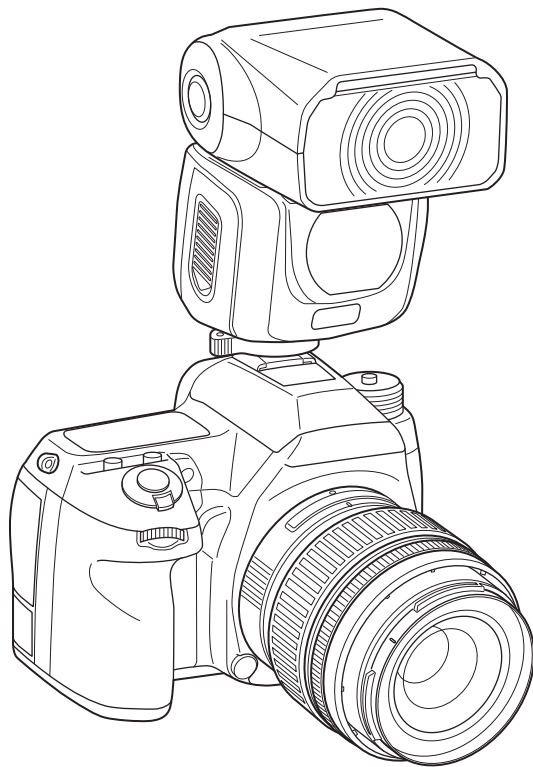# RICOH

Auto Flash

PENTAX AF540FGZ II
PENTAX AF360FGZ II

OPERATING MANUAL

Introduction

Thank you for purchasing the Auto-flash AF540FGZ II/AF360FGZ II.

In addition to easy daylight sync photography with P-TTL auto, the AF540FGZ II/AF360FGZ II also allows wireless P-TTL auto photography and high-speed sync in combination with a digital single lens reflex camera or lens-interchangeable single lens digital camera.

Please read this operating manual before using this flash unit.

This operating manual applies to AF540FGZ II and AF360FGZ II.
The illustrations used in this operating manual are those of AF540FGZ II.

For Use with the Following Models:
645D, K-5II, K-5IIs, K-5, K-30, K-50, K-500, and K-r

When using the flash unit with the models listed above, the camera's firmware needs to be updated to the latest version in order to use the LED beam as the AF-assist spot beam. (Refer to page 53.)
This update corrects the focus position deviation caused by the difference in wavelengths between the AF-assist spot beam of this flash unit and existing flash units.

The LED beam cannot be used as the AF-assist spot beam when using the flash unit with the digital single lens reflex cameras released before the K-7 and K-x. Set **OFF** for AF Spot Beam (**Sb**) in the function menu. (Refer to page 52.)

Firmware Download URL:
http://www.ricoh-imaging.co.jp/english/support/download_digital.html

FOR THE SAFE USE OF YOUR FLASH UNIT

Although we have carefully designed this flash unit for safe operation, please pay special attention to items marked with the following symbols when using the flash unit.

⚠ WARNING
This symbol indicates that violating this item could cause serious personal injuries.

⚠ CAUTION
This symbol indicates that violating this item could cause minor or medium personal injuries, or loss of property.

🚫 is a symbol indicating items that are prohibited.

⚠ is a symbol emphasizing a warning.

⚠ WARNING

🚫 The flash contains electronic circuits that operate at high voltages. Do not attempt to disassemble the flash unit yourself, as there is danger of an electric shock.

🚫 If internal parts of the flash unit become exposed due to impact, etc., do not touch them as there is danger of an electric shock.

🚫 Do not expose the flash unit to water or moisture as there is danger of an electric shock.

⚠ **CAUTION**

🚫 Do not use the flash and/or LED beam near a person's eyes, as it may hurt them. Be particularly careful when using the flash around infants.

🚫 The following may lead to an explosion or fire.
- Shorting the batteries
- Exposing the batteries to flames
- Dismantling the batteries
- Remove the sticker covering the battery
- Attempting to recharge non-rechargeable batteries

⚠ Remove the batteries from the camera immediately if they become hot or begin to smoke. Be careful not to burn yourself during removal.

Precautions for Your Flash Unit

● Never use organic solvents such as paint thinner, alcohol or benzine to clean the flash unit.

● Avoid leaving the flash unit for extended 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.

● The flash unit is designed to be water-proof and dust-proof. However, do not use the flash unit where it may be directly exposed to rain, water, etc.

● 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 P-TTL auto mechanism may be damaged or rendered inoperable.

● Periodic checks are recommended every 1 to 2 years in order to maintain high performance. 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.

● Avoid contact with garbage, dirt, sand, dust, water, toxic gases, salt, etc. When the flash unit is subjected to rain or moisture, wipe it off with a dry cloth.

● When photographing black or white subjects, use exposure compensation.

● The flash unit may become hot when discharges many times in succession, resulting in damage or malfunction.

● Do not attach any accessories such as the hot shoe grip which have the different number of electrical contacts.

● The hot shoe of the camera incorporates flash signal contacts. Dirt, dust, or corrosion on the contacts may cause a malfunction.

● We will not be held responsible for any accidents or damage, etc. caused due to the use of this product with cameras and accessories made by the other companies.

● The LED beam of the unit is to assist shooting with a camera. Do not use the LED beam for other purposes.

■ Cautions Regarding Batteries

● This flash unit uses four AA alkaline, lithium, or nickel metal hydride batteries. Do not use any other types of batteries. The flash unit may not be able to operate correctly or demonstrate sufficient performance, or the flash unit itself may generate heat, depending on the type of batteries used.

● AA alkaline and lithium batteries themselves are not rechargeable. Also, do not dismantle the batteries. Trying to recharge or dismantle the batteries may cause an explosion or leakage.

● When changing batteries, do not mix batteries of different types or capacities, or from different manufacturers.

● Do not insert the batteries with the positive (+) and negative (-) terminals the wrong way around. Incorrect insertion may lead to an explosion or fire.

● Battery performance may temporarily be hindered in low temperatures. Batteries should be kept warm in temperatures below freezing for proper performance.

● If you do not intend to use the flash unit for an extended period of time, remove the batteries. Leaving them in may cause damage to the flash unit due to leakage etc.

● Do not short the batteries or dispose of the batteries in fire. Do not disassemble the batteries. The batteries could explode or catch fire.

● Remove the batteries from the flash unit immediately if they become hot or begin to smoke. Be careful not to burn yourself during removal.

Contents

Overview of the Operating Manual

The operating manual includes the following chapters.

1 Getting Ready

This chapter explains about getting ready to take pictures after you purchase the flash unit.
Be sure to read this chapter before you start taking pictures or operating the flash unit.

2 Taking Pictures

This chapter explains how to take pictures and how to set the functions for taking pictures.

3 Appendix

The appendix includes materials, data tables, and specifications.

Names of Parts

■ Parts of This Flash Unit

① Bounce angle adjustment
② LCD panel
③ Flash mode button
④ Sync mode button
⑤ LED button/LED Ready lamp
⑥ Test button/Ready lamp
⑦ Zoom button
⑧ LCD panel illumination button/Function button
⑨ Power switch
⑩ Setting button
⑪ Adjustment dial

8
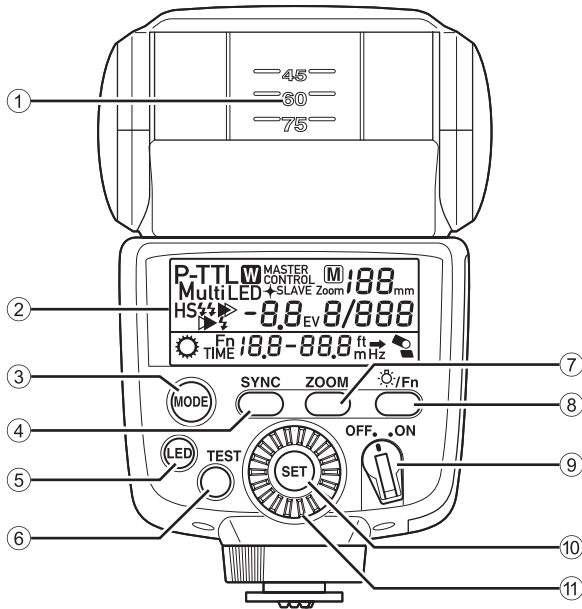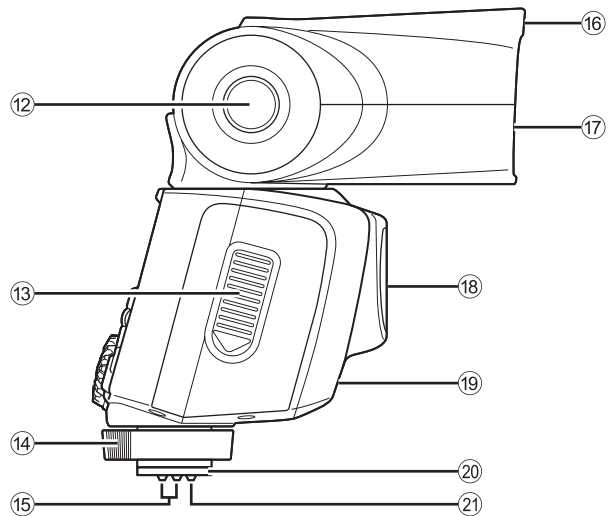
⑫ Bounce lock release button
⑬ Battery chamber cover
⑭ Locking lever
⑮ Flash signal contacts
⑯ Wide-angle panel
⑰ Flash head
⑱ LED emitter
⑲ Wireless slave sensor
⑳ Shoe bracket
㉑ Shoe lock pin

Opening of the stand
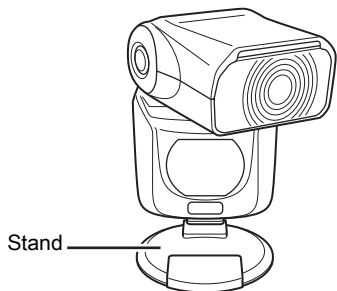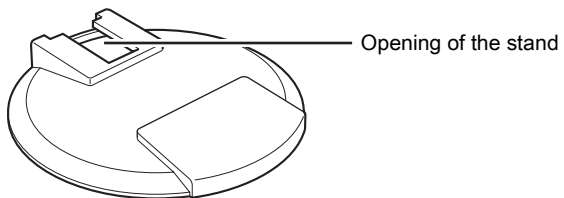
Stand

■ **Major Bundled Items**
① Stand
② Case
③ Operating manual (this manual)
④ Certification
Slide the hot shoe bracket into the opening of the stand.
• You cannot attach the off-camera shoe adapter F to the bundled stand.
• When attaching the flash unit to the stand, do not tighten the locking lever too far. Tightening too far may cause the locking lever to not lock sufficiently when the flash unit is removed from the stand and attached to the hot shoe of the camera.
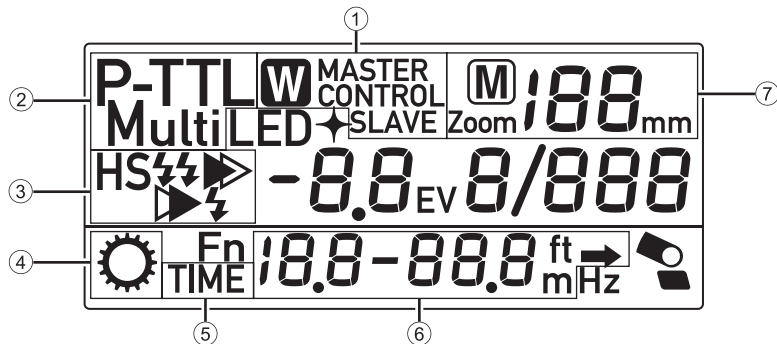
■ LCD Panel Indicator

① Wireless mode indicator: MASTER→CONTROL→SLAVE
② Flash mode indicator: P-TTL→M→Multi→�__ (P-TTL)
　→�__ (Manual)
③ Sync mode indicator:
　⚡▷ (Leading curtain sync)→ ▷⚡ (Trailing curtain sync)
　→ ⚡⚡▷ (Contrast control sync)→ HS⚡ (High-speed sync)
④ Adjustment dial indicator
⑤ Number of flashes

⑥ Effective flash range indicator:
　Minimum distance – Maximum distance (in P-TTL mode)
　Correct exposure distance (in manual mode)
⑦ Zoom indicator:
　auto (**Zoom**)→manual (Ⓜ**Zoom**) XXX mm= 13, 16, 19, 24,
　34, 48, 58 (K series (APS-C))
　25, 30, 35, 43, 62, 87, 106 (645D)
　3, 4, 5, 6, 9, 13, 15 (Q series)
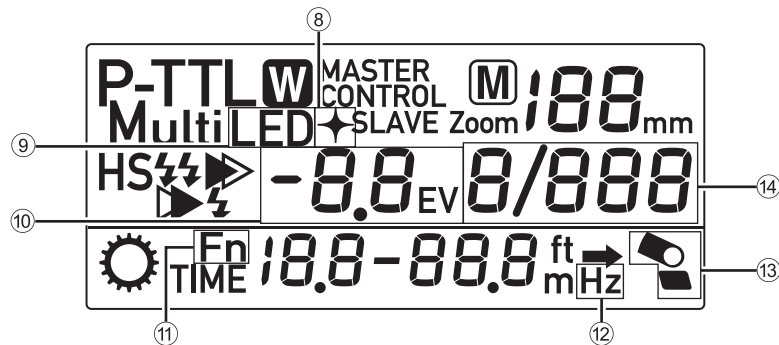
⑧ Catchlight indicator
⑨ LED beam mode
⑩ Flash output compensation indicator: -4.0 to +2.0 levels, (auto (A), 1/3, 1/2 step)
⑪ Function menu indicator
⑫ Flash frequency indicator

⑬ Bounce flash indicator
⑭ Flash output adjustment indicator: X / XXX
• In poorly lit locations where the LCD panel cannot be seen, pressing the LCD panel illumination button (☼/Fn) will illuminate the LCD panel for about 10 seconds. Pressing it again will turn off the illumination.

1

2
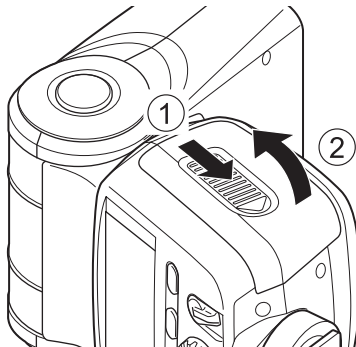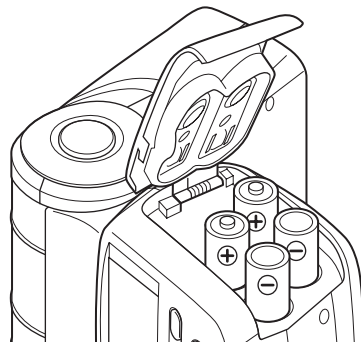
1. Getting Ready

Inserting the Batteries

1 Slide the battery chamber cover as shown in the figure to open.

2 Insert four AA batteries, making sure the plus/minus markings ($\oplus$, $\ominus$) match the diagram inside the battery chamber cover.

Types of Batteries

This flash unit uses four AA batteries of the same type, as shown below.
- Alkaline battery (LR6)
- Lithium battery (FR6)
- Nickel-Metal Hydride battery (Ni-MH)

(Nickel manganese (Ni-Mn) and nickel cadmium (Ni-Cd) batteries cannot be used.)

• For information about recycling times and total number of flashes, refer to "Specifications" on page 62.

• If the indicators on the LCD panel or the Ready lamp does not light up, the batteries may be exhausted or not inserted correctly. Verify the orientation of the batteries or, if the indicators and the Ready lamp still do not light up, replace them with new batteries.

- If you let the flash unit discharge successively using lithium batteries, the batteries will overheat, activating a safety circuit that temporarily disables the flash unit. If this occurs, rest the flash unit so that the temperature of the batteries returns to normal.
- The blinking low battery indicator shown in the illustration appears on the LCD panel when the batteries are exhausted. Replace all the four batteries with new ones.

```
Lo
bat
```

1

2
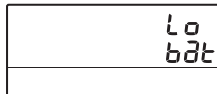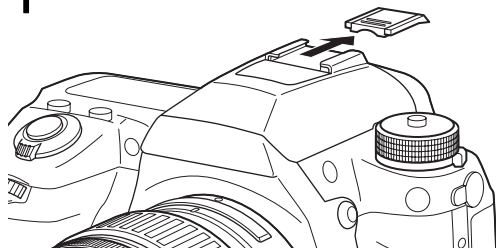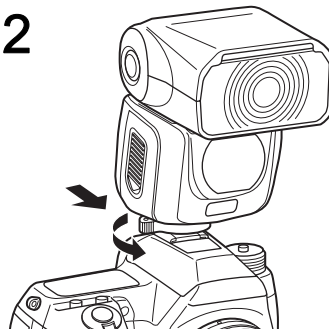
Mounting to the Camera

1 Remove the hot shoe cover from the camera.

2 Attach the flash unit to the camera.
- ① Facing the LCD panel, turn the locking lever of the flash unit to the left.
- ② Slide the hot shoe bracket of the flash unit into the camera's hot shoe from the back of the camera forward.
- ③ Facing the LCD panel, turn the locking lever of the flash unit to the right to lock it.
  - When releasing the flash unit, be sure to face the LCD panel and turn the locking lever to the left, then loosen the shoe lock pin. Otherwise, the hot shoe will be damaged.

- Do not hold the flash unit when attached to the camera. Otherwise the camera may drop and be damaged.

Ready lamp
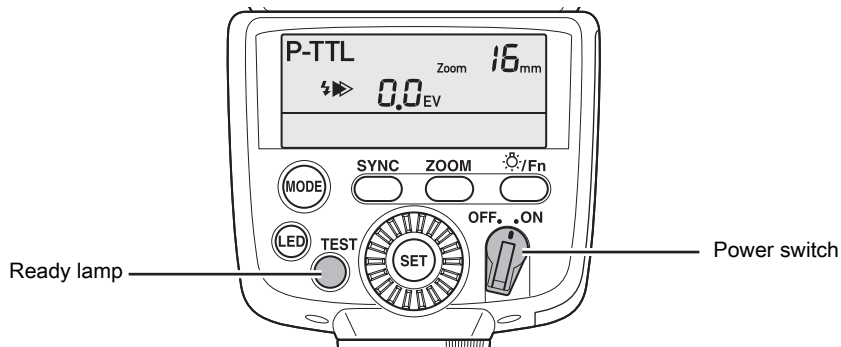
Power switch

Turning the Power On and Off

1 Turn the camera on, then turn on the unit's power switch (**ON**).
- The Ready lamp will light up when the flash is charged.

2 Turn off the unit's power switch (**OFF**).
- If charging time takes more than 20 seconds, the batteries have been exhausted and should be replaced with new batteries. If the flash unit is used with exhausted batteries, the settings may return to their default configuration.

Auto Power Off Function

When the flash unit is left unused for about 3 minutes with the power switch set to the (**ON**) position, it automatically switches off to save the power.

1 Turn on the power switch (**ON**).

2 Press and hold the function button (☼/Fn).

3 Rotate the adjustment dial to display **PH** on the LCD panel.

4 Press the setting button (**SET**) to blink **PH1** or **PH2**.
PH1: Enables the auto power off function. (Default setting)
PH2: Disables the auto power off function.

5 Rotate the adjustment dial to select **PH1** or **PH2**.

6 Press the setting button (**SET**) to complete the setting.

- To exit the function menu, press and hold the function button (☼/**Fn**).
- Refer to "Using the Function Menu" (page 36) for details on the function menu.
- In wireless mode, the power will turn off after about 1 hour of non-operation (in **SLAVE** mode only).

Quick Power On Function

If the flash unit is mounted on autofocus cameras, press the shutter release button half way down to turn on the power.

1

1

2
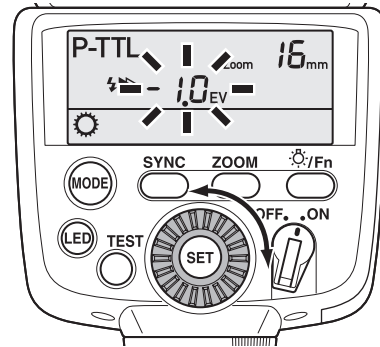
Setting Button/Adjustment Dial Functions

With the setting button (**SET**) and adjustment dial, you can configure the settings of flash modes or LED beam mode, such as flash output, etc. Refer to page 20 for each setting item, and also "Using the Function Menu" (page 36) when using the function menu.

1 Turn on the power switch (**ON**).
2 Press the setting button (**SET**) to blink the number you want to set.
3 Rotate the adjustment dial to set the blinking number.

3

P-TTL Zoom 16 mm

⚡▶ − 1.0 EV

SYNC   ZOOM   ☀/Fn

MODE

LED TEST   SET   OFF ● ON
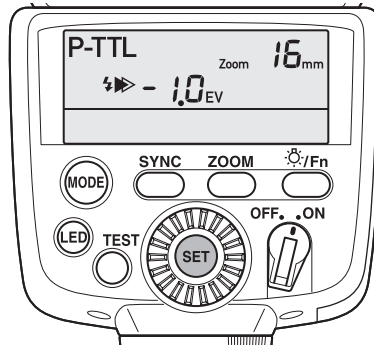
4 Press the setting button (**SET**) again to complete the setting. Adjust the other setting items using the same procedure.
  • If you want to use multiple flash units set to P-TTL and adjust the amount of light at the same time, use the camera's exposure compensation.

Setting Items in Flash Modes

Flash mode	Sync mode				Wireless mode			Flash output compensation	Flash output	Number of flashes (Multi)	Flash frequency (Multi)
	Leading curtain	Trailing curtain	Contrast control	High-speed	MASTER	CONTROL	SLAVE				
P-TTL (auto)	✔	✔	✔	✔	–	–	–	-4.0 to +2.0	–	–	–
M (Manual)	✔	–	–	–	–	–	–	–	1/1, 1/2, 1/4, 1/8, 1/16, 1/32, 1/64, 1/128, 1/256	–	–
Multi (Multi flash)	✔	–	–	–	–	–	–	–	1/4, 1/8, 1/16, 1/32, 1/64, 1/128, 1/256	2 to 100	1 to 200
WIRELESS (P-TTL)	✔	–	✔	✔	✔	✔	✔	-4.0 to +2.0	1/1, 2/3, 1/2, 1/3	–	–
WIRELESS (M)	✔	–	–	–	–	–	✔	–	1/1, 1/2, 1/4, 1/8, 1/16, 1/32, 1/64, 1/128, 1/256	–	–
LED beam light output	–	–	–	–	–	–	–	–	Auto, 1/1, 1/2, 1/4, 1/8, 1/16	–	–

Zoom	Auto zoom
M Zoom	Manual zoom
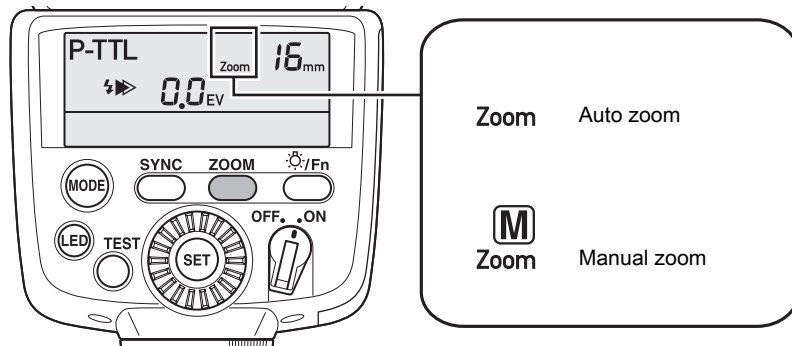
Flash Coverage Angle

Flash coverage angle of this flash unit can be adjusted to match the angle of view of the lens being used, which enables effective distribution of the flash light.

1 Turn on the power switch (**ON**).

2 Press the zoom button (**ZOOM**) and set the zoom position (flash coverage angle) to match the focal length of the lens you are using.

Auto Zoom (Zoom)

If both the camera and lens are autofocus, you can automatically set the flash coverage angle according to the focal length of the lens by pressing the shutter release button of the camera halfway down. The auto zoom function operates while the exposure metering timer is operating (while information is being displayed in the viewfinder).

① If Ⓜ is displayed on the LCD panel, press the zoom button (**ZOOM**) a number of times until Ⓜ disappears. Note that auto zoom (**Zoom**) is set when you turn on the flash unit.

Manual Zoom (Ⓜ Zoom)

If one or both of the camera and lens are manual focus, you must set the flash coverage angle manually.

① Press the zoom button (**ZOOM**) to display Ⓜ, then press it a number of times until the focal length, or wider, of the lens being used is displayed on the LCD panel.

The zoom position is switched in the order shown in the diagram on page 23.

Zoom Positions for Each Format

*Wide-angle panel used.

K series (APS-C)	645D	Q series
13mm*	25mm*	3mm*
16mm	30mm	4mm
19mm	35mm	5mm
24mm	43mm	6mm
34mm	62mm	9mm
48mm	87mm	13mm
58mm	106mm	15mm

- When the wide-angle panel is used, the zoom button (**ZOOM**) 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.)

K series (APS-C)	645D	Q series
Zoom 16mm	Zoom 30mm	Zoom 4mm
Ⓜ Zoom 16mm	Ⓜ Zoom 30mm	Ⓜ Zoom 4mm
Ⓜ Zoom 19mm	Ⓜ Zoom 35mm	Ⓜ Zoom 5mm
Ⓜ Zoom 24mm	Ⓜ Zoom 43mm	Ⓜ Zoom 6mm
Ⓜ Zoom 34mm	Ⓜ Zoom 62mm	Ⓜ Zoom 9mm
Ⓜ Zoom 48mm	Ⓜ Zoom 87mm	Ⓜ Zoom 13mm
Ⓜ Zoom 58mm	Ⓜ Zoom 106mm	Ⓜ Zoom 15mm
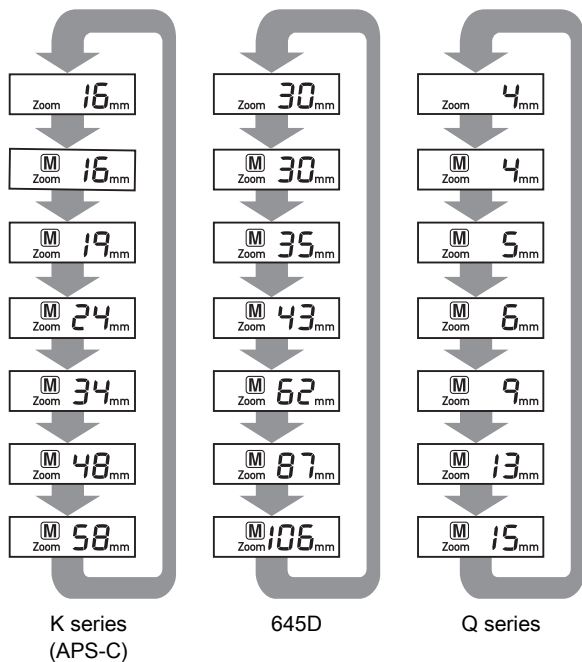
- In the auto zoom mode (**Zoom**), the flash coverage angle will be adjusted automatically to suit the lens focal length when you press the shutter release button halfway, and the camera exposure metering timer is on.
- In the auto zoom mode (**Zoom**), if there is no lens focal length information, the flash coverage angle will be set automatically to 16 mm with K series (APS-C), 30 mm with 645D, or 4 mm with Q series.
- When using the wide-angle panel, the angle will be fixed at 13 mm for K series (APS-C), 25 mm for 645D, or 3 mm for Q series in both auto zoom mode (**Zoom**) and manual zoom mode (Ⓜ **Zoom**).

2. Taking Pictures

Using the Flash Modes

This flash unit has the following flash modes. Select the mode best suited for the subject.

P-TTL Auto Flash (P-TTL)

A pre-flash is discharged before the main flash so that the multi-segment metering sensor can measure the subject's distance, brightness, brightness difference, 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. Refer to page 25 for instructions on how to use this flash mode.

Manual Flash (M)

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, 1/32, 1/64, 1/128 or 1/256. Refer to page 26 for instructions on how to use this flash mode.

Multi Flash (Multi)

A series of flashes can be discharged in a specified interval. The flash output, number of flashes, and flash frequency can be set respectively. Refer to page 27 for instructions on how to use this flash mode.

Wireless Mode (P-TTL/Manual)

In wireless mode (P-TTL), you can take photographs with this flash unit separated from the camera. If the camera is not compatible with the wireless function, you can also take photographs wirelessly in slave flash mode. (Refer to page 48.) Refer to pages 28 and 40 for instructions on how to use wireless mode.

P-TTL

Zoom 16mm

⚡▶▷ 0.0EV
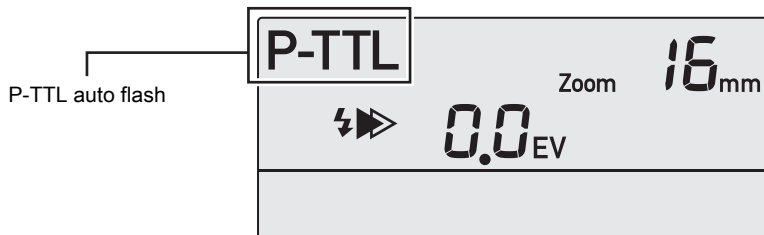
P-TTL auto flash

■ **P-TTL Auto Flash**

1 Turn on the power switch (**ON**).

2 Press the flash mode button (**MODE**) until **P-TTL** is displayed on the LCD panel.

3 Press the sync mode button (**SYNC**) to cycle through the display of: leading curtain sync (⚡▷) → trailing curtain sync (▷⚡) → contrast control sync (⚡⚡▷) → high-speed sync (**HS**⚡). Select sync mode best suited for the subject. (Refer to page 31.)

• When turning on the power switch (**ON**), **P-TTL** and auto zoom (**Zoom**) are set.

4 Set the zoom position (flash coverage angle).

• The setting method differs according to your camera and lens. (Refer to page 21.)

5 Confirm that the subject is within the effective flash range and the Ready lamp is lit. Then take a picture.

• The correct flash output is obtained in P-TTL mode only when the flash unit is used with autofocus lenses.

• If necessary, an exposure compensation amount can be set in the range of -4.0 to +2.0 by 1/3, or 1/2 step. (Refer to page 18.)

• When the camera's exposure mode is other than manual (**M**), bulb (**B**) and flash X-sync speed (**X**), even if you set the flash mode of this flash unit to manual (**M**), it will automatically switch to **P-TTL** while the camera's exposure meter is operating (while information is being displayed in the viewfinder). (With the 645D, if the aperture of the lens is in a position other than A, the flash mode will switch to TTL.)

Manual flash

M ⚡▷   Zoom 16mm $1/1$
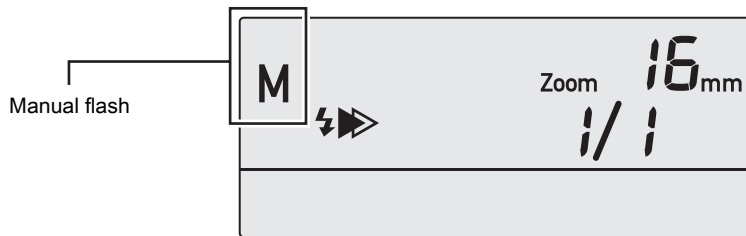
■ Manual Flash

1 Turn on the power switch (**ON**).

2 Press the flash mode button (**MODE**) to display **M** on the LCD panel.
   • You can set the flash output from 1/1 to 1/256. (Refer to page 18.)

3 Press the zoom button (**ZOOM**) to set the zoom position (flash coverage angle).
   • The setting method differs according to your camera and lens. (Refer to page 21.)

4 Set the camera's lens aperture according to the distance to the subject.

> Example:
> If the flash zoom position is 34 mm, subject distance (between this flash unit and subject) is 4 m, and sensitivity is ISO 100, the calculation will be as follows:
> 1   With flash output (1/1), the Guide No. will be 45 (according to the Guide No. table).
> 2   Aperture = Guide No. 45 / Subject distance 4 m = 11.25 → Approx. 11 (F/Stop)
> * The numbers used in this example are for K series (APS-C).

   • Refer to page 58 for the guide number table.

5 Confirm that the subject is within the effective flash range and the Ready lamp is lit. Then take a picture.
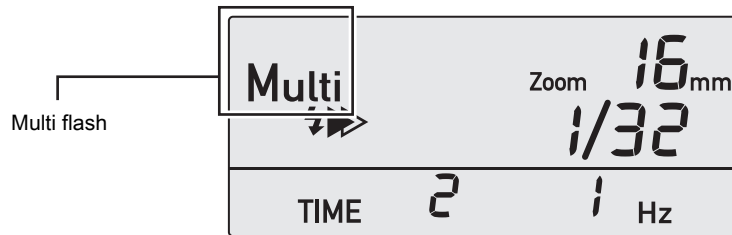
Multi flash

■ Multi Flash

1 Turn on the power switch (**ON**).

2 Press the flash mode button (**MODE**) to display **Multi** on the LCD panel.

3 Blink the desired setting item from flash output, number of flashes, and flash frequency, by pressing the setting button (**SET**) repeatedly.

4 Rotate the adjustment dial to select number(s) and press the setting button (**SET**) to complete the setting. Then take a picture after confirming the Ready lamp is lit.

How to determine the shutter speed.
For Multi Flash shooting, the shutter needs to be open.
Calculate the shutter speed using the formula below, then shoot with a slower shutter speed than calculated.
"Shutter speed = number of flashes / flash frequency"

P-TTL W MASTER   Zoom 16mm

Wireless mode (P-TTL)

⚡▷ 0.0 EV 1/1
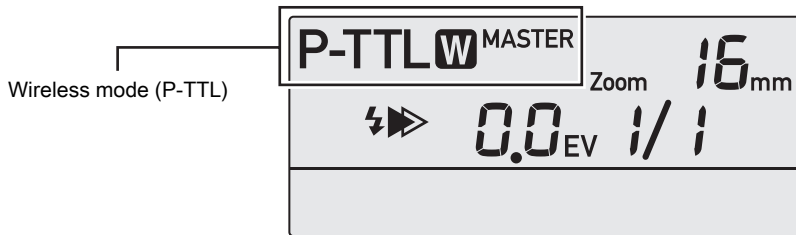
■ Wireless Mode (P-TTL)

1 Turn on the power switch (**ON**).

2 Press the flash mode button (**MODE**) to display **P-TTL W MASTER** on the LCD panel.

3 Press the setting button (**SET**) to blink the wireless mode setting.

4 Rotate the adjustment dial to select the desired setting from **MASTER/CONTROL/SLAVE**.

5 Press the setting button (**SET**) to complete the setting, and take a picture after confirming the Ready lamp is lit.

- When **SLAVE** is selected, the Ready lamp blinks after the flash unit is fully charged.
- If you select **MASTER** or **SLAVE**, you can configure settings of flash output compensation and flash output by pressing the setting button (**SET**).
- Refer to "Advanced Functions" (page 40) on how to use wireless mode.

M [W] SLAVE Zoom 16mm 1/1

Wireless mode (manual)
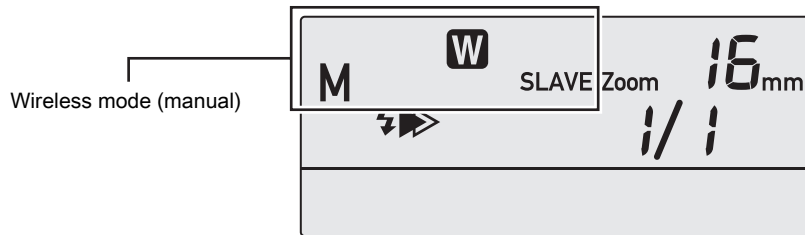
■ Wireless Mode (Manual)

1 Turn on the power switch (**ON**).

2 Press the flash mode button (**MODE**) to display
M[W]SLAVE on the LCD panel.

- You can set the flash output from 1/1 to 1/256. (Refer to page 18.)
- You can set the zoom position (flash coverage angle) as in manual mode. (Refer to page 21.)

3 Take a picture after confirming the Ready lamp is blinking.

- **SLAVE** is only selectable when in wireless mode (manual).
- Refer to "Advanced Functions" (page 40) on how to use wireless mode in details.

LED

i/ i
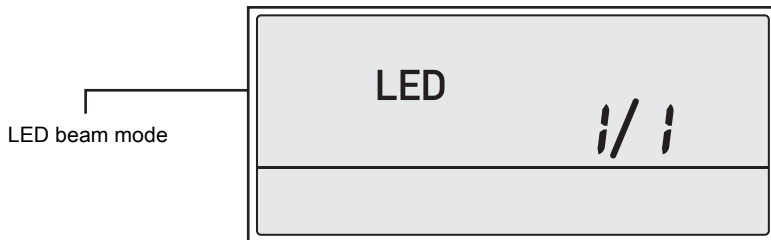
LED beam mode

■ **Taking Pictures/Shooting Movies with LED Beam (LED Beam Mode)**

1 Turn on the power switch (**ON**).
2 Press the LED button (**LED**) to turn on the LED beam. **LED** is displayed on the LCD panel.
3 Take a picture after confirming the flash output of the LED beam.
   • You can change the flash output of the LED beam from 1/1 to 1/16 by rotating the adjustment dial while the LED beam is lit.
   • In the function menu, you can set the option of LED beam mode (**SP**) when taking a picture. (Refer to page 38.)

Using the Sync Modes

This flash unit has the following sync modes. Select the mode best suited for the subject.

Leading Curtain Sync Mode

This is the most commonly used sync mode. In this mode, the flash is discharged at the instant the first shutter curtain completes its travel. You can use this mode with the shutter speed set to the X-sync speed or slower. Refer to page 31 for this sync mode.

Trailing Curtain Sync Mode

In this sync mode, the flash is discharged at the instant the second curtain begins its travel. This mode will freeze the subject with a blur appearing after the subject under a slow shutter speed condition. Refer to page 31 for this sync mode.

High-speed Sync Mode

This sync mode will enable flash synchronization with shutter speeds faster than the X-sync speed. Since there is no sync speed limitation, high-speed sync is effective for fill-flash in daylight. Refer to page 32 for this sync mode.

Contrast Control Sync Mode

This sync mode enables you to photograph with multiple flash units, utilizing the difference of the light intensity of each flash unit to optimize the shadow of the subject. The ratio of flash light intensity between the flash unit set to this sync mode and the other flash unit is 1:2. Refer to page 34 for this sync mode.

■ **Leading Curtain Sync Mode**

Refer to page 31 for the features and conditions of use of this sync mode.

1 Turn on the power switch (**ON**).

2 Press the Sync button (**SYNC**) to switch to leading curtain sync mode (🔦▷▷).

3 Confirm that the subject is within the effective flash range and the Ready lamp is lit. Then take a picture.

■ **Trailing Curtain Sync Mode**

Refer to page 31 for the features and conditions of use of this sync mode.

1 Turn on the power switch (**ON**).

2 Press the Sync button (**SYNC**) to switch to trailing curtain sync mode (▷▷🔦).

3 Confirm that the subject is within the effective flash range and the Ready lamp is lit. Then take a picture.
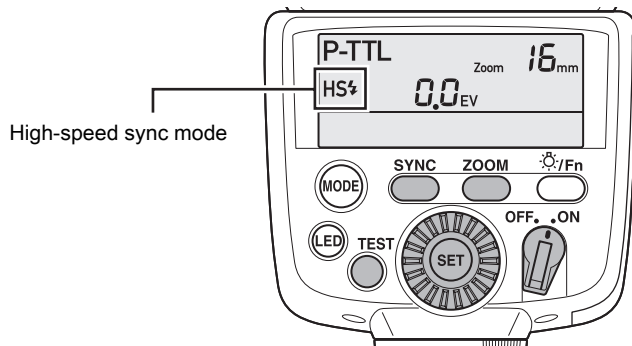
High-speed sync mode

■ **High-Speed Sync Mode**

Refer to page 31 for the features and conditions of use of this sync mode.

- As the shutter speed becomes faster, the guide number becomes smaller (as seen in page 59). Accordingly, it should be noted that the distance for taking pictures would become shorter.

1 Turn on the camera and set the exposure mode to a mode other than the Programmed AE (**P**).

2 Attach the flash unit to the camera's hot shoe and turn on the power switch of the flash unit (**ON**).

3 Press the Sync button (**SYNC**) to switch to high-speed sync mode (**HS⁴**).

- The flash will be set to high-speed sync mode and **HS⁴** will be shown on the LCD panel only when the shutter speed exceeds X-sync speed.
- Otherwise the leading curtain sync (**⁴▷▷**) blinks and the flash will be set to leading curtain sync mode.

4 Press the setting button (**SET**) to blink **0.0** for setting exposure compensation. Then set the number by rotating the adjustment dial.
 • The exposure compensation can be set in the range of -4.0 to +2.0 (1/3, or 1/2 step). (Refer to page 18.)
5 Press the setting button (**SET**) to complete the setting.
6 Set the zoom position (flash coverage angle).
 • The setting method differs according to your camera and lens. (Refer to page 21.)
7 Check the effective flash range on the LCD panel.
8 Confirm that the subject is within the effective flash range and the Ready lamp is lit. Then take a picture.
 • Please read the camera's operating manual for camera operation.
 • High-speed sync mode is possible with the camera separated (wireless) from this flash unit.

2
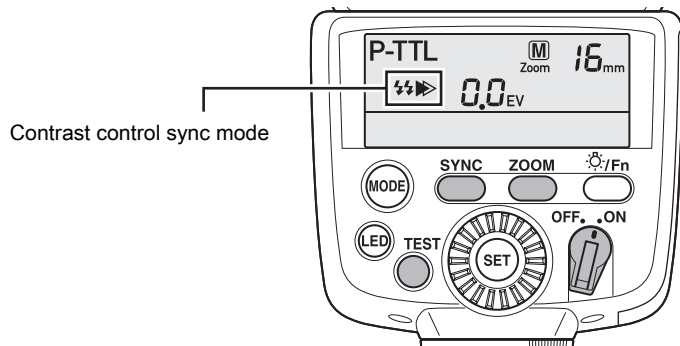
Contrast control sync mode

■ Contrast Control Sync Mode

Refer to page 31 for the features and conditions of use of this sync mode.

- Refer to "Connecting with the Extension Cord" on page 55 on using the flash unit detached from the camera.

1 Turn on the power switch (**ON**).

2 Press the Sync button (**SYNC**) to switch to contrast control sync mode (🔾🔾▶).

3 Set the zoom position (flash coverage angle).

- The setting method differs according to your camera and lens. (Refer to page 21.)

- If this flash unit is set in contrast control sync mode and is much closer to the subject than the flash unit to be used in combination, use manual zoom (Ⓜ**Zoom**) to set the zoom position to a shorter lens focal length.

4 Turn on the other flash unit to be used in combination.

- If the camera's built-in flash unit is part of the combination, pop up the built-in flash of the camera. In combination, the flash output intensity ratio of the built-in flash and the unit is 1:2. This means that the unit discharges at double the intensity of the built-in flash.

5 Confirm that the subject is within the effective flash range and the Ready lamp is lit. Then take a picture.
- If you are using a single flash unit, you can only perform leading curtain sync photography even when you set contrast control sync mode (⚡⚡▷) by pressing the Sync button (**SYNC**).
- If the condition for contrast control sync is not satisfied, the leading curtain sync (⚡▷) blinks and the flash will be set to leading curtain sync mode.

②
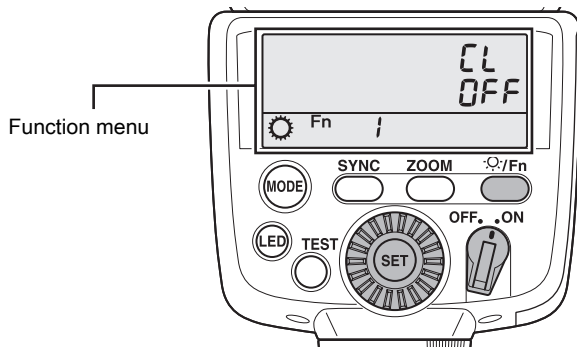
Function menu

Using the Function Menu

You can configure the various settings, such as catchlight or AF spot beam, in the function menu.
Refer to page 37 for each function menu item.

1 Turn on the power switch (ON).
2 Press and hold the function button (☼/Fn).
3 Rotate the adjustment dial to display the desired setting item.
4 Press the setting button (SET) to blink the setting option.
5 Rotate the adjustment dial to select the desired setting option.
6 Press the setting button (SET) to complete the setting.

• To exit the function menu, press and hold the function button (☼/Fn) again.

About the Function Menu

Catchlight
A catchlight is a reflection of light source (LED beam) in the subject's eyes. It usually appears as a white dot and makes the human subject look more lively (only when combined with the bounce flash).

AF Spot Beam
You can configure brightness of the AF spot beam.
Refer to page 52 for details on the AF spot beam.

LED Beam Mode
You can enable or disable the LED beam when taking pictures.

Channel
You can register channels for flash units to be synchronized when in wireless mode.

Slave Mode
You can switch between wireless mode and slave flash mode.
Refer to page 48 for details on slave flash mode.

Flash Output Compensation
You can configure a step increment of flash output compensation (EV).

Auto Power Off
You can enable or disable the auto power off function.
Refer to page 16 for details on the auto power off function.

LCD Panel Illumination
You can configure brightness of the LCD panel illumination.

Flash Range
You can select meters (**m**) or feet (**ft**) for the effective flash range indicator.

2

Setting Items in the Function Menu

Function Menu	Displayed Symbol	Option	Default Setting	Description
Fn1: Catchlight (LED beam)	CL	On		Enable the catchlight when using the bounce flash (✦ is displayed on the LCD panel.)
		OFF	✔	Disable the catchlight.
Fn2: AF Spot Beam	Sb	1/1	✔	Maximum brightness
		1/2		Minimum brightness
		OFF		Turns off AF spot beam.
Fn3: LED Beam Mode	SP	1	✔	Discharges the flash with LED beam turned on when taking a picture.
		2		Does not discharge the flash with LED beam turned on when taking a picture.
		3		Discharges the flash with LED beam turned off when taking a picture.
Fn4: Channel	CH	1	✔	Channel 1
		2		Channel 2
		3		Channel 3
		4		Channel 4
Fn5: Slave Mode	SL	1	✔	When taking pictures in wireless mode.
		2		When taking pictures with slave flash (not using wireless function).
Fn6: Flash Output Compensation	FE	A	✔	Auto (associates with the camera's flash output compensation)
		1/3		1/3 EV step
		1/2		1/2 EV step
Fn7: Auto Power Off	PH	1	✔	Enabled
		2		Disabled

2

Function Menu	Displayed Symbol	Option	Default Setting	Description
Fn8: LCD Panel Illumination	*lcd*	HI	✔	The backlight works in conjunction with the camera.
		Lo		The backlight works in conjunction with the camera.
		OFF		The backlight does not work in conjunction with the camera. (Press the LCD panel illumination button to turn on the backlight.)
Fn9: Flash Range	*Fr*	m	✔	Displays in meters (m).
		ft		Displays in feet (ft).

2

■ **Wireless Mode**

In wireless mode (P-TTL), you can take photographs with this flash unit separated from the camera wirelessly.

Combine the flash unit with the built-in flash unit of the camera, or another flash unit (AF540FGZ II) attached to the camera.

• AF360FGZ II can be used interchangeably with this flash unit for wireless mode photography.

• Before photographing, check that **SL1** is set in slave mode of the function menu. (Refer to page 36, 50).

Notes on Wireless Flash Control (P-TTL Photography)

When using this flash unit in wireless mode, the following information is transferred between the flash unit attached to the camera and one separated from the camera, before these flash units are discharged.

1 The shutter release button is fully pressed.

2 The flash attached to the camera emits a small control flash (relays the flash mode of the camera).

3 The separated flash unit from the camera emits a pre-flash (verifies the state of the subject).

4 The flash attached to the camera emits a small control flash (relays the flash output amount to the separated flash unit).
  • The flash attached to the camera will emit a pre-flash once more after this to relay the flash duration time when high-speed sync mode is set.

5 The separated flash unit discharges the main flash. (Refer to page 45 when you want both flash units to discharge main flashes.)
  • "Control flash" and "Main flash"
    The purpose of the control flash in wireless mode is to send information to the other flash unit before taking a picture. The main flash discharges at the actual time a picture is taken in the same manner as traditionally done.
  • When setting up the flash unit separately from the camera, use the off-camera shoe adapter F when using a tripod, or the off-camera shoe clip CL-10 when setting up in another location such as tabletop, chair, etc.
  • Keep the built-in flash unit of the camera or this flash unit, within approx. 4 meters of the subject.

1

P-TTL 🆆
SLAVE Zoom 16 mm
⚡▶ U.U EV 1/1

SYNC ZOOM ☼/Fn
MODE
OFF • • ON
LED TEST SET

Wireless mode
(SLAVE)

2

3
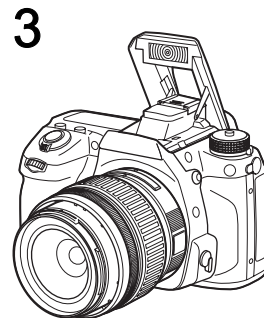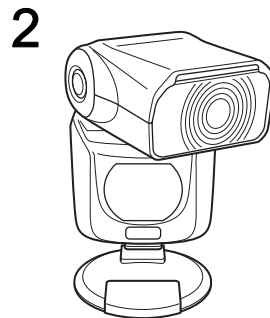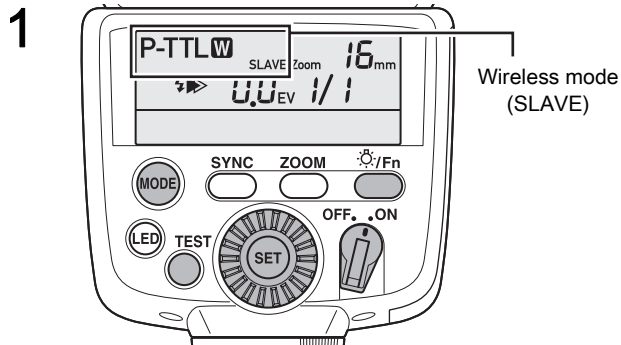
Using This Flash Unit in Combination with a Built-in Flash Unit of the Camera

1 Firstly, set a channel of this flash unit, and register it on the camera.

   1 Turn the camera off and then attach this flash unit to the hot shoe of the camera.
   2 Turn on the power switch (**ON**).
   3 Press the flash mode button (**MODE**) a number of times to display **P-TTL 🆆 MASTER** on the LCD panel.
   4 Press the setting button (**SET**) and rotate the adjustment dial to display **SLAVE**.
   5 Press the setting button (**SET**) to complete the setting.
   6 Set a channel (**CH1** through **CH4**) from the function menu.

• Refer to "Using the Function Menu" (page 36) for details on the function menu.

7 Press and hold the function button (☼/Fn) to complete the setting.
8 Turn the camera on and press the shutter release button halfway down. The channel is registered on the camera.
   • **SLAVE** cannot be selected while the camera's exposure metering timer is on (while information relating to aperture, etc., is displayed in the viewfinder).

2 Remove the flash unit from the camera and place it in the desired position.

- Press the flash mode button (**MODE**) to display **P-TTL** W on the LCD panel if the flash mode is set to the modes other than **P-TTL** W.

3 Enable the built-in flash unit of the camera and set the camera's flash mode to W (**WIRELESS**).

4 Confirm that the flash unit and built-in flash unit of the camera are fully charged, and take the photograph. A lamp on the flash unit will blink.

- In P-TTL mode, flash output setting (1/1, 2/3, 1/2, and 1/3) and flash output compensation (-4.0 to +2.0) can be adjusted. (Refer to page 18.)
- The flash mode on the camera must be set to W (**WIRELESS**), otherwise this flash unit will not discharge.
- By changing the camera's function settings, you can set the built-in flash unit so that it is not the main flash. Refer to the operating manual of the camera for details.

Control flash

Main flash
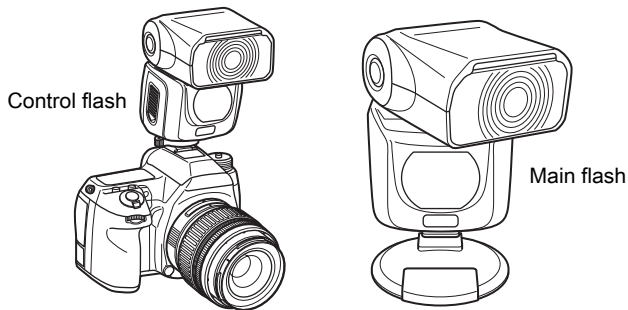
Attaching This Flash Unit to the Camera for Control Flash

(Preparation of the Flash Unit Attached to the Camera)

1 Set a channel of the flash unit attached to the camera.

　1　Turn the camera off and then attach this flash unit to the hot shoe of the camera.

　2　Turn on the power switch (**ON**).

　3　Press the flash mode button (**MODE**) a number of times to display **P-TTL W MASTER** on the LCD panel.

　4　Press the setting button (**SET**) and rotate the adjustment dial to display **CONTROL**.

　5　Press the setting button (**SET**) to complete the setting.

1

Wireless mode (CONTROL)

6　Set a channel (**CH1** through **CH4**) from the function menu.
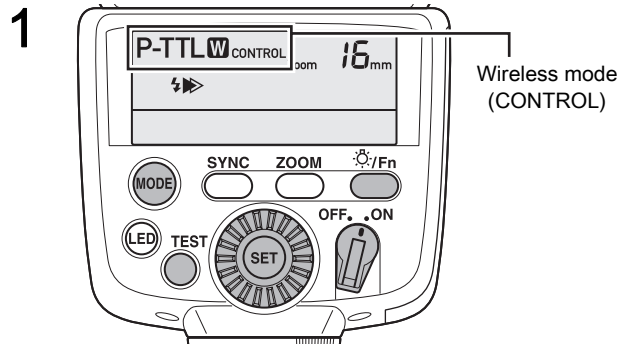　• Refer to "Using the Function Menu" (page 36) for details on the function menu.

7　Press and hold the function button (☼/**Fn**) to complete the setting.

43

2

Wireless mode (SLAVE)

P-TTL🅆 SLAVE oom 16mm
⚡▶ 0.0 EV 1/1

SYNC   ZOOM   ☼/Fn

MODE ( )   ( )

OFF . .ON

LED TEST

SET

(Preparation of the Separated Flash Unit)

2 Set the channel of the separated (wireless) flash unit to the same channel as the flash unit attached to the camera.

1. Place the other flash unit in the desired position.
2. Turn on the power switch (**ON**).
3. Press the flash mode button (**MODE**) a number of times to display **P-TTL🅆 MASTER** on the LCD panel.
4. Press the setting button (**SET**) and rotate the adjustment dial to display **SLAVE**.
5. Press the setting button (**SET**) to complete the setting.
6. Set the same channel (**CH1** through **CH4**) of the flash unit attached to the camera from the function menu.
   - Refer to "Using the Function Menu" (page 36) for details on the function menu.

7. Press and hold the function button (☼/Fn) to complete the setting.
   - The two flash units must be set to the same channel, otherwise the separated flash unit will not discharge.

(Photographing)

3 Confirm that both flash units are fully charged, and take the photograph.
A lamp on the separated flash unit will blink.

Use both flash units as main flashes.

1

P-TTL W MASTER Zoom 16mm
⚡▷ 0.0 EV 1/1
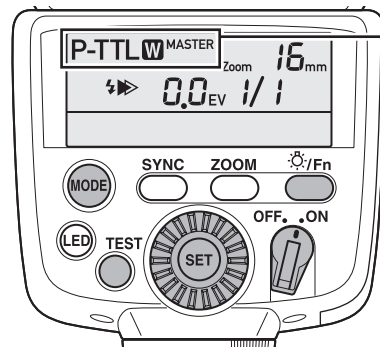
Wireless mode
(MASTER)

Using Both Flash Units as Main Flashes

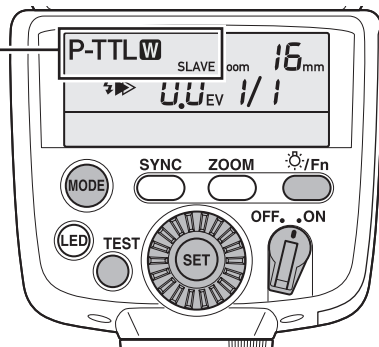### (Preparation of the Flash Unit Attached to the Camera)

1 Set a channel of the flash unit attached to the camera.

1. Turn the camera off and then attach this flash unit to the hot shoe of the camera.
2. Turn on the power switch (**ON**).
3. Press the flash mode button (**MODE**) a number of times to display **P-TTL W MASTER** on the LCD panel.
4. Set a channel (**CH1** through **CH4**) from the function menu.
   • Refer to "Using the Function Menu" (page 36) for details on the function menu.
5. Press and hold the function button (☼/**Fn**) to complete the setting.

2

Wireless mode (SLAVE)

(Preparation of the Separated Flash Unit)

2 Set the channel of the separated (wireless) flash unit to the same channel as the flash unit attached to the camera.

1. Place the other flash unit in the desired position.
2. Turn on the power switch (**ON**).
3. Press the flash mode button (**MODE**) a number of times to display **P-TTL W MASTER** on the LCD panel.
4. Press the setting button (**SET**) and rotate the adjustment dial to display **SLAVE**.
5. Press the setting button (**SET**) to complete the setting.
6. Set the same channel (**CH1** through **CH4**) of the flash unit attached to the camera from the function menu.
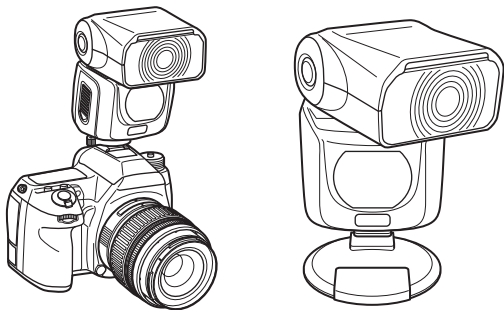   - Refer to "Using the Function Menu" (page 36) for details on the function menu.

7. Press and hold the function button (☼/Fn) to complete the setting.
   - The two flash units must be set to the same channel, otherwise the separated flash unit will not discharge.

(Photographing)

3 Confirm that both flash units are fully charged, and take the photograph.

A lamp on the separated flash unit will blink.

Wireless High-speed Sync Photography

(Preparation of the Flash Unit Attached to the Camera)

1 Set wireless mode and a channel of this flash unit attached to the camera.

1. Turn the camera off and then attach this flash unit to the hot shoe of the camera.
2. Turn on the power switch (**ON**).
3. Press the flash mode button (**MODE**) a number of times to display **P-TTL W MASTER** on the LCD panel.
4. Press the setting button (**SET**) and rotate the adjustment dial to display **CONTROL** or **MASTER**.
   CONTROL: For using the flash unit attached to the camera as the control flash.
   MASTER: For using both flash units as main flashes.
5. Press the setting button (**SET**) to complete the setting.
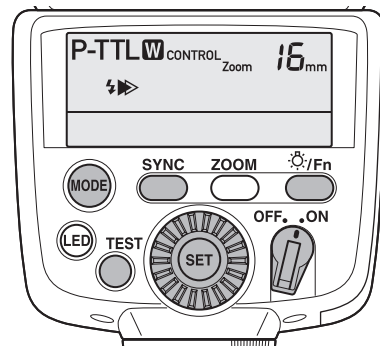
6. Set a channel (**CH1** through **CH4**) from the function menu.
   • Refer to "Using the Function Menu" (page 36) for details on the function menu.
7. Press and hold the function button (☼/Fn) to complete the setting.

(Preparation of the Separated Flash Unit)

2 Set the channel of the separated (wireless) flash unit to the same channel as the flash unit attached to the camera.

1. Place the other flash unit in the desired position.
2. Turn on the power switch (**ON**).
3. Press the flash mode button (**MODE**) a number of times to display **P-TTL W MASTER** on the LCD panel.
4. Press the setting button (**SET**) and rotate the adjustment dial to display **SLAVE**.

5 Press the setting button (**SET**) to complete the setting.

6 Set the same channel (**CH1** through **CH4**) of the flash unit attached to the camera from the function menu.
  • Refer to "Using the Function Menu" (page 36) for details on the function menu.
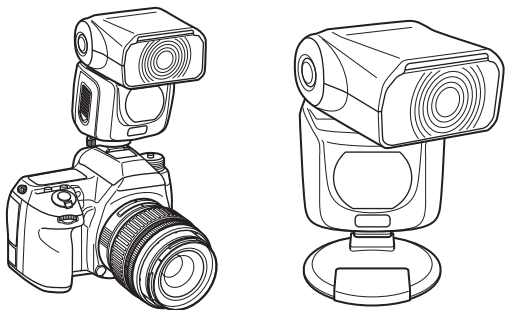
7 Press and hold the function button (☼/Fn) to complete the setting.
  • The two flash units must be set to the same channel, otherwise the separated flash unit will not discharge.

3 Set the sync mode of the flash unit attached to the camera to high-speed sync (**HS**⚡), and that of the wireless flash unit to leading curtain sync (⚡▷) by pressing the Sync button (**SYNC**) of each flash unit.

4 Set the exposure mode of the camera to manual (**M**) and the shutter speed faster than X-sync speed.
  • If the shutter speed is the same or slower than the X-sync speed of the camera, the flash will be set to **P-TTL**, and when it is faster than X-sync speed, the flash will be set to high-speed sync mode.

(Photographing)

5 Confirm that both flash units are fully charged, and take the photograph.

■ Slave Flash

If the camera or a flash unit used in combination is not compatible with wireless function, you can wirelessly take photographs, using this flash unit separated from the camera in slave flash mode, without connecting an extension cord. You can take photographs in manual mode.
 • Before photographing in slave flash mode, refer to "Precautions When Photographing with a Slave Flash". (Refer to page 55.)
 • Set to **SL2** in slave mode of the function menu. (Refer to page 50.)

1 Turn on the power switch (**ON**).

2 Set the zoom position (flash coverage angle) to suit the subject by pressing the zoom button (**ZOOM**) and place the flash unit in the desired location.
  • When setting up the flash unit separately from the camera, use the off-camera shoe adapter F when using a tripod, or the off-camera shoe clip CL-10 when setting up in another location such as tabletop, chair, etc.

3 Turn on the flash unit on the camera.
  • If the camera's built-in flash unit is part of the combination, pop up the built-in flash unit of the camera.

4 Check that the Ready lamp is lit, then take a picture.

- When charging is complete, (⚡) is lit in the viewfinder of the camera.
- Position this flash unit so that the wireless slave sensor can receive the flash discharged by the camera's built-in flash unit or attached flash unit.
- This flash unit will discharge at the same time that the camera's flash discharges.
- Keep the flash unit attached to the camera or this flash unit, within approx. 4 meters of the subject.
- In slave mode, this flash unit will turn off automatically after about 1 hour of non-operation when the auto power off function is set.
- Do not use red-eye reduction with the camera's flash. This will result in this flash unit firing by the pre-flash. For the same reason, set the camera to manual focus when firing the flash continuously so that the AF spot beam does not operate with cameras that have AF spot beam functions.

②
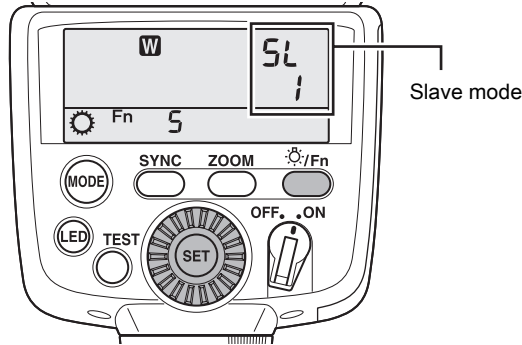
Slave mode

■ **Slave Mode Setting**
To properly control the slave flash, it is necessary to set slave mode settings from the function menu.

1 Turn on the power switch (**ON**).
2 Press and hold the function button (☼/**Fn**).
3 Rotate the adjustment dial to display **SL** on the LCD panel.
4 Press the setting button (**SET**) to blink **SL1** or **SL2**.

  SL1: When photographing in wireless mode.
  SL2: When photographing with slave flash
     (not using wireless function).

  • The flash will not discharge properly if slave mode was set to the wrong mode. It may not discharge at all or may discharge simultaneously with the control flash.

5 Rotate the adjustment dial to select **SL1** or **SL2**.

6 Press the setting button (**SET**) to complete the setting.
  • To exit the function menu, press and hold the function button (☼/**Fn**).
  • In **SL2** fluorescent lamps flicker may contribute to flash unit's erroneous firing on rare occasions.
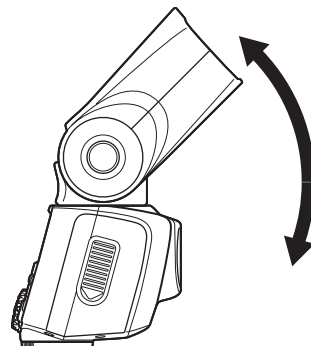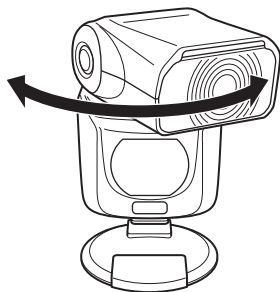
■ Bounce Flash

With this flash unit, you can tilt and swivel the flash head 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. Bouncing the flash will decrease the flash intensity by the time it reaches the subject. Therefore, this function is effective when photographing in P-TTL mode at short distances. The bounce angle can be set to the following angles.

Rightward: 0°, 30°, 60°, 90°, 120°, 150°, 180°

Leftward: 0°, 30°, 60°, 90°, 135°

Upward: 0°, 30°, 45°, 60°, 75°, 90°

Downward: 0°, -10°

* The LED beam turns on when the catchlight is enabled in the function menu and the bounce flash is used. (Refer to page 37.)
• A click stop is provided for each bounce angle.
• Press and hold the bounce lock release button to tilt the flash head when you want to change the bounce angle from 0° (upward/downward).
• When using bounce flash, 🔦 will be displayed on the LCD panel.
• The effective flash range will be displayed only when the bounce angle is set at -10°.
• It is recommended to set the bounce angle at -10° to prevent uneven exposure when the distance to the subject is within 1 m.

P-TTL Auto Flash Photography

The amount of reflective light will change according to the condition of the reflective surface, angle, and distance. Check the flash output in the LCD panel of this flash unit when 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 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.

■ AF Spot Beam with LED

This flash unit features a built-in white spot beam projector of LED to assist the autofocus system in dim light and low-contrast conditions. When using the flash with autofocus in such conditions, the spot beam will be projected automatically depending on the ambient lighting conditions. This function is activated only when the camera is set to autofocus.

1 Turn on the power switch (**ON**).
2 Press and hold the function button (☼/**Fn**).
3 Rotate the adjustment dial to display **Sb** on the LCD panel.

4 Press the setting button (**SET**) to blink **1/1**, **1/2** or **OFF**.
  1/1: Maximum brightness. (Default setting)
  1/2: Minimum brightness.
  OFF: Turn off AF spot beam.
5 Rotate the adjustment dial to select **1/1**, **1/2** or **OFF**.
6 Press the setting button (**SET**) to complete the setting.
  • To exit the function menu, press and hold the function button (☼/**Fn**).
7 Turn on the camera and set the camera to the autofocus mode.
8 Press the shutter release button halfway down to let the AF spot beam discharge.
  • The AF spot beam does not work in bright light conditions.
  • If the In-focus indicator 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 this flash unit's built-in AF spot beam, the built-in AF spot beam of the camera will not operate.
  • The AF spot beam on the flash unit works accurately only when mounted onto the camera's hot shoe.

- Camera models marketed after September 2013 can use the LED beam as the AF-assist spot beam for the phase difference autofocus method. This feature can also be made available on the models listed below, by downloading the necessary firmware at the following URL.
  http://www.ricoh-imaging.co.jp/english/support/download _digital.html
  You may also contact your nearest service center for firmware updates. (Charged service)

  Supported models:
  645D, K-5 II /s, K-5, K-30, K-50, K-500, K-r
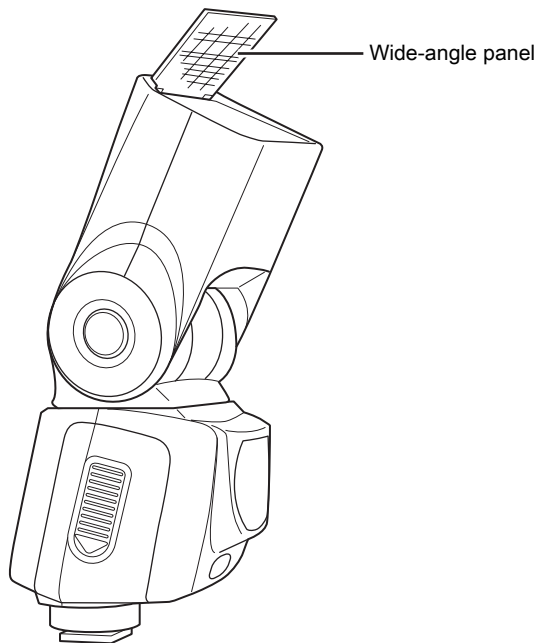
Wide-angle panel

■ Wide-Angle Panel

This flash unit has a built-in wide-angle panel at the top of the flash head.

Pull out the wide-angle panel from the top of the flash head and cover the front of the flash head with it, if necessary.

• The wide-angle panel expands flash coverage angle for the following lenses. The flash zoom position will be fixed at the same position as the focal length of the lens below. 13 mm (K series (APS-C)), 25 mm (645D), or 3 mm (Q series)

■ Test Flash

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

Check that the flash is ready, then press the test button (**TEST**). The test flash will discharge.

Cameras Capable of Test Flash Photography Using the Camera's Button

With the following cameras, a button on the camera can be used instead of the test button (**TEST**) of this flash unit. This operation can be carried out with either an attached flash unit or a wireless flash unit. For information on how to arrange this, refer to the operating manual of the camera.

*645D: You can use the illumination button. (Refer to "Custom Setting Menu 34." in the camera's operating manual.)

Hot shoe adapter FG

Off-camera shoe adapter F
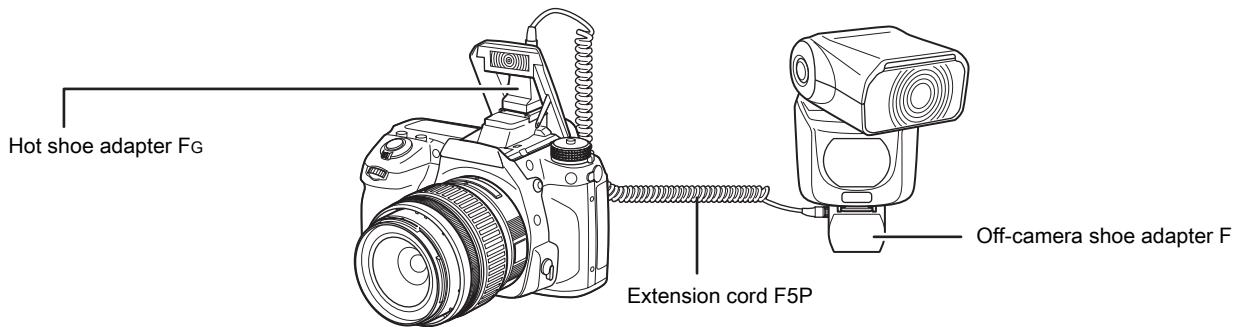
Extension cord F5P

■ Connecting with the Extension Cord

When using this flash unit separately from the camera and connected by an extension cord, use the optional extension cord F5P. Attach the extension cord F5P to the camera using the optional hot shoe adapter FG or the optional hot shoe adapter F.

• When setting up the flash unit separately from the camera, use the optional off-camera shoe adapter F when using a tripod, or the optional off-camera shoe clip CL-10 when setting up in another location such as tabletop, chair, etc.

• The optional off-camera shoe adapter F cannot be attached to the bundled stand.

■ Precautions When Photographing with a Slave Flash

• Be sure to set the camera as follows:
  Exposure mode: Manual (**M**) or bulb (**B**)
  * Exposure modes other than those above are not compatible with this photographic method.

• Set slave mode of this flash unit to **SL2**. (Refer to page 36, 50.)

• **SLAVE** in wireless mode (**P-TTL**) cannot be selected when **SL2** is set in slave mode of the function menu.

3. Appendix

Flash Effective Range

■ Calculating the Flash Effective Range

When setting the lens to manual F/stop, calculate the guide number at full flash with the use of flash's zoom position and ISO. 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 minimum distance obtained is 0.7 m or less, the minimum distance will be 0.7 m. Refer to page 58 for the guide number table.

Example:

With an 85 mm lens at F/4 and sensitivity at ISO100

① For the zoom position 58mm and sensitivity at ISO100, the guide number is 54.

② 54 (guide number) /4 (aperture) = 13.5m (max. distance)

③ 13.5m (max. distance) /10 = 1.35m (min. distance) Thus, flash effective range is approx. 1.35m - 13.5m.

* The numbers used in this example are for K series (APS-C).

Effective flash range

P-TTL Zoom 16mm

⚡⏩ 0.0 EV

18.8-88.8 m
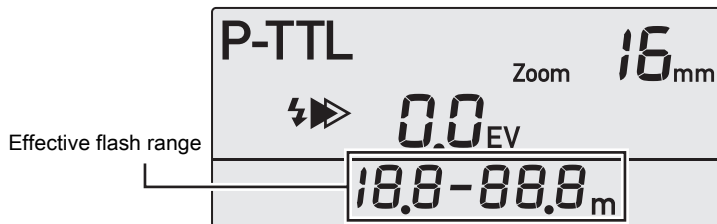
Display of Effective Flash Range

The effective flash range will be displayed on the LCD panel of this flash unit. Make sure that you are within the effective flash range before taking pictures.

- The effective flash range is displayed for the following camera and lens combinations.

Camera	Lens Types
K series (APS-C)	DA, D FA, FA J, FA, F, A
645D	DA645, D FA645, FA645, A645
Q series	Q Mount Lens

- The flash effective range varies depending on ISO, lens aperture in use, and/or the zoom position (flash coverage angle). Keep this in mind especially when you are using a variable aperture zoom lens.

■ 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.

Aperture (F/stop) =
        GN/flash-to-subject distance (m)

- Depending on the camera and lens you are using, the effective flash range may be displayed. (Refer to page 57.)

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Guide Number Table

*Wide-angle panel used.

Sensitivity	Flash output	Format	AF540FGZ II							AF360FGZ II						
		Zoom Position														
		K series (APS-C)	*13mm	16mm	19mm	24mm	34mm	48mm	58mm	*13mm	16mm	19mm	24mm	34mm	48mm	58mm
		645D	*25mm	30mm	35mm	43mm	62mm	87mm	106mm	*25mm	30mm	35mm	43mm	62mm	87mm	106mm
		Q series	*3mm	4mm	5mm	6mm	9mm	13mm	15mm	*3mm	4mm	5mm	6mm	9mm	13mm	15mm
ISO100	1/1		21	32	35	39	45	50	54	14	21	22	25	30	33	36
	1/2		14.5	22.5	24.5	27.5	32	35	38	10	15	16	18	21	23	25
	1/4		10	16	17	19.5	22.5	24.5	27	7	10.5	11	12.5	15	16.5	18
	1/8		7	11	12	13.5	16	17	19	5	7.5	8	9	10.5	11.5	12.5
	1/16		5	7.5	8.5	9.5	11	12	13.5	3.5	5	5.5	6	7.5	8	9
	1/32		3.5	5	6	6.5	8	8.5	9.5	2.5	3.6	4	4.3	5.4	5.5	6
	1/64		2.4	3.5	4.2	4.6	5.6	6	6.7	1.7	2.5	2.8	3	3.8	3.9	4.2
	1/128		1.7	2.4	3	3.2	4	4.2	4.7	1.2	1.8	2	2.1	2.7	2.8	3
	1/256		1.2	1.7	2	2.3	2.8	3	3.3	0.9	1.3	1.4	1.5	1.9	2	2.1
ISO400	1/1		42	64	70	78	90	100	108	28	42	44	50	60	66	72
	1/2		30	45	49	55	64	71	76	20	30	32	36	42	46	50
	1/4		21	32	35	39	45	50	54	14	21	22	25	30	33	36
	1/8		14.5	22.5	24.5	27.5	32	35	38	10	15	16	18	21	23	25
	1/16		10	16	17	19.5	22.5	24.5	27	7	10.5	11	12.5	15	16.5	18
	1/32		7	11	12	13.5	16	17	19	5	7.5	8	9	10.5	11.5	12.5
	1/64		5	7.5	8.5	9.5	11	12	13.5	3.5	5	5.5	6	7.5	8	9
	1/128		3.5	5	6	6.5	8	8.5	9.5	2.5	3.6	4	4.3	5.4	5.5	6
	1/256		2.4	3.5	4.2	4.6	5.6	6	6.7	1.7	2.5	2.8	3	3.8	3.9	4.2

3

High-Speed Sync Guide Number Table

*Wide-angle panel used.

K series (APS-C)	AF540FGZ II (ISO100)							AF360FGZ II (ISO100)						
	Zoom Position							Zoom Position						
Shutter speed	*13mm	16mm	19mm	24mm	34mm	48mm	58mm	*13mm	16mm	19mm	24mm	34mm	48mm	58mm
1/250	9.4	14.3	15.7	17.5	20.1	22.4	24.2	6.2	9.4	9.8	11.1	13.4	14.7	16
1/500	7.3	11.1	12.2	13.6	15.6	17.4	18.8	4.9	7.4	7.7	8.8	10.6	11.6	12.7
1/1000	5.5	8.3	9.1	10.1	11.7	13	14	3.7	5.5	5.8	6.6	7.9	8.7	9.5
1/2000	4	6	6.6	7.4	8.5	9.5	10.2	2.7	4.1	4.2	4.8	5.8	6.4	6.9
1/4000	2.9	4.3	4.8	5.3	6.1	6.8	7.3	2	3	3.1	3.5	4.2	4.7	5.1
1/6000	2.4	3.7	4	4.5	5.2	5.7	6.2	1.7	2.5	2.6	3	3.6	3.9	4.3
1/8000	2.1	3	3.4	3.7	4.3	4.8	5.2	1.4	2	2.3	2.5	2.9	3.2	3.5

3

645D	AF540FGZ II (ISO100)							AF360FGZ II (ISO100)						
	Zoom Position							Zoom Position						
Shutter speed	*25mm	30mm	35mm	43mm	62mm	87mm	106mm	*25mm	30mm	35mm	43mm	62mm	87mm	106mm
1/250	6.7	10.5	11.0	12.8	14.7	16.6	17.6	4.5	7	7.3	8.5	9.8	11.1	11.7
1/500	5.4	8.3	8.9	10.2	11.8	13.3	14.4	3.6	5.5	5.9	6.8	7.9	8.9	9.6
1/1000	4.1	6.3	6.6	7.7	8.9	10.1	10.9	2.7	4.2	4.4	5.1	5.9	6.7	7.3
1/2000	3.0	4.6	4.9	5.6	6.6	7.4	7.9	2	3.1	3.3	3.7	4.4	4.9	5.3
1/4000	2.2	3.4	3.6	4.0	4.8	5.4	5.8	1.5	2.3	2.4	2.7	3.2	3.6	3.9

P-TTL Auto Flash Effective Range

Format	K series (APS-C)	AF540FGZ II (ISO100)							AF360FGZ II (ISO100)						
		Zoom Position							Zoom Position						
		13mm	16mm	19mm	24mm	34mm	48mm	58mm	13mm	16mm	19mm	24mm	34mm	48mm	58mm
	645D	25mm	30mm	35mm	43mm	62mm	87mm	106mm	25mm	30mm	35mm	43mm	62mm	87mm	106mm
	Q series	3mm	4mm	5mm	6mm	9mm	13mm	15mm	3mm	4mm	5mm	6mm	9mm	13mm	15mm
Aperture	1.4	1.5–15.0	2.3–22.8	2.5–25.0	2.8–27.8	3.2–32.0	3.6–35.7	3.9–38.5	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	1.1–10.5	1.6–16.0	1.8–17.5	2.0–19.5	2.3–22.5	2.5–25.0	2.7–27.0	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
	2.8	0.8–7.5	1.2–11.4	1.3–12.5	1.4–13.9	1.6–16.0	1.8–17.8	2.0–19.2	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
	4	0.7–5.2	0.8–8.0	0.9–8.7	1.0–9.8	1.1–11.0	1.3–12.5	1.4–13.5	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
	5.6	0.7–3.7	0.7–5.7	0.7–6.2	0.7–7.0	0.8–8.0	0.9–8.9	1.0–9.6	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
	8	0.7–2.6	0.7–4.0	0.7–4.3	0.7–4.8	0.7–5.6	0.7–6.2	0.7–6.7	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
	11	0.7–1.9	0.7–2.9	0.7–3.1	0.7–3.5	0.7–4.0	0.7–4.5	0.7–4.9	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
	16	0.7–1.3	0.7–2.0	0.7–2.1	0.7–2.4	0.7–2.8	0.7–3.1	0.7–3.3	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
	22	0.7–0.9	0.7–1.4	0.7–1.6	0.7–1.7	0.7–2.0	0.7–2.2	0.7–2.4	0.7–0.7	0.7–1.0	0.7–1.0	0.7–1.1	0.7–1.4	0.7–1.5	0.7–1.6
	32	0.7–0.7	0.7–1.0	0.7–1.0	0.7–1.2	0.7–1.4	0.7–1.5	0.7–1.6	---	---	---	0.7–0.8	0.7–0.9	0.7–1.0	0.7–1.1

《UNIT:m》

③

Optional Accessories

A number of dedicated accessories are available for this flash unit.

Off-camera Shoe Clip CL-10
Setting clip for using this flash unit as a wireless slave flash.

Hot Shoe Adapter F$_G$
Adapter for using this flash unit as a separate flash unit using the extension cord F5P. It can be used in combination with the built-in flash unit.

Off-camera Shoe Adapter F
Adapter for attaching an external flash unit, etc. on a tripod separated from the camera. It comes with a connector for the extension cord F5P.
 • The optional off-camera shoe adapter F cannot be attached to the bundled stand.

Hot Shoe Adapter F
Adapter for connecting the camera and extension cord F5P. It also has a hot shoe on its top.

Extension Cord F5P
0.5 m/L (Approx.3 m)
5P synchro cord to use this flash unit, separately from the camera. It is used in combination with the hot shoe adapter F$_G$ or F, and/or the off-camera shoe adapter F.

Specifications

Type	Clip-on, P-TTL auto zoom flash unit with series control
Guide No.	AF540FGZ II: Maximum 54 (ISO 100/m). AF360FGZ II: Maximum 36 (ISO 100/m). In manual mode, nine-step adjustment from M1/1 to M1/256.
Flash duration (1/2 peak each)	(M1/1) flash: Approx. 1/1200 sec. (P-TTL) Fastest duration time: Approx. 1/20000 sec.

Recycling time/Total number of flashes

		AF540FGZII		AF360FGZII	
Battery type		Recycling time	Total number of flashes	Recycling time	Total number of flashes
AA Alkaline (LR6)		Approx. 5 sec.	Approx. 200	Approx. 2.5 sec.	Approx. 250
AA Nickel-Metal Hydride (Ni-MH) (2500mAh)		Approx. 3 sec.	Approx. 250	Approx. 1.5 sec.	Approx. 300
AA Lithium (FR6)		Approx. 5 sec.	Approx. 350	Approx. 2.5 sec.	Approx. 440

Flash coverage angle — Auto zoom enabled with autofocus compatible camera and lens combination.

*Wide-angle panel used.

Zoom position	58 mm	48 mm	34 mm	24 mm	19 mm	16 mm	13 mm*
Vertical Coverage	23°	26°	34°	45°	53°	60°	85°
Horizontal Coverage	31°	36°	46°	60°	70°	78°	98°

(7 step zoom)

Color temperature	Daylight (Suited for daylight color film)
Effective flash range	AF540FGZ II: Approx. 0.8 m - 8.0 m (Guide No. 45, ISO 100, F/5.6) AF360FGZ II: Approx. 0.7 m - 5.4 m (Guide No. 30, ISO 100, F/5.6)
AF spot beam	White beam emitted under low light or low-contrast conditions. Effective range: Approx. 1 m - 7 m (According to our testing conditions.)
Film speed setting	ISO 25 - 1600
Flash modes	P-TTL auto, manual, multi, wireless (P-TTL/Manual)
Flash output compensation	In P-TTL mode, -4.0 to +2.0 levels (1/3, 1/2 step)

Flash output setting	Wireless flash (P-TTL): (1/1→2/3→1/2→1/3) Manual flash: (1/1→1/2→1/4→1/8→1/16→1/32→1/64→1/128→1/256) Wireless flash (Manual): (1/1→1/2→1/4→1/8→1/16→1/32→1/64→1/128→1/256) Multi flash: (1/4→1/8→1/16→1/32→1/64→1/128→1/256) LED beam mode: (Auto→1/1→1/2→1/4→1/8→1/16)
Multi flash	Number of the flashes: 2 - 100 Flash frequency: 1 - 200 Hz
Flash sync modes	Leading curtain sync, Trailing curtain sync, Contrast control sync, High-speed sync
Wireless flash	(Control system) Optical pulse transmission (Wireless position) Master (M), Control (C), Slave (S) (Channels) 1 to 4 Compatible modes: P-TTL, manual (M) Effective range: Approx. 4 m (When set to **SL1**, According to our testing conditions.)
Bounce flash	Vertical and horizontal bounce possible, click stops provided, lock provided at 0°. Rightward: 0°, 30°, 60°, 90°, 120°, 150°, 180° Leftward: 0°, 30°, 60°, 90°, 135° Upward: 0°, 30°, 45°, 60°, 75°, 90° Downward: 0°, -10°
Power saving	Automatic power-off: After approx. 3 min. of non-operation with the power on. After 1 hour in wireless mode. Quick power on: By pressing the camera's shutter release button halfway
Red-eye reduction	Operates with autofocus cameras equipped with red-eye reduction feature.
Wide-angle panel	Pull out manually and flash zoom position sets to full wide-angle.
LCD panel illumination	LCD panel illumination button (☼/**Fn**) illuminates the LCD panel for about 10 seconds or press the button again to turn it off.
Power source	Four AA batteries, (Alkaline (LR6), Nickel-Metal Hydride (Ni-MH), or Lithium (FR6))
Dimensions and weight	AF540FGZ II: 76 mm (W) × 113 mm (H) × 108 mm (T) (3.0" × 4.4" × 4.2") Approx. 350 g (12.3 oz.) without batteries AF360FGZ II: 68 mm (W) × 111 mm (H) × 106 mm (T) (2.6" × 4.3" × 4.1") Approx. 290 g (10.2 oz.) without batteries

3

Warranty Policy

All our products purchased through authorized bona fide photographic distribution channels are guaranteed against defects of material or workmanship for a period of twelve months from the date of your purchase. Service will be rendered, and defective parts will be replaced without cost to you within that period, provided the product 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 hereinbefore provided. No refunds will be made on repairs by non-authorized service facilities.

Procedure During 12-month Warranty Period
Any product which proves defective during the 12-month warranty period should be returned to the dealer from whom you purchased the product or to the manufacturer. If there are no representatives of the manufacturer in your country, send the product to the manufacturer, with postage prepaid. In this case, it will take a considerable length of time before the product can be returned to you owing to the complicated customs procedures required. If the product is covered by warranty, repairs will be made and parts replaced free of charge, and the product will be returned to you upon completion of servicing. If the product 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 product 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 product 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 to be borne by the sender. To prove the date of your purchase when required, please keep the receipt or bills covering the purchase of your product for at least a year. Before sending your product 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 the customer's statutory rights.**
- **The local warranty policies available from our 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 our distributor in your country for more information and to receive a copy of the warranty policy.**

Information for Users on Collection and Disposal of Old Equipment and Used Batteries

1. In the European Union

These symbols on the products, packaging and/or accompanying documents mean that used electrical and electronic equipment and batteries should not be mixed with general household waste.

Used electrical/electronic equipment and batteries must be treated separately and in accordance with legislation that requires proper treatment, recovery and recycling of these products.

By disposing of these products correctly you will help ensure that the waste undergoes the necessary treatment, recovery and recycling and thus prevent potential negative effects on the environment and human health which could otherwise arise due to inappropriate waste handling.

If a chemical symbol is added beneath the symbol shown above, in accordance with the Battery Directive, this indicates that a heavy metal (Hg = Mercury, Cd = Cadmium, Pb = Lead) is present in the battery at a concentration above an applicable threshold specified in the Battery Directive.

For more information about collection and recycling of used products, please contact your local authorities, your waste disposal service or the point of sale where you purchased the products.

2. In other countries outside the EU

These symbols are only valid in the European Union. If you wish to discard used products, please contact your local authorities or dealer and ask for the correct method of disposal.

For Switzerland: Used electrical/electronic equipment can be returned free of charge to the dealer, even when you don't purchase a new product. Further collection facilities are listed on the home page of www.swico.ch or www.sens.ch.

RICOH IMAGING COMPANY, LTD.	2-35-7, Maeno-cho, Itabashi-ku, Tokyo 174-8639, JAPAN (http://www.ricoh-imaging.co.jp)
RICOH IMAGING EUROPE S.A.S	112 Quai de Bezons, B.P. 204, 95106 Argenteuil Cedex, FRANCE (http://www.ricoh-imaging.fr)
RICOH IMAGING DEUTSCHLAND GmbH	Am Kaiserkai 1, 20457 Hamburg, GERMANY (http://www.ricoh-imaging.de)
RICOH IMAGING UK LTD.	PENTAX House, Heron Drive, Langley, Slough, Berks SL3 8PN, U.K. (http://www.ricoh-imaging.co.uk)
RICOH IMAGING AMERICAS CORPORATION	633 17th Street, Suite 2600, Denver, Colorado 80202, U.S.A. (http://www.us.ricoh-imaging.com)
RICOH IMAGING CANADA INC.	1770 Argentia Road Mississauga, Ontario L5N 3S7, CANADA (http://www.ricoh-imaging.ca)
RICOH IMAGING CHINA CO., LTD.	23D, Jun Yao International Plaza, 789 Zhaojiabang Road, Xu Hui District, Shanghai, 200032, CHINA (http://www.ricoh-imaging.com.cn)

CE The CE Mark is a Directive conformity mark of the European Union.