (2.8" × 4.3" × 4.5")  
270 g (9.6 oz) without batteries



## WARRANTY POLICY

All Pentax cameras purchased through authorized bona fide photographic distribution channels are guaranteed against defects of material or workmanship for a period of twelve months from date of purchase. Service will be rendered, and defective parts will be replaced without cost to you within that period, provided the equipment does not show evidence of impact, sand or liquid damage, mishandling, tampering, battery or chemical corrosion, operation contrary to operating instructions, or modification by an unauthorized repair shop. The manufacturer or its authorized representatives shall not be liable for any repair or alterations except those made with its written consent and shall not be liable for damages from delay or loss of use or from other indirect or consequential damages of any kind, whether caused by defective material or workmanship or otherwise; and it is expressly agreed that the liability of the manufacturer or its representatives under all guarantees or warranties, whether expressed or implied, is strictly limited to the replacement of parts as herein before provided. No refunds will be made on repairs performed by non-authorized Pentax service facilities.

### Procedure During 12-month Warranty Period

Any Pentax which proves defective during the 12-month warranty period should be returned to the dealer from whom you purchased the equipment or to the manufacturer. If there is no representative of the manufacturer in your country, send the equipment to the manufacturer, with postage prepaid. In this case, it will take a considerable length of time before the equipment can be returned to you owing to the complicated customs procedures required. If the equipment is covered by warranty, repairs will be made and parts replaced free of charge, and the equipment will be returned to you upon completion of servicing. If the equipment is not covered by warranty, regular charges of the manufacturer or of its representatives will apply. Shipping charges are to be borne by the owner. If your Pentax was purchased outside of the country where you wish to have it serviced during the warranty period, regular handling and servicing fees may be charged by the manufacturer's representatives in that country. Notwithstanding this, your Pentax returned to the manufacturer will be serviced free of charge according to this procedure and warranty policy.

In any case, however, shipping charges and customs clearance fees are to be borne by the sender. To prove the date of your purchase when required, please keep the receipts or bills covering the purchase of your equipment for at least a year. Before sending your equipment for servicing, please make sure that you are

sending it to the manufacturer's authorized representatives or their approved repair shops, unless you are sending it directly to the manufacturer. Always obtain a quotation for the service charge, and only after you accept the quoted service charge, instruct the service station to proceed with the servicing.

This warranty policy does not affect customer's statutory rights.

The local warranty policies available from Pentax distributors in some countries can supersede this warranty policy. Therefore, we recommend that you review the warranty card supplied with your product at the time of purchase, or contact the PENTAX distributor in your country for more information and to receive a copy of the warranty policy.

### For customers in the USA

#### STATEMENT OF FCC COMPLIANCE

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does not cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Consult the dealer or an experienced radio/TV technician for help.

### For customers in Canada

This Class B digital apparatus meets all requirements of the Canadian Interference - Causing Equipment Regulations.

#### Pour les utilisateurs au Canada

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.