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VT483301

OLYMPUS®

Electronic Flash
Elektronisches Blitzgerät
Flash Électronique
Flash Electrónico

DIGITAL

FL-50

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Thank you for purchasing the OLYMPUS Electronic Flash (FL-50). Before use, please read this instruction manual to ensure your safety, and keep it handy for future reference.

SAFETY PRECAUTIONS (Be sure to read and observe the following.)

This instruction manual uses a variety of common symbols and icons to assist you in proper handling and usage of this product properly, and to warn you of potential hazards to yourself and others as well as to property. These symbols and their significance are described below.

⚠DANGER	⚠WARNING	⚠CAUTION
Failure to observe the precautions indicated by this symbol may result in serious injury or death.	Failure to observe the precautions indicated by this symbol may result in injury or death.	Failure to observe the precautions indicated by this symbol may result in injury or property damage.

Symbols for prohibiting action	Symbol instructing action
Prohibited / Disassembly prohibited	Mandatory

■ This electronic flash has been designed exclusively for use with Olympus digital cameras. Do not connect the electronic flash to a camera not manufactured by Olympus, as this may result in a malfunction or damage to the camera and/or flash.

⚠DANGER

■ The electronic flash incorporates high-voltage circuitry. Never attempt to disassemble or modify it, as this may result in electric shock and/or injury.

■ Do not use the electronic flash in where it may be exposed to flammable or explosive gas. Otherwise, fire ignition or explosion may result.

■ To prevent a traffic accident, do not direct the flash towards the driver of a car.

⚠WARNING

■ Do not fire the flash or AF illuminator light immediately in front of a person's eyes (particularly an infant). Exposure to the light from the flash at a very short range may cause irreparable injury to the eyes. Be especially careful to avoid using the electronic flash at a distance of less than 1 meter from an infant.

■ Do not leave the electronic flash and batteries within reach of children.
- If a child swallows a battery or small accessory, see a doctor immediately.
- If the flash is emitted near a child, their eyes may be injured irreparably.
- Moving parts of the electronic flash could injure a child.

■ Avoid the following actions to prevent fire or injury due to battery fluid leak, overheating, fire ignition or bursting.
- Do not use batteries that are not specified for use with this electronic flash.
- Do not throw the battery in a fire, expose it to heat, short circuit it, or disassemble it.
- Do not mix old and new batteries, or batteries of different types or brands.
- Do not attempt to recharge non-rechargeable batteries such as alkaline batteries.
- Do not load batteries with the +/- polarity reversed.

■ Do not store the electronic flash in a place exposed to excessive dust or moisture. Otherwise, fire or electric shock may result.

■ Do not use the flash when it is covered by a flammable object such as a handkerchief.
Do not touch the light-emitting area after use. It will be very hot and could burn you.

■ If the electronic flash is dropped in water or any fluid gets inside, immediately remove the batteries and contact your dealer or Olympus. Continued use could result in fire or electric shock.

⚠CAUTION

■ If you notice any abnormalities such as leakage, discoloration, deformation, overheating, or odor, stop using this device. Continued use could result in fire, overheating or explosion. Remove the battery carefully to avoid burning yourself and to prevent exposure to gas or dangerous fluids that may be released. For repair, contact Olympus.

■ Always remove the batteries when you don't expect to use the electronic flash for a long period. Otherwise, heat generation or fluid leak from the batteries may result in fire, injury and/or contamination of the surroundings.

■ Do not use a leaking battery. Doing so could result in fire or electric shock. Please contact your dealer or Olympus.

■ Do not handle the electronic flash with wet hands. Doing so could result in electric shock.

■ Do not leave the electronic flash in a place where it may be exposed to high temperatures. Otherwise, deterioration of parts or fire may result.

■ Do not take out the batteries immediately after using the electronic flash continuously for a long period. Otherwise, the hot batteries may cause burns.

■ Do not deform the battery compartment or allow any foreign objects to get inside.

HANDLING PRECAUTIONS

■ The electronic flash is composed of precision electronic parts. Absolutely avoid using or storing the electronic flash in the following places, as this may result in malfunction or failure.
- Under direct sunlight, on a beach, etc.
- Anywhere exposed to high temperatures and humidity or rapid fluctuations in temperature and humidity.
- Any place exposed to excessive sand, dust or dirt.
- Near a fire.
- Near an air conditioner or air humidifier.
- Any place exposed to water or moisture.
- Any place subject to vibrations.
- Inside an automobile.

■ Do not apply a strong vibration or shock to the electronic flash by dropping it or hitting it against something.

■ When the electronic flash has not been used for a long period, mold or moss may form. This can cause a malfunction. To prevent this, it is recommended to check the operations before using the electronic flash after a long period of storage.

■ Do not touch the electric contacts of the electronic flash to prevent malfunction.

■ To prevent overheating and deterioration of the light-emitting section, do not continue full activation more than 20 times in a row. After 20 successive operations, stop firing for a while until the light-emitting section cools down.

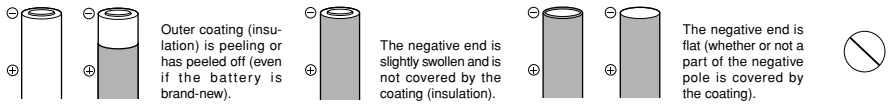
BATTERY PRECAUTIONS

■ Use only the specified batteries.
- AA (R6) alkaline dry cell batteries (LR6 type) ..... x 4
- AA (R6) Ni-Cd batteries ..... x 4
- AA (R6) Ni-MH batteries ..... x 4
- AA (R6) Ni-Mn batteries (ZR6 type) ..... x 4
- AA (R6) lithium batteries (FR6 type) ..... x 4
- Lithium battery packs (CR-V3 type) (Olympus LB-01) ..... x 2

* AA (R6) manganese batteries cannot be used.

■ Be sure to observe the following points. Otherwise, battery fluid leak, overheating, fire ignition and/or bursting may result.
- Do not mix old and new batteries, recharged and discharged batteries, batteries of different capacities, or batteries of different types or brands.
- Do not attempt to recharge non-rechargeable batteries such as alkaline batteries.
- Do not load or use the batteries with the +/- polarity reversed. If the batteries do not fit smoothly in the battery compartment, do not force them.
- Never use a battery if its outer coating (insulation) has been partially or entirely peeled off. Otherwise, leakage, overheating or explosion may result.
- Some brand-new batteries may also have their outer coating (insulation) peeled off completely or partially. Never use these batteries.

■ Do not use the following kinds of batteries.



Outer coating (insulation) is peeling or has peeled off (even if the battery is brand-new).

The negative end is slightly swollen and is not covered by the coating (insulation).

The negative end is flat (whether or not a part of the negative pole is covered by the coating).

■ All rechargeable batteries must be recharged using the specified battery charger, simultaneously and completely. Be sure to read the battery and battery charger instruction manual.

■ Improper use of batteries may result in fluid leak, heat generation and/or damage. Sweat and oil smudges may cause battery contact failure. To prevent this, remove any stain completely with a dry cloth and insert the batteries by observing the +/- polarity.

■ In general, battery performance will be temporarily reduced as the ambient temperature drops. When using batteries in a cold place, keep them warm by keeping the electronic flash in cold protection gear or clothing.

■ If battery fluid gets on your skin or clothes, it may irritate your skin. Immediately rinse your skin or clothes with clean water.

■ If battery fluid comes in contact with your eyes, blindness may result. Rinse your eyes with clean water without rubbing them and see a doctor immediately.

■ Do not apply a strong shock to a battery or throw it.

■ When traveling, it is a good idea to carry spare batteries with you. In some countries, it may be difficult to obtain certain batteries.

■ Do not immerse batteries in water or expose to moisture including rain, seawater and animal urine.

■ If the +/- terminals of a battery are stained with sweat or oil smudges, contact failure may result. Clean the terminals well with a dry cloth before using the batteries.

■ Do not throw a battery in fire or heat it.

■ When disposing of batteries, be sure to follow local regulations.

■ When disposing of a rechargeable battery, insulate the +/- terminals with pieces of tape and take them to your nearest rechargeable battery recycling center.

Note on the cameras used with the Electronic Flash

● The functions available from the electronic flash are limited with certain digital cameras. For details, please check the Olympus website (http://www.olympus.com/).

Before reading this manual

○ The information in this manual may be subject to change without notice.
○ This manual has been compiled as carefully as possible. However, if you have any questions or wish to report an error or omission, please contact Olympus.
○ Duplication of this manual in part or in whole without permission of Olympus is prohibited except for personal use. Reproduction of the contents of this manual without permission of Olympus is strictly prohibited.
○ Olympus will not assume any liability for the damages, loss of profit or claims from any third party incurred due to improper use of this product.
○ Olympus will not assume any liability for the damages and loss of profit related to the loss of image data due to a failure of this product, servicing by a third party not designated by Olympus or any other reason.
○ Note that the quality of the pictures shot using this product differs from that of the pictures of ordinary film-based cameras.

Trademark information

All brand names and product names mentioned in this manual are the trademarks or registered trademarks of their respective owners.

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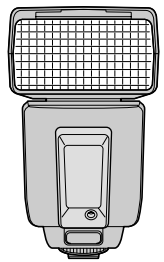
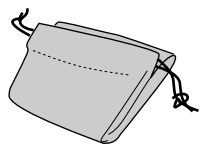
CHECKING THE PACKAGE CONTENTS

Check that all parts and accessories are present.
If any item is missing or damaged, contact your dealer.



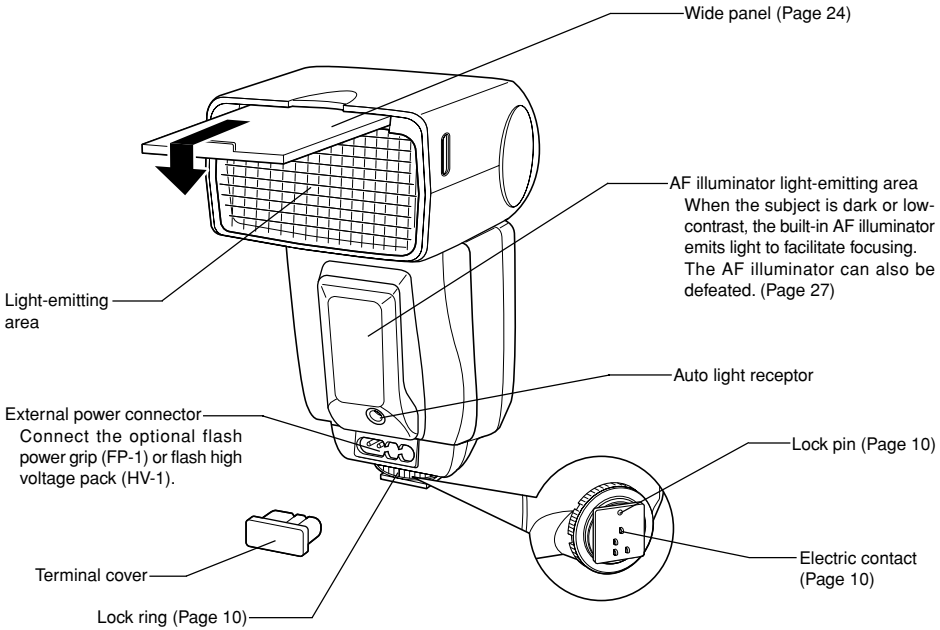
• Electronic flash, main body

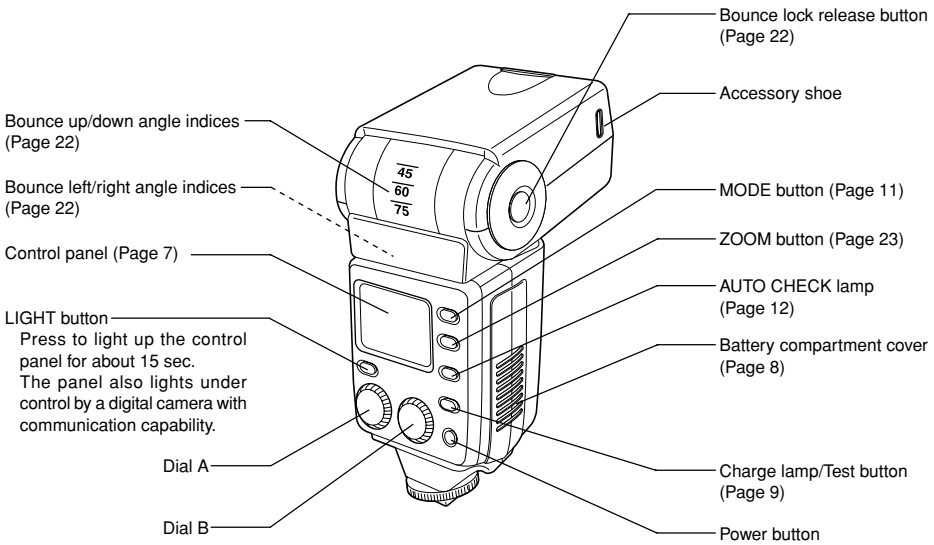


• Flash case

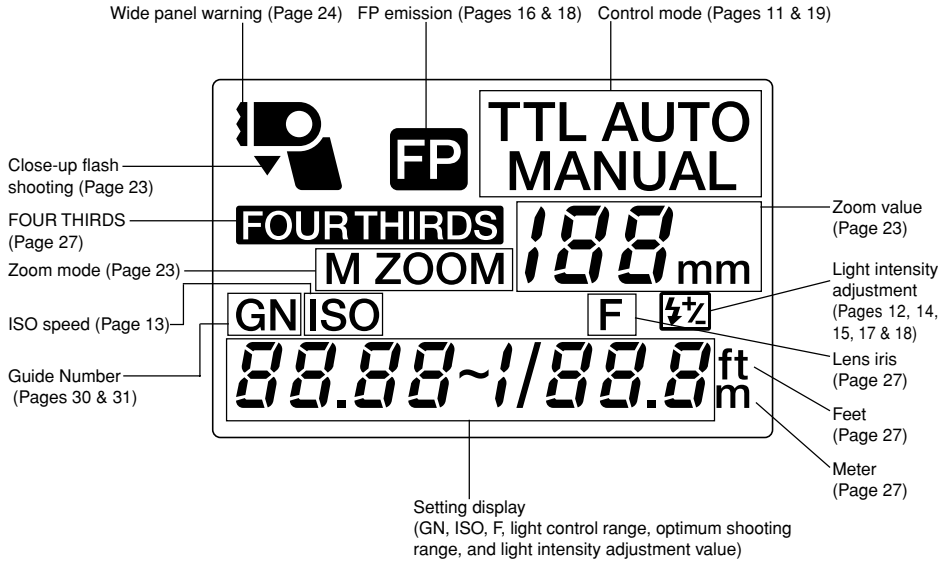
* Batteries must be purchased separately.

NOMENCLATURE





CONTROL PANEL INDICATORS



* To simplify explanation, this figure shows the panel with all indicators lit.

Notes on This Manual

- The indications on the control panel may differ from the above figure depending on the setup of the electronic flash and the shooting conditions.
  For example, the firing angle (ZOOM) can be displayed in either of the following modes.

  ①FOUR THIRDS : In terms of the focal distance of a FOUR THIRDS digital camera.
  ②135 : Angle value converted into the image angle of a 135 type film camera.

The text in this manual employs the FOUR THIRDS display mode and puts value in the 135 display mode inside parentheses, such as “(XX mm with 135)”. For the selection of the display modes, see page 61.

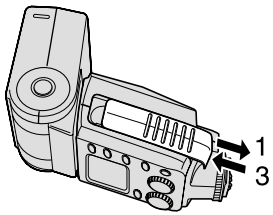
LOADING BATTERIES

The batteries are available separately. Always use one of the following battery combinations.

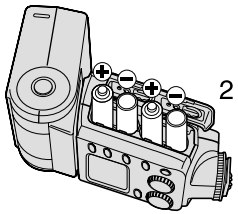
- AA (R6) alkaline batteries (LR6 type) ..... x 4
- AA (R6) Ni-Cd batteries ..... x 4
- AA (R6) Ni-MH batteries ..... x 4
- AA (R6) Ni-Mn batteries (ZR6 type) ..... x 4
- AA (R6) lithium batteries (FR6 type) ..... x 4
- Lithium battery packs (CR-V3 type) (Olympus LB-01) ..... x 2

* The AA (R6) manganese batteries cannot be used.

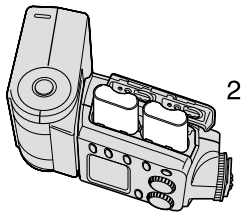
How to load the batteries



1. Open the battery compartment cover.
2. Insert the batteries with correct +/- polarity.
3. Close the battery compartment cover.



AA (R6) batteries



CR-V3

The following products (optional) can also be used as an external power supply:

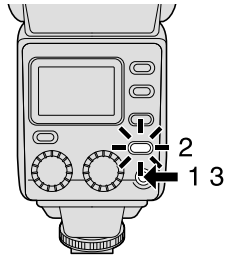
Flash Power Grip	FP-1
Flash High Voltage Pack	SHV-1

■Notes

- Do not mix old and new batteries or batteries of different types together.
- Remove the batteries when the electronic flash is not going to be used for a long period.
- Carry spare batteries when traveling or when using the flash in cold areas.

CHECKING BATTERIES

After loading the batteries, check the remaining battery capacity by turning the electronic flash on.



1. Press the Power button to turn the electronic flash on.
   - The control panel lights up and battery charging starts.
2. Ensure that the Charge lamp lights up.
   - Replace the batteries if the time taken for the Charge lamp to light up is longer than the values specified below.
     Alkaline or Ni-Mn batteries: 30 sec.
     Lithium, Ni-Cd or Ni-MH batteries: 10 sec.
   - If the Charge lamp and AUTO CHECK lamp blink alternately, it means that the battery capacity is running low. In this case, replace the batteries.

Memo: To perform test flash activation, press the Test button.

3. Press the Power button again to turn the electronic flash off.

   Turn the electronic flash off in the following cases:
   - Before mounting it on the camera or dismounting it from the camera.
   - When flash emission is not required.
   - When not using the electronic flash.

■Flash emission interval and count per battery type

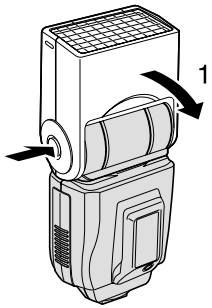
The following table shows the flash emission intervals and flash emission counts for various batteries based on the use of four fresh batteries of the same type.

Batteries used	Flash emission interval	Flash emission count
AA (R6) alkaline dry cell batteries (LR6 type)	Approx. 6 sec.	≥ 150
AA (R6) lithium batteries (FR6 type)	Approx. 4 sec.	≥ 300
AA (R6) Ni-Mn batteries (ZR6 type)	Approx. 7 sec.	≥ 150
Lithium battery packs (CR-V3)	Approx. 4 sec.	≥ 300
AA (R6) Ni-Cd batteries, 1000 mAh	Approx. 6 sec.	≥ 150
AA (R6) Ni-MH batteries, 1900 mAh	Approx. 4 sec.	≥ 110

* The flash emission interval and count data were obtained from in-house tests at Olympus.
* The flash emission interval data represents the performance of fresh batteries. The figures increase as the batteries are depleted.
* The flash emission interval data refers to the values obtained with MANUAL flashing at a 1/1 light intensity ratio. The figure decreases when the light intensity is lower.

ATTACHING TO THE CAMERA/REMOVING FROM THE CAMERA

Confirm that both the camera and electronic flash are off.
Attaching or removing the electronic flash while either the flash or the camera is on may result in malfunction.

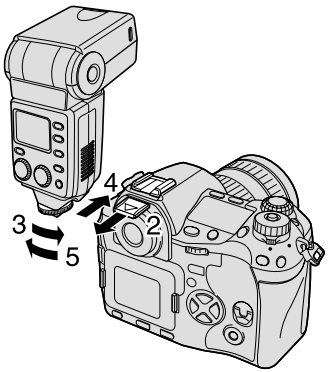


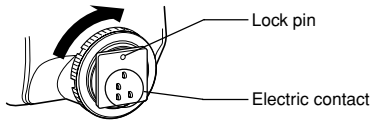
How to attach

1. Place the light-emitting section in the standard position (horizontal, front). If it is in the locked position, press and turn the Bounce lock release button.

2. Remove the hot shoe cover from the camera.
   • Store the hot shoe cover in the pocket located on the inner side of the flash case.

3. Loosen the lock ring.
   • If the lock pin is in the out position, press it in by turning it all the way in the opposite direction to [←LOCK] until it stops.





• Do not apply excessive force to the lock pin.
• Do not touch the electric contact with a finger or metallic object.
• Do not attach the electronic flash while the lock pin is in the out position. Otherwise, malfunction may result.

4. Slide the electronic flash all the way into the hot shoe until it stops with a click.

5. Turn the lock ring all the way into the direction of [←LOCK] until it stops.

How to remove

1. Loosen the lock ring completely, then slide the electronic flash out of the hot shoe.

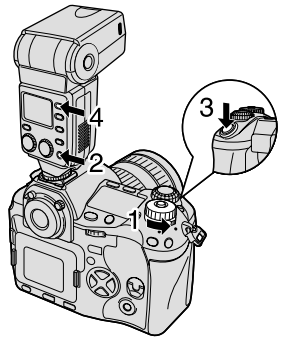
2. Attach the hot shoe cover to the camera.

■Notes

To use the electronic flash with a digital camera not equipped with hot shoe:
• If the camera has an external flash terminal, the electronic flash can be attached and connected using the flash bracket and bracket cable (optional).
• The electronic flash cannot be used with a camera that is not equipped with a hot shoe or external flash terminal.

PICTURE SHOOTING USING A DIGITAL CAMERA WITH COMMUNICATION CAPABILITY

<Selecting the control mode>



1. Turn the camera on.

2. Turn the electronic flash on. The batteries are recharged when the Charge lamp lights up.

3. Press the Shutter button of the camera gently to start communication of shooting information including ISO speed, lens iris and shutter speed between the camera and electronic flash.

4. Press the MODE button of the electronic flash to select the flash control mode.
   • The selected mode is shown in the control panel.
   • The mode is switched every time the MODE button is pressed.

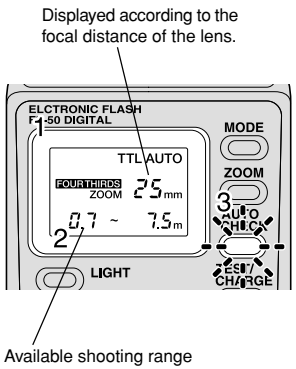
Flash control mode	Control panel display	Control operation	Main application	Ref. Pages
TTL AUTO	TTL AUTO	Flash is controlled automatically by performing pre-flash according to the camera setup.	Usually use this mode with a camera with communication capability.	12
AUTO	AUTO	Flash light intensity is controlled according to the light detected through the auto light receptor of the flash and to the camera setup.	If the camera has communication capability, this mode can be used only when the camera is an AUTO-compatible model.	13
MANUAL	MANUAL	Flash is performed according to the manually set guide number (GN).	Shooting using manual flash.	15
FP TTL AUTO	FP TTL AUTO	TTL AUTO and MANUAL mode that can synchronize with the high-speed shooting of the single-reflex focal plain shutter.	Outdoor shooting using flash, such as sync shooting in the daytime.	16 & 18
FP MANUAL	FP MANUAL			

■Notes

• Certain modes may be unavailable depending on the shooting mode set on the camera and the functions of the camera in use.
• It is not possible to select an unavailable mode.

<TTL AUTO>

In this mode, pre-flash is performed to measure the optimum flash intensity and then actual flash is performed.



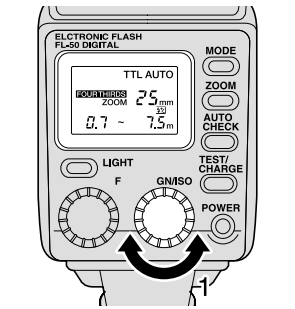
1. The control panel shows the light control range according to the camera setup.

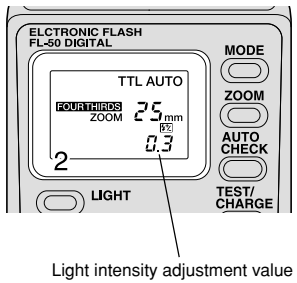
2. Confirm that the distance to the subject is within the light control range.
   If not, adjust the lens iris (F) or the subject distance.
   The light control range varies according to the camera type and camera setup (ISO speed, lens iris (F) and lens focal distance (ZOOM)).

3. When flash activation has been performed correctly, the AUTO CHECK lamp blinks for about 5 seconds after the shutter is released.

■Light intensity adjustment

The flash light intensity can be adjusted between +3 and -3.





The light intensity adjustment must be set to ON in the custom setup operation (page 27).
• The ⚡± indicator appears in the control panel.

1. Turn dial B to adjust the light intensity in the following steps.

   0 → +0.3 → +0.7 → +1.0 ... +3.0
   0 → -0.3 → -0.7 → -1.0 ... -3.0

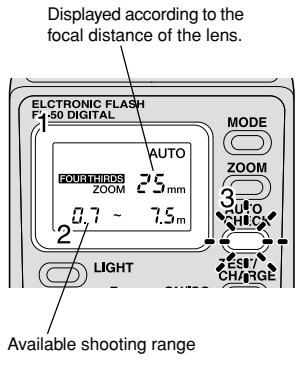
2. The display shows the light intensity adjustment value except when the value is 0, in which case the display shows the light control range.

3. If the camera's flash light intensity adjustment function is also set, the actual flash light intensity will be the total of the light intensity adjustment values of the electronic flash and camera.
   Note that the light intensity adjustment value displayed on the electronic flash does not include the value set on the camera.

	Light intensity adjustment setting	Display on the FL-50	Actual light intensity adjustment
FL-50	+0.3	+0.3	+0.6
Camera	+0.3		

<AUTO>

In this mode, the flash light intensity is controlled automatically according to the lens iris (F) setting and the amount of light input to the auto light receptor.



1. The control panel shows the light control range according to the camera setup.
   The light control range is not displayed if the camera setup (ISO speed and lens iris (F)) does match one of the usable ISO speed/lens iris (F) combinations (see page 30). In this case, the ISO and F indicators blink to alert you. Change the camera setup (ISO speed and/or lens iris (F)).

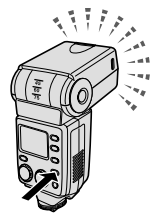
2. Confirm that the distance to the subject is within the light control range.
   If not, adjust the lens iris (F) or the subject distance.
   The light control range varies according to the camera setup (ISO speed, lens iris (F) and lens focal distance (ZOOM)).

■Light control range in AUTO mode

AUTO light control range (m)									Firing angle (mm) Upper row: FOUR THIRDS. Lower row: 135							
ISO speed									8(W panel)	10(W panel)	12	14	17	25	35	42
3200	1600	800	400	200	100	50	25		16(W panel)	20(W panel)	24	28	35	50	70	85
F8	F5.6	F4	F2.8	F2	F1.4			Lens iris	1.1 - 12.7	1.3 - 14.1	1.8 - 19.8	1.9 - 21.2	2.3 - 25.5	2.5 - 28.3	2.8 - 31.8	3.1 - 35.4
F11	F8	F5.6	F4	F2.8	F2	F1.4			0.8 - 9.0	0.9 - 10.0	1.2 - 14.0	1.3 - 15.0	1.6 - 18.0	1.8 - 20.0	2.0 - 22.5	2.2 - 25.0
F16	F11	F8	F5.6	F4	F2.8	F2	F1.4		0.6 - 6.4	0.6 - 7.1	0.9 - 9.9	0.9 - 10.6	1.1 - 12.7	1.3 - 14.1	1.4 - 15.9	1.6 - 17.7
F22	F16	F11	F8	F5.6	F4	F2.8	F2		0.4 - 4.5	0.4 - 5.0	0.6 - 7.0	0.7 - 7.5	0.8 - 9.0	0.9 - 10.0	1.0 - 11.3	1.1 - 12.5
F32	F22	F16	F11	F8	F5.6	F4	F2.8		0.3 - 3.2	0.3 - 3.5	0.4 - 4.9	0.5 - 5.3	0.6 - 6.4	0.6 - 7.1	0.7 - 8.0	0.8 - 8.8
	F32	F22	F16	F11	F8	F5.6	F4		0.2 - 2.3	0.2 - 2.5	0.3 - 3.5	0.3 - 3.8	0.4 - 4.5	0.4 - 5.0	0.5 - 5.6	0.6 - 6.3
		F32	F22	F16	F11	F8	F5.6		0.1 - 1.6	0.2 - 1.8	0.2 - 2.5	0.2 - 2.7	0.3 - 3.2	0.3 - 3.5	0.4 - 4.0	0.4 - 4.4
			F32	F22	F16	F11	F8		0.1 - 1.1	0.1 - 1.3	0.2 - 1.8	0.2 - 1.9	0.2 - 2.3	0.2 - 2.5	0.2 - 2.8	0.3 - 3.1
				F32	F22	F16	F11		0.1 - 0.8	0.1 - 0.9	0.1 - 1.2	0.1 - 1.3	0.1 - 1.6	0.2 - 1.8	0.2 - 2.0	0.2 - 2.2

The displayed nearer value is 0.6 or more when the light emission section faces the front and 0.5 or more when it faces downward.
The above table shows the light control ranges in the off-flash condition.

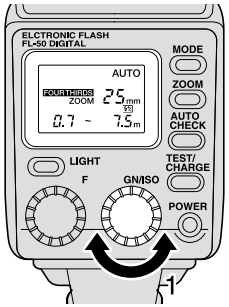
3. When flash activation has been performed correctly, the AUTO CHECK lamp blinks for about 5 seconds after the shutter is released.

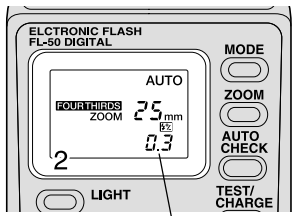


Memo: Test flash activation
Flash activation can be tested before actually releasing the shutter.
Press the Test button for test flash activation.
The light control is OK when the AUTO CHECK lamp blinks for about 5 seconds after the test flash activation.
If the lamp does not blink, change the lens iris (F), ISO speed, subject distance, etc.
* The light check by means of test flash activation is possible only in the AUTO mode.

■Light intensity adjustment

The flash light intensity can be adjusted between +3 and -3.





Light intensity adjustment value

The light intensity adjustment must be set to ON in the custom setup operation (page 27).
• The ⚡± indicator appears in the control panel.

1. Turn dial B to adjust the light intensity in the following steps.

   0 → +0.3 → +0.7 → +1.0 ... +3.0
   0 → -0.3 → -0.7 → -1.0 ... -3.0

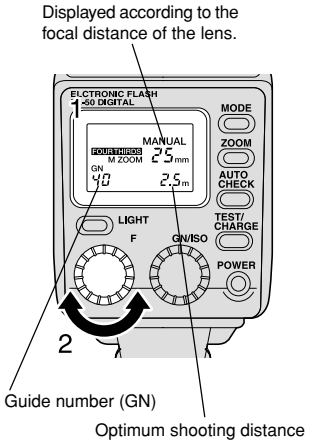
2. The display shows the light intensity adjustment value except when the value is 0, in which case the display shows the light control range.

3. If the camera's flash light intensity adjustment function is also set, the actual flash light intensity will be the total of the light intensity adjustment values of the electronic flash and camera.
   Note that the light intensity adjustment value displayed on the electronic flash does not include the value set on the camera.

	Light intensity adjustment setting	Display on the FL-50	Actual light intensity adjustment
FL-50	+0.3	+0.3	+0.6
Camera	+0.3		

<MANUAL>

In this mode, the flash is emitted according to the guide number (GN) setting.



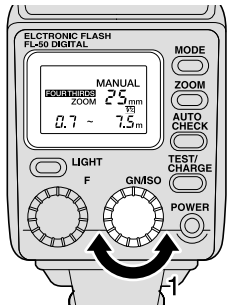
1. The control panel shows the current guide number (GN) together with the optimum shooting distance according to the camera setup.

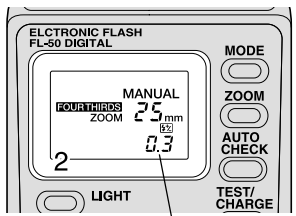
2. Turn dial A to set the GN. (This is also possible by turning dial B.)
   Set the GN so that the optimum shooting distance is equal to the subject distance.
   When the optimum shooting distance is 0.6 m (0.5 m in case of close-up flash) or less, the displayed figure blinks to warn that the subject is located outside the flash light emission area.
   The optimum shooting distance varies according to the camera setup (ISO speed, lens iris (F), lens focal distance (ZOOM), and shutter speed). See page 30 for details.

Memo: Assuming that the ISO speed is 100, the optimum shooting distance can be calculated with the following formula.
Optimum shooting distance = Guide number (GN)/Lens iris (F)
(See page 30.)

■Light intensity adjustment

The flash light intensity can be adjusted between +3 and -3.





Light intensity adjustment value

The light intensity adjustment must be set to ON in the custom setup operation (page 27).
• The ⚡± indicator appears in the control panel.

1. Turn dial B to adjust the light intensity in the following steps.

   0 → +0.3 → +0.7 → +1.0 ... +3.0
   0 → -0.3 → -0.7 → -1.0 ... -3.0

2. The display shows the light intensity adjustment value except when the value is 0, in which case the display shows the optimum shooting distance.

3. Even if the camera's flash light intensity adjustment function is set, it is not added to the actual flash light intensity.

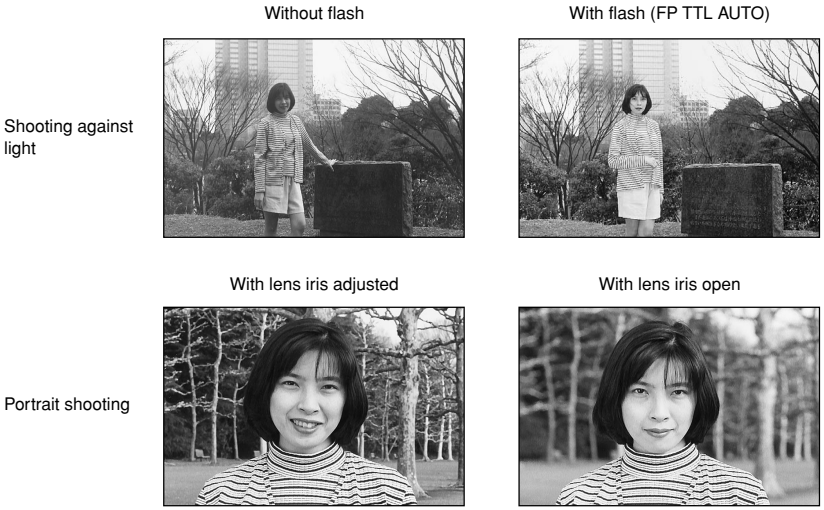
	Light intensity adjustment setting	Display on the FL-50	Actual light intensity adjustment
FL-50	+0.3	+0.3	+0.6
Camera	+0.3		

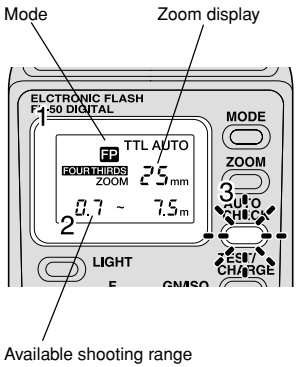
<FP TTL AUTO>

- In this mode, the flash can synchronize with high shutter speeds.
- When using the camera's built-in flash, see "Various Flash Shooting Methods" on page 25.

This feature makes this mode usable in the following operations.

- Attenuation of shades when shooting a picture against the light.
- Outdoor portrait shooting using daytime sync shooting with the lens iris opened up to blur the background.





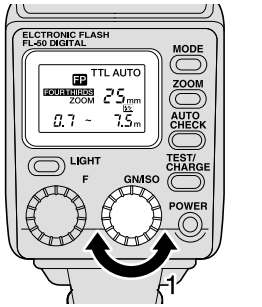
1. The control panel shows the light control range according to the camera setup.

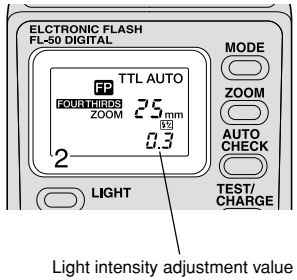
2. Confirm that the distance to the subject is within the light control range.
   If not, adjust the lens iris (F) or the subject distance.
   The light control range varies according to the camera setup (ISO speed, lens iris (F) and lens focal distance (ZOOM).The light control range is smaller than that in the TTL mode.

3. When flash activation has been performed correctly, the AUTO CHECK lamp blinks for about 5 seconds after the shutter is released.

■Light intensity adjustment

The flash light intensity can be adjusted between +3 and -3.





The light intensity adjustment must be set to ON in the custom setup operation (page 27).

- The ⚡± indicator appears in the control panel.

1. Turn dial B to adjust the light intensity in the following steps.

   0 → +0.3 → +0.7 → +1.0 ... +3.0
   0 → -0.3 → -0.7 → -1.0 ... -3.0

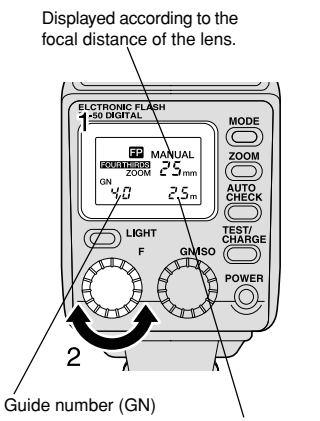
2. The display shows the light intensity adjustment value except when the value is 0, in which case the display shows the light control range.

3. If the camera's flash light intensity adjustment function is also set, the actual flash light intensity will be the total of the light intensity adjustment values of the electronic flash and camera.
   Note that the light intensity adjustment value displayed on the electronic flash does not include the value set on the camera.

	Light intensity adjustment setting	Display on the FL-50	Actual light intensity adjustment
FL-50	+0.3	+0.3	+0.6
Camera	+0.3		

<FP MANUAL>

In this mode, FP emission is performed at the set light intensity.



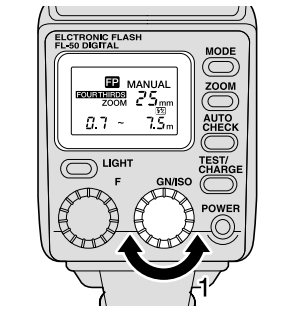
1. The control panel shows the current guide number (GN) together with the optimum shooting distance according to the camera setup.

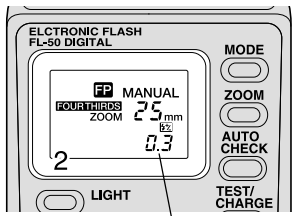
2. Turn dial A to set the GN.
   Set the GN so that the optimum shooting distance is equal to the subject distance.
   When the optimum shooting distance is 0.6 m (0.5 m in case of close-up flash) or less, the displayed figure blinks to warn that the subject is located outside the flash light emission area.
   The optimum shooting distance varies according to the camera setup (ISO speed, lens iris (F), lens focal distance (ZOOM) and shutter speed). See page 31 for details.

Memo: The optimum shooting distance can be calculated with the following formula.
Optimum shooting distance = Guide number (GN)/Lens iris (F)

■Light intensity adjustment

The flash light intensity can be adjusted between +3 and -3.





The light intensity adjustment must be set to ON in the custom setup operation (page 27).
• The ⚡± indicator appears in the control panel.

1. Turn dial B to adjust the light intensity in the following steps.

   0 → +0.3 → +0.7 → +1.0 ... +3.0
   0 → -0.3 → -0.7 → -1.0 ... -3.0

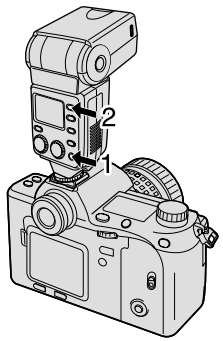
2. The display shows the light intensity adjustment value except when the value is 0, in which case the display shows the optimum shooting distance.

3. Even if the camera's flash light intensity adjustment function is set, it is not added to the actual flash light intensity.

	Light intensity adjustment setting	Display on the FL-50	Actual light intensity adjustment
FL-50	+0.3	+0.3	+0.6
Camera	+0.3		

PICTURE SHOOTING USING A DIGITAL CAMERA WITHOUT COMMUNICATION CAPABILITY

<Selecting the control mode>



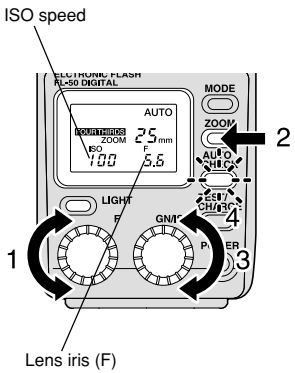
1. Turn the electronic flash on. The batteries are recharged when the Charge lamp lights up.

2. Press the MODE button to select the flash control mode.
   • The selected mode is shown in the control panel.
   • The mode is switched every time the MODE button is pressed.

Flash control mode	Control panel display	Control operation	Main application	Ref. Pages
AUTO	AUTO	Flash light intensity is controlled according to the light detected through the auto light receptor of the flash and to the lens iris (F).	Usually use this mode.	20
MANUAL	MANUAL	Flash activation is performed according to the manually set guide number (GN).	Shooting using manual flash.	21

<AUTO>

In this mode, the flash light intensity is controlled automatically according to the lens iris (F) setting.



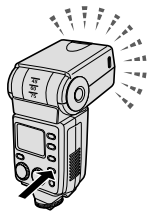
1. Turn dial A to adjust the ISO speed.
2. Adjust Zoom according to the focal distance of the lens.
3. Turn dial B according to the lens iris (F).
   If the camera setup (ISO speed and lens iris (F)) does not match one of the usable ISO speed/lens iris (F) combinations, the ISO and F indicators blink to alert you. In this case, change the camera setup (ISO speed and/or lens iris (F)).

■Light control range in AUTO mode

	AUTO light control range (m)								Firing angle (mm) Upper row: FOUR THIRDS. Lower row: 135							
	ISO speed								8(W panel)	10(W panel)	12	14	17	25	35	42
	3200	1600	800	400	200	100	50	25	16(W panel)	20(W panel)	24	28	35	50	70	85
Lens iris	F8	F5.6	F4	F2.8	F2	F1.4			1.1 - 12.7	1.3 - 14.1	1.8 - 19.8	1.9 - 21.2	2.3 - 25.5	2.5 - 28.3	2.8 - 31.8	3.1 - 35.4
	F11	F8	F5.6	F4	F2.8	F2	F1.4		0.8 - 9.0	0.9 - 10.0	1.2 - 14.0	1.3 - 15.0	1.6 - 18.0	1.8 - 20.0	2.0 - 22.5	2.2 - 25.0
	F16	F11	F8	F5.6	F4	F2.8	F2	F1.4	0.6 - 6.4	0.6 - 7.1	0.9 - 9.9	0.9 - 10.6	1.1 - 12.7	1.3 - 14.1	1.4 - 15.9	1.6 - 17.7
	F22	F16	F11	F8	F5.6	F4	F2.8	F2	0.4 - 4.5	0.4 - 5.0	0.6 - 7.0	0.7 - 7.5	0.8 - 9.0	0.9 - 10.0	1.0 - 11.3	1.1 - 12.5
	F32	F22	F16	F11	F8	F5.6	F4	F2.8	0.3 - 3.2	0.3 - 3.5	0.4 - 4.9	0.5 - 5.3	0.6 - 6.4	0.6 - 7.1	0.7 - 8.0	0.8 - 8.8
		F32	F22	F16	F11	F8	F5.6	F4	0.2 - 2.3	0.2 - 2.5	0.3 - 3.5	0.3 - 3.8	0.4 - 4.5	0.4 - 5.0	0.5 - 5.6	0.6 - 6.3
			F32	F22	F16	F11	F8	F5.6	0.1 - 1.6	0.2 - 1.8	0.2 - 2.5	0.2 - 2.7	0.3 - 3.2	0.3 - 3.5	0.4 - 4.0	0.4 - 4.4
				F32	F22	F16	F11	F8	0.1 - 1.1	0.1 - 1.3	0.2 - 1.8	0.2 - 1.9	0.2 - 2.3	0.2 - 2.5	0.2 - 2.8	0.3 - 3.1
					F32	F22	F16	F11	0.1 - 0.8	0.1 - 0.9	0.1 - 1.2	0.1 - 1.3	0.1 - 1.6	0.2 - 1.8	0.2 - 2.0	0.2 - 2.2

The displayed nearer value is 0.6 or more when the light emission section faces the front and 0.5 or more when it faces downward.
The above table shows the light control ranges in the off-flash condition.

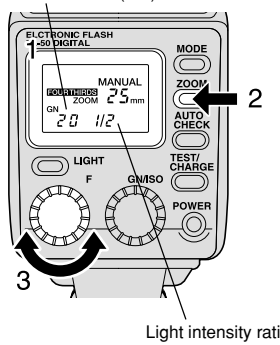
4. When flash activation has been performed correctly, the AUTO CHECK lamp blinks for about 5 seconds after the shutter is released.



Memo: Test flash activation
Flash activation can be tested before actually releasing the shutter.
Press the Test button for test flash activation.
The light control is OK when the AUTO CHECK lamp blinks for about 5 seconds after the test flash activation.
If the lamp does not blink, change the lens iris (F), ISO speed, subject distance, etc.
* The light check by means of test flash activation is possible only in the AUTO mode.

<MANUAL>

In this mode, the flash is emitted according to the guide number (GN) setting.



1. The control panel shows the current guide number (GN) together with the light intensity ratio.
   Light intensity ratio: Ratio of emitted light intensity with respect to the intensity at full emission.
2. Adjust Zoom according to the focal distance of the lens.
3. Turn dial A to set the GN. (This is also possible by turning dial B.)

How to determine the lens iris (F) and guide number (GN)

1. When the shooting distance and lens iris are already determined:
   Determine the guide number (GN) with the following formula and set the GN on the FL-50.

$$\text{Guide number (GN)} = \frac{\text{Lens iris (F)} \times \text{Shooting distance (m)}}{\text{ISO speed coefficient}}$$

2. When it is necessary to determine the lens iris (F):
   Determine the lens iris (F) with the following formula and set F on the FL-50.

$$\text{Lens iris (F)} = \frac{\text{Guide number (GN)} \times \text{ISO speed coefficient}}{\text{Shooting distance (m)}}$$

3. When it is necessary to determine the optimum shooting distance:

$$\text{Optimum shooting distance (m)} = \frac{\text{Guide number} \times \text{ISO speed coefficient}}{\text{Lens iris (F)}}$$

ISO speeds and their coefficients

ISO speed	25	50	100	200	400	800	1600	3200
Coefficient	0.5	0.71	1.0	1.4	2.0	2.8	4.0	5.6

See page 30 for the guide number list.

OTHER OPERATIONS

Bounce Shooting

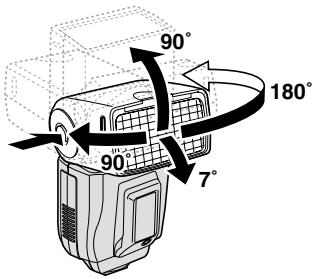
Bounce shooting refers to a method in which the light from the flash is bounced off the ceiling or walls.
This allows the light to go all around the subject, resulting in a soft picture without harsh contrast or shadow.

Shooting without bounce



Bounce shooting





Operation

1. While holding the Bounce lock release button, revolve the light-emitting section in the up-down and left-right directions.
   The light-emitting section can be revolved in the following directions.
   Up: 0˚ to 90˚
   Left: 0˚ to 90˚
   Right: 0˚ to 180˚

   Down: 7˚
   (See “Close-up Flash” on page 23.)

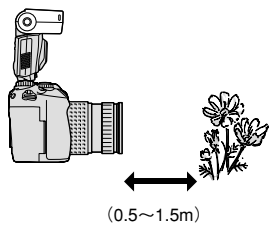
   If the position of the light-emitting section is locked, press and hold the Bounce lock release button and then change the position.

- The light control range and optimum shooting distance are not displayed in the control panel.
- The color of the surface (ceiling and/or walls) off which the light is bounced will affect the pictures you take. Whenever possible, bounce the light off a neutral surface.
- The firing angle is set to 25 mm (50 mm with 135 camera) when the firing angle adjustment is automatic (ZOOM).
- When the firing angle adjustment is based on manual switching (M ZOOM), the firing angle can be varied manually (see page 23).

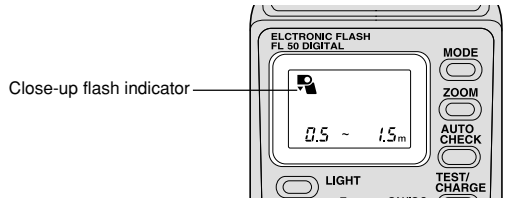
Close-up Flash

The flash activation area is inaccurate when the subject distance is between 0.5 and 1.5 meter. In this case, point the flash to the down-most angle (7˚) using the Bounce lock release button.

1



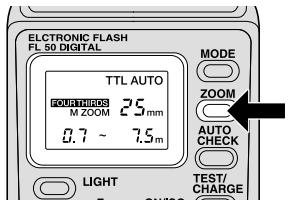
1. While holding the Bounce lock release button, tilt the flash to the down-most angle (7˚). The close-up flash indicator lights in the control panel.



- The flash light may be blocked when the lens is long or large in diameter. Be sure to perform test shooting.
- Do not use this function for any purpose other than close-up shooting. If it is used in normal shooting, there will be insufficient illumination for the upper half of the picture.

Manual Switching of Firing angle (ZOOM)

The firing angle can be adjusted manually.



1. Press the ZOOM button to adjust the firing angle.
   - The M ZOOM indicator lights in the control panel.
   - The firing angle can be set to one of 12, 14, 17, 25, 35 and 42 mm (24, 28, 35, 50, 70 and 85 mm with 135 camera). Each press of the ZOOM button switches the firing angle as follows.

AUTO ZOOM → 12 (24) → 14 (28) → 17 (35) → 25 (50) → 35 (70) → 42 (85) → AUTO ZOOM

When the wide panel is used:

AUTO ZOOM → 8 (16) → 10 (20) → AUTO ZOOM

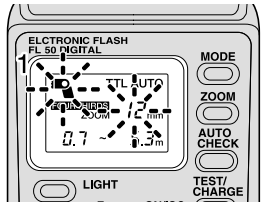
* AUTO ZOOM can be selected only when the camera in use is equipped with the communication capability.

■Note

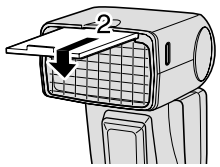
Selecting a value larger than the focal distance of the lens in use will darken the peripheral areas of the image.

Using the Wide Panel

Use the built-in wide panel in flash shooting when the lens focal distance is set to a wider position than 12 mm.

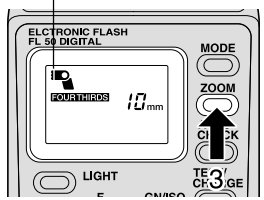


1. When the lens focal distance is shorter than 12 mm (24 mm with the 135 camera), the wide panel warming indicator lights in the control panel.
   (This does not occur if the camera is not equipped with communication capability.)

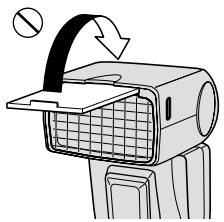


2. Slide out the wide panel and place it on the light-emitting area.
   • The wide panel indicator lights in the control panel.

Wide panel indicator



3. Press the ZOOM button to select the firing angle from 8 mm and 10 mm (16 mm and 20 mm with the 135 camera).



- When the wide panel is used, the actual guide number (GN) will be lower than set. In the TTL AUTO, AUTO and FP TTL AUTO modes, this results in a reduction of the available shooting range. In the MANUAL and FP MANUAL modes, this results in a reduction of the optimum shooting range.
- Be sure to store the wide panel again after shooting.
- To prevent damage to the wide panel, do not flip it in the upward direction.

Various Flash Shooting Methods

The following flash shooting methods are possible according to the camera setup.

- Some flash shooting methods may be unavailable depending on the function and design of the camera.
- For details on operating procedure, refer to the instruction manual for your camera.

1. Red eye-reduction flash




Reduces the appearance of red eyes due to flash emission.

2. Slow sync




The flash is emitted with slow shutter. This makes it possible to take clear pictures of subjects against a night background.

3. Background screen sync



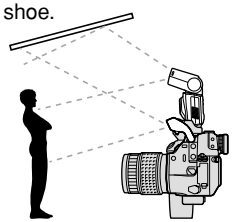
Slow shutter is used and the flash is emitted immediately before the end of exposure period.
This makes it possible to take pictures of moving objects such as car taillights with a streaming effect.

4. Combination with camera's built-in flash



When the camera in use has a built-in flash, it can be used simultaneously with the electronic flash.

- Advanced shooting techniques are possible, for example bouncing the light from the electronic flash while catching the subject with the light from the built-in flash.
- With certain camera models, the built-in flash may be disabled when the electronic flash is mounted on the camera's hot shoe.



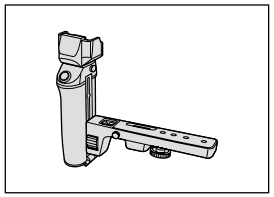
■Note

- The electronic flash control mode should be set to TTL AUTO or FP TTL AUTO.

OPTIONAL ACCESSORIES

●Power grip

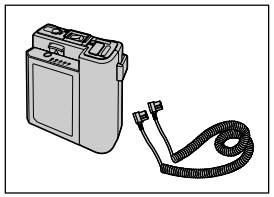
• Flash Power Grip FP-1 (To be used in combination with the RG-1 remote grip cable)



This accessory allows the electronic flash to be used as a grip-on type flash powered from four C (R14) alkaline dry cell batteries.
Using these batteries together with the electronic flash batteries makes it possible to charge the flash at a higher speed and increase the available flash emission count.

●External power supply

• Flash High Voltage Set SHV-1
(High Voltage Pack HV-1, Ni-MH Battery Pack BN-1, and AC Adapter AC-2)



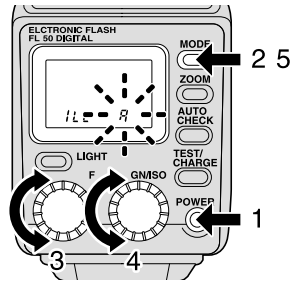
The BN-1 Ni-MH battery pack incorporated in this accessory makes it possible to charge the flash at a higher speed and increase the available flash emission count.

Batteries		Flash emission interval	Flash emission count
FP-1 (C/R14 alkaline batteries)	FL-50 (Alkaline batteries)	Approx. ● sec.	≥ ●● times
FP-1 (C/R14 Ni-Cd batteries)	FL-50 (CR-V3 battery packs)		
FP-1 (C/R14 alkaline batteries)	FL-50 (No battery)		
HV-1 (Ni-MH battery pack BN-1)	FL-50 (Alkaline batteries)		
HV-1 (Ni-MH battery pack BN-1)	FL-50 (CR-V3 battery packs)		
HV-1 (Ni-MH battery pack BN-1)	FL-50 (No battery)		

* The flash emission interval and count data were obtained from in-house tests at Olympus.
* The flash emission interval data represents the performance of fresh batteries. The figures increase as the batteries are depleted.
* The flash emission interval data refers to the values obtained with MANUAL flashing at a 1/1 light intensity ratio. The figure decreases when the light intensity is lower.

CUSTOM SETUP

Custom setup allows each user to customize flash setup to suit his or her preferences.



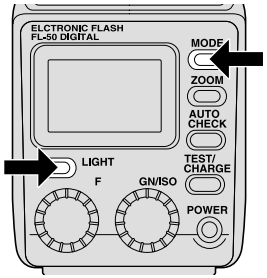
Setup procedure

1. Turn the electronic flash on.
2. Press and hold the MODE button for more than 2 seconds, until the setup mode display appears in the control panel.
3. Turn dial A to select the setup mode.
4. Turn dial B to select the value.
5. Press the MODE button to exit from setup and return to the previous control panel display.

Setup mode	Mode display Dial A	Value display Dial B	Function	Default
AF illuminator	ILL	A	AF illuminator is activated according to the control from the camera.	A
		OFF	AF illuminator is defeated.	
Flash cable	CLP	on	Use this setting when using the flash cable.	on
		OFF	Use this setting when not using the flash cable.	
Firing angle (ZOOM) display	FOURTHIRDS ZOOM --mm	4-3	Firing angle (ZOOM) is displayed in terms of the lens focal distance of a FOUR THIRDS digital camera.	4-3
	ZOOM --mm	135	Firing angle (ZOOM) is converted into the focal distance of a 135 camera. This allows the flash to be used in the same feeling as the flash for a 135 type film camera.	
Distance display unit	ft m	m	Distance is displayed in meters.	m
		ft	Distance is displayed in feet.	
Light intensity adjustment	±0.3	OFF	Light intensity cannot be adjusted.	OFF
		on	Light intensity can be adjusted.	
Wide panel switch disabling		on	Wide panel switch is defeated when the wide panel malfunctions.	on
		OFF	Wide panel switch is not defeated when the wide panel malfunctions.	

ALL RESET

All Reset resets the custom setups to the factory default settings.



- Press the MODE and LIGHT buttons simultaneously to reset the custom setups, except for the distance display unit (m/ft), to the default settings.
- The distance display unit (m/ft) is not altered by the all reset operation.

CONTINUOUS FIRING

Continuous firing make the light-emitting section hot and may cause it to deteriorate or malfunction. Therefore, continuous firing should be limited to the counts shown in the following table. Always leave the electronic flash unused for at least 10 minutes after continuous firing up to the limit count.

■Limit counts of continuous firings (assuming that the continuous shooting rate of the camera is 8 frames/sec.)

Flash control mode	Limit count
TTL AUTO	20 times or less
AUTO	
MANUAL (Light intensity ratio 1/1 or 1/2)	
FP TTL AUTO	
FP MANUAL (Light intensity ratio 1/1 or 1/2)	
MANUAL (Light intensity ratio 1/4, 1/8, 1/16, 1/32, 1/64, 1/128 or 1/256)	40 times or less
FP MANUAL (Light intensity ratio 1/4, 1/8 or 1/16)	

- Available counts of flash emission in synchronism with successive shooting

The following table shows the flash emission count that can be synchronized to successive shooting of the camera. Note, however, that the electronic flash should be left unused for more than 10 minutes once the maximum continuous flash emission count has been reached.

■Number of frames that can be synchronized successively (firing rate vs. frames/sec.)

External power supply	Batteries in FL-50	Light intensity ratio						
		1/4	1/8	1/16	1/32	1/64	1/128	1/256
None	AA (R6) alkaline batteries	2 frames	5 frames	10 frames	16 frames	30 frames	40 frames	40 frames
	AA (R6) lithium batteries							
	AA (R6) Ni-Mn batteries							
	AA (R6) Ni-Cd batteries							
	AA (T6) Ni-MH batteries							
	CR-V3 lithium battery pack							
Flash Power Grip FP-1 (C/R14 alkaline batteries)	AA (R6) alkaline batteries							
	AA (R6) lithium batteries							
	AA (R6) Ni-Mn batteries							
	AA (R6) Ni-Cd batteries							
	AA (T6) Ni-MH batteries							
	CR-V3 lithium battery pack							
	None							
Flash Power Grip FP-1 (C/R14 Ni-Cd batteries)	AA (R6) alkaline batteries							
	AA (R6) lithium batteries							
	AA (R6) Ni-Mn batteries							
	AA (R6) Ni-Cd batteries							
	AA (T6) Ni-MH batteries							
	CR-V3 lithium battery pack							
	None							
High Voltage Pack HV-1 (Ni-MH battery pack BN-1)	AA (R6) alkaline batteries	4 frames	40 frames	40 frames	40 frames	40 frames	40 frames	40 frames
	AA (R6) lithium batteries							
	AA (R6) Ni-Mn batteries							
	AA (R6) Ni-Cd batteries							
	AA (T6) Ni-MH batteries							
	CR-V3 lithium battery pack							
	None	4 frames	20 frames	40 frames	40 frames	40 frames	40 frames	40 frames

GUIDE NUMBER (GN) LIST

• TTL AUTO/AUTO

ISO100, m

ZOOM (mm)	FOUR THIRDS	8	10	12	14	17	25	35	42
	135F	16	20	24	28	35	50	70	85
TTL AUTO/AUTO	Full emission	18.0	20.0	28.0	30.0	36.0	40.0	45.0	50.0

• MANUAL

ISO100, m

ZOOM (mm)	FOUR THIRDS	8	10	12	14	17	25	35	42
	135F	16	20	24	28	35	50	70	85
MANUAL	1/1	18.0	20.0	28.0	30.0	36.0	40.0	45.0	50.0
	1/2	12.7	14.1	19.8	21.2	25.5	28.3	31.8	35.4
	1/4	9.0	10.0	14.0	15.0	18.0	20.0	22.5	25.0
	1/8	6.4	7.1	9.9	10.6	12.7	14.1	15.9	17.7
	1/16	4.5	5.0	7.0	7.5	9.0	10.0	11.3	12.5
	1/32	3.2	3.5	4.9	5.3	6.4	7.1	8.0	8.8
	1/64	2.3	2.5	3.5	3.8	4.5	5.0	5.6	6.3
	1/128	1.6	1.8	2.5	2.7	3.2	3.5	4.0	4.4
	1/256	1.1	1.3	1.8	1.9	2.3	2.5	2.8	3.1

• FP TTL AUTO

ISO100, m

ZOOM (mm)	FOUR THIRDS	8	10	12	14	17	25	35	42
	135F	16	20	24	28	35	50	70	85
Shutter speed	1/125	12.7	14.1	19.8	21.2	25.5	28.3	31.8	35.4
	1/160	11.3	12.6	17.6	18.9	22.7	25.2	28.3	31.5
	1/200	10.1	11.2	15.7	16.8	20.2	22.5	25.2	28.1
	1/250	9.0	10.0	14.0	15.0	18.0	20.0	22.5	25.0
	1/320	8.0	8.9	12.5	13.4	16.1	17.8	20.0	22.3
	1/400	7.1	7.9	11.1	11.9	14.3	15.9	17.8	19.9
	1/500	6.4	7.1	9.9	10.6	12.8	14.2	15.9	17.7
	1/640	5.7	6.3	8.8	9.4	11.4	12.6	14.2	15.8
	1/800	5.0	5.6	7.9	8.4	10.1	11.2	12.6	14.0
	1/1000	4.5	5.0	7.0	7.5	9.0	10.0	11.2	12.5
	1/1250	4.0	4.4	6.2	6.7	8.0	8.9	10.0	11.2
	1/1600	3.6	4.0	5.6	5.9	7.2	7.9	8.9	9.9
	1/2000	3.2	3.5	5.0	5.3	6.4	7.1	8.0	8.9
	1/2500	2.8	3.1	4.4	4.7	5.7	6.3	7.1	7.9
	1/3200	2.5	2.8	3.9	4.2	5.1	5.6	6.3	7.0
	1/4000	2.2	2.5	3.5	3.7	4.5	5.0	5.6	6.3
	1/5000	2.0	2.2	3.1	3.3	4.0	4.5	5.0	5.6
	1/6400	1.8	2.0	2.8	3.0	3.6	4.0	4.5	5.0
	1/8000	1.6	1.8	2.5	2.7	3.2	3.5	4.0	4.4

• FP MANUAL

The following guide number (GN) figures have a 1/1 light intensity ratio.

ISO100, m

ZOOM (mm)	FOUR THIRDS	8	10	12	14	17	25	35	42
	135F	16	20	24	28	35	50	70	85
Shutter speed	1/125	12.7	14.1	19.8	21.2	25.5	28.3	31.8	35.4
	1/160	11.3	12.6	17.6	18.9	22.7	25.2	28.3	31.5
	1/200	10.1	11.2	15.7	16.8	20.2	22.5	25.2	28.1
	1/250	9.0	10.0	14.0	15.0	18.0	20.0	22.5	25.0
	1/320	8.0	8.9	12.5	13.4	16.1	17.8	20.0	22.3
	1/400	7.1	7.9	11.1	11.9	14.3	15.9	17.8	19.9
	1/500	6.4	7.1	9.9	10.6	12.8	14.2	15.9	17.7
	1/640	5.7	6.3	8.8	9.4	11.4	12.6	14.2	15.8
	1/800	5.0	5.6	7.9	8.4	10.1	11.2	12.6	14.0
	1/1000	4.5	5.0	7.0	7.5	9.0	10.0	11.2	12.5
	1/1250	4.0	4.4	6.2	6.7	8.0	8.9	10.0	11.2
	1/1600	3.6	4.0	5.6	5.9	7.2	7.9	8.9	9.9
	1/2000	3.2	3.5	5.0	5.3	6.4	7.1	8.0	8.9
	1/2500	2.8	3.1	4.4	4.7	5.7	6.3	7.1	7.9
	1/3200	2.5	2.8	3.9	4.2	5.1	5.6	6.3	7.0
	1/4000	2.2	2.5	3.5	3.7	4.5	5.0	5.6	6.3
	1/5000	2.0	2.2	3.1	3.3	4.0	4.5	5.0	5.6
	1/6400	1.8	2.0	2.8	3.0	3.6	4.0	4.5	5.0
	1/8000	1.6	1.8	2.5	2.7	3.2	3.5	4.0	4.4

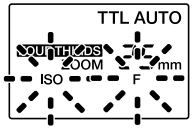
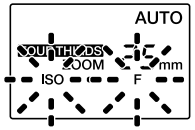
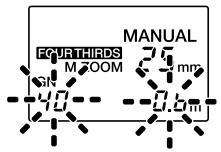
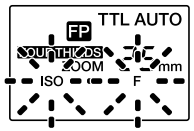
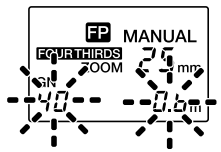
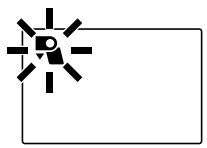
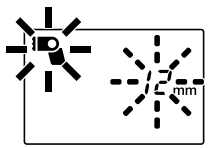
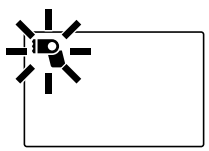
The guide numbers (GN) for light intensity ratios other than 1/1 in the FP MANUAL mode can be calculated with the following formula.

Guide number (GN) = GN at 1/1 x Light intensity ratio coefficient

Light intensity ratios and their coefficients

Light intensity ratio	1/1	1/2	1/4	1/8	1/16
Coefficient	1.0	0.71	0.5	0.35	0.25

WARNING DISPLAY LIST

Warning details	Control panel display	Ref. Page
Out of TTL AUTO mode operation range		12
Out of AUTO mode operation range		13
Too near distance in MANUAL mode		15
Out of FP TTL AUTO mode operation range		16
Too near distance in FP MANUAL mode		18
Downward bounce (in all modes)		23
Wide panel request (in all modes, with a communication-capable digital camera)		24
Wide panel warning (in all modes)		24

Q&A

Q Is multi-flash shooting possible in the TTL AUTO mode?
A No, it is not possible.

Q When are test flash activation and auto checking effective?
A Checking the optimum flash activation based on the AUTO CHECK lamp is particularly effective in bounce flash (in AUTO modes only).

Q What will happen if the electronic flash is activated simultaneously with the camera's built-in flash?
A Both flashes emit light simultaneously and the optimum exposure is determined according to the combined total light intensity (provided that the camera is in the P or A shooting mode).

Q Why does the electronic flash get hot after successive firing?
A The batteries generate heat when flash firing is repeated successively. In this case, use the electronic flash at intervals until the flash emission section and batteries cool down.

Q Can the electronic flash be used with an Olympus L series 35 mm film camera?
A No, it cannot be used.

Q Why can't I mount the electronic flash on the camera?
A The electronic flash cannot be mounted if the lock pin is in the out position. If this is the case, turn the lock ring all the way in the opposite direction to [←LOCK] until it stops. Once the lock pin is in the in position, you can mount the electronic flash on the camera (see page 10).

Q Why doesn't the control mode change when I press the MODE button?
A When the electronic flash is connected to certain types of communication-capable camera, the flash control mode can only be controlled from the camera.

Q What is the recommended white balance setting for the camera when using the flash?
A The auto white balance mode is recommended. If you use the manual white balance mode, set the color temperature to 5500K. Note that the color temperature varies depending on the flash shooting conditions.

MAIN SPECIFICATIONS

Model Number	: FS-FL50
Type	: External electronic flash for digital still camera
Guide number	: Automatic switching from 50 at 85 mm (42 mm with 135 camera) to 28 at 12 mm (24 mm with 135 camera). When the wide panel is used: 18/20 switching.
Firing angle	: Automatic switching. At 12 mm: Up-down 61˚, left-right 78˚(equivalent to image angle of 12 mm lens)* At 42 mm: Up-down 21˚, left-right 28˚(equivalent to image angle of 42 mm lens)* When the wide panel is used for 8 mm: Up-down 83˚, left-right 101˚ (equivalent to image angle of 8 mm lens)* * ZOOM values are the FOUR THIRDS camera values.
Flash emission period	: Approx. 1/20000 to 1/500 sec. (Variable according to the light intensity)
Flash emission count (at full activation)	: Approx. 150 times (using the LR6-type AA (R6) alkaline dry cell batteries) Approx. 300 times (using the LB-01 type lithium battery packs) (Variable depending on shooting conditions)
Recharge time (from full activation to charge lamp lighting)	: Approx. 6 seconds (using the AA (R6) alkaline manganese batteries) Approx. 4 seconds (using the LB-01 type lithium battery packs)
Flash modes	: TTL AUTO, AUTO, MANUAL, FP TTL AUTO, FP MANUAL
Bounce angles	: Up 0 to 90˚, down 7˚, left 0 to 90˚, right 0 to 180˚
Auto power OFF	: Interlocks with the auto power OFF operation of a camera with communication capability
AF illuminator	: Automatic firing at low intensity, possible only when a camera with communication capability is connected. Standard effective distances (variable depending on the camera): Near distance from about ● meters. Far distance from ● to ● meters.
Power supply	: AA (R6) alkaline dry cell batteries (LR6) x 4, AA (R6) Ni-Cd batteries x 4, AA (R6) Ni-MH batteries x 4, AA (R6) Ni-Mn batteries (ZR6) x 4, AA (R6) lithium batteries (FR6) x 4 or 3 V lithium battery pack (Olympus LB-01) x 2
Dimensions	: 133(H) x 78(W) x 102(D) mm (5.2 x 3.1 x 4.0 in) (excluding projections)
Weight	: 378 g (13.3 oz) (excluding batteries)
Operating environment	: Temperature: 0 to 40˚C Humidity: No more than 80% (without condensation)

Specifications are subject to change without any notice or obligation on the part of the manufacturer.

●Technical Support (USA)
24/7 online automated help: http://support.olympusamerica.com/
Phone customer : Tel.1-800-260-1625 (Toll-free)
Our phone customer support is available from 8 am to 10 pm (Monday to Friday) ET
E-Mail : e-slrpro@olympusamerica.com
●European technical Customer Support
Please visit our homepage http://www.olympus-europa.com/
or call NUMBER : Tel.00800-67 10 83 0 (Toll-free)
+49(0)1805-67 10 83 or +49(0)40-23 77 38 99 (Changed)