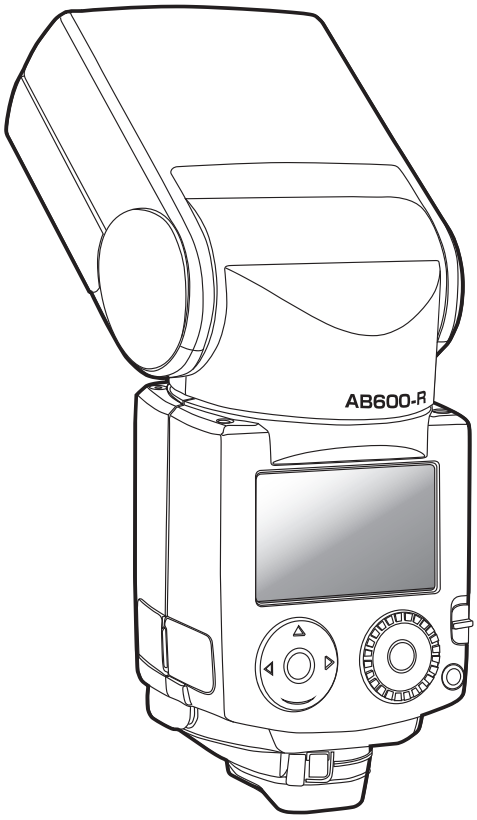
Kenko

AI Flash with Auto-Bounce Function

AB600-R

For Nikon (N)



User manual

Thank you for purchasing this product. To ensure your ability to take full advantage of the functions and performance of this product, make sure you fully read thisManual to ensure proper use.

Kenko Tokina Co., Ltd.

Introduction

The AB600-R is a digital camera clip-on flash compatible with the auto-flash function feature on Nikon cameras.
This product has the following features.

- Flash power up to maximum guide number of 60 (at 200mm, ISO 100)
- Auto-bounce function to assist with advanced shooting Techniques
- Wireless flash function using optical or radio control
- Remote head angle adjustment function that allows you to adjust the angle of a remote slave flash element from yourcurrent position
- Diverse flash functions, including full auto, manual, and multi-flash

Contents

Contents (cont.)

Safety precautions -Make sure to read this section

Make sure you carefully read "Safety Precautions" prior to use to ensure proper use.

About safety indications

This Manual uses the following type of indications.

Warning or **Warning**	Improper handling that does not comply with these instructions could result in death or serious injury.
Caution or **Caution**	Improper handling that does not comply with these instructions could result in injury. Or, there is a risk of property damage.

Indication and meaning of prohibited matters

	Prohibited The indicated act is absolutely forbidden.		Contact prohibited Do not touch.
	Water exposure prohibited Do not expose to water or moisture.		Disassembly prohibited Do not disassemble or modify.

Indication and meaning of cautions

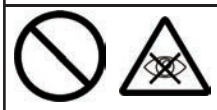
	Fire risk Possibility of causing a fire		Electric shock risk Possibility of electric shock
	Rupture risk Possibility of battery rupture		High temperature risk Possibility of burns
	Vision damage risk Possibility of resulting in reduced vision		Wireless interference risk Possibility of interference with nearby wireless devices.

Indication and meaning of cautions

	Action The performance of the indicated act is required.

⚠ Warning

Improper handling that does not comply with these instructions could result in death or serious injury.

	Do not disassemble or modify. This could result in electric shock.
	Do not insert metal into this product, any accessories, or the contact points of connector terminals to which cables are connected. This could result in fire, damage, or electric shock.
	If the product exterior is damaged, do not touch damaged areas. This could result in electric shock.
	Do not expose this product to water or touch this product with wet hands. This could result in damage or electric shock.
	Do not use the flash emitter near the eyes of any person. This could cause damage to a person's vision.
	When using the auto-bounce function, make sure no one is nearby prior to photography. The flash emitter operates automatically and could emit flash light at close distances when not expected.
	Do not bring the AF auxiliary flash emitter from the front of the unit close to any person's eyes. This could cause damage to vision.
	Do not use a flash or this product while covered by hands or a cloth. This could result in burns or cause a fire.
	Do not use the flash with an object placed directly in front of the flash emitter. This could cause a fire.
	Make sure to use prescribed batteries and insert batteries in the proper direction (+/-). Putting batteries in backwards could cause batteries to rupture or cause battery fluid to leak.
	Do not use when combining old and new batteries together. This could cause batteries to rupture or cause battery fluid to leak.
	Do not use when combining batteries from different manufacturers. This could cause batteries to rupture or cause battery fluid to leak.
	Do not use in a very humid or dusty environment. This could result in damage.
	Do not use the flash in an environment with flammable gases such as propanegas or gasoline. This could result in fire or explosion.
	Do not use the flash when pointing at persons operating a vehicles or motorcycles. This could cause a traffic accident.
	When using in a location with precision equipment that is susceptible to theeffects of radio waves, such as an airplane or a hospital, comply with the instructions of the airline company, hospital, etc.

Warning

Improper handling that does not comply with these instructions could result in death or serious injury.

	Do not place in a location within reach of infants. This could cause unexpected accidents.
	In the unlikely event this product becomes abnormally hot, emits smoke, smells of smoke or otherwise produces any abnormal odor, stop use immediately and store away from any flammable materials, and then contact our help desk.

Caution

Improper handling that does not comply with these instructions could result in injury. Or, there is a risk of property damage.

	Do not drop, or subject to strong shocks or vibration. This could result in damage.
	If not using for a long period of time, store with the batteries removed. Not removing them could result in battery fluid leak or device damage.
	Do not store in a vehicle or other location subject to high temperatures. This could result in damage.
	Consecutive use of the flash will cause the temperature around the light emitter to increase so do not touch this area. This could result in burns.
	Consecutive use of the flash could cause the batteries to reach high temperatures. Make sure to check that batteries have sufficiently cooled before changing batteries.
	Do not use benzene, thinner, alcohol, or other organic agents to clean this product. This could result in discoloration or device damage.

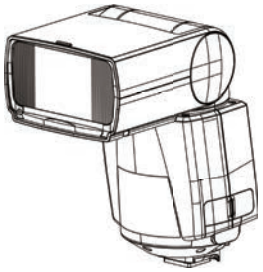
About wireless functions

This product is certified as compliant with the technical standards for 2.4GHz band low-power data communication system as outlined in the Radio Act. As such, no license is required for the use of this device. However, make sure to take the following precautions when using this device.

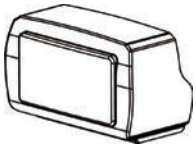
	This device uses radio waves in 2.4GHz band. Stop the use of the device in the event this device is impacting nearby wireless base stations or wireless equipment.
	This product is certified as compliant with technical standards outlined in the Radio Act. As such, do not disassemble or modify this device. Also, do not remove any certification labels affixed to this device. Such actions may be subject to penalty under law.
	This device is compliant with the laws concerning radio waves in the country of purchase so the use of this device's wireless functions outside the country of purchase constitutes an illegal act. Our Company shall bear no liability whatsoever regarding any trouble that occurs in relation to the use of this device outside the country of purchase. If you are unsure of the country of purchase, contact our inquiry help desk.

Confirming package contents

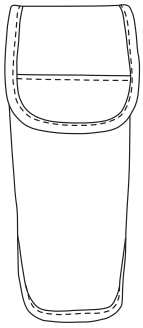
The following items are included with this product.



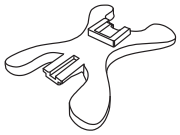
Flash body



Bounce adapter



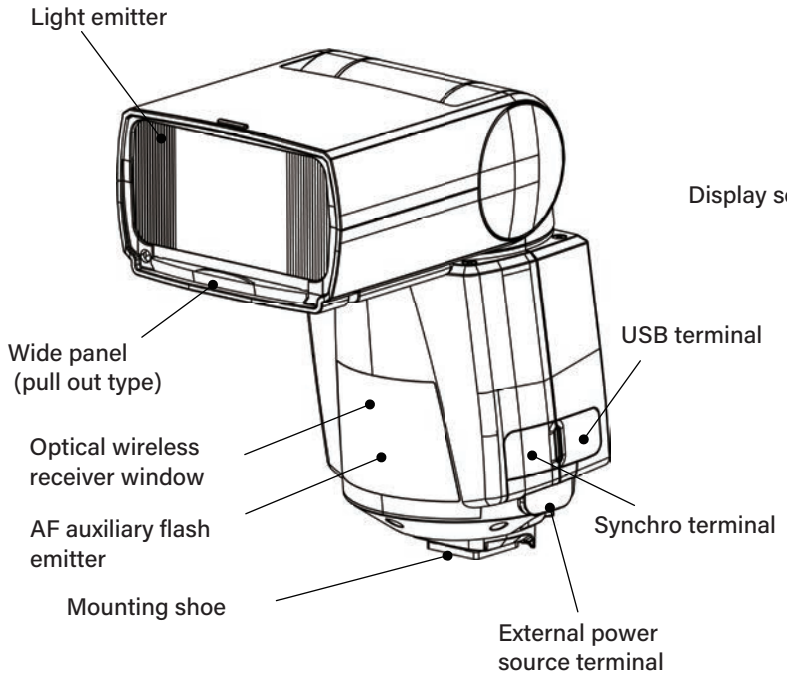
Soft case

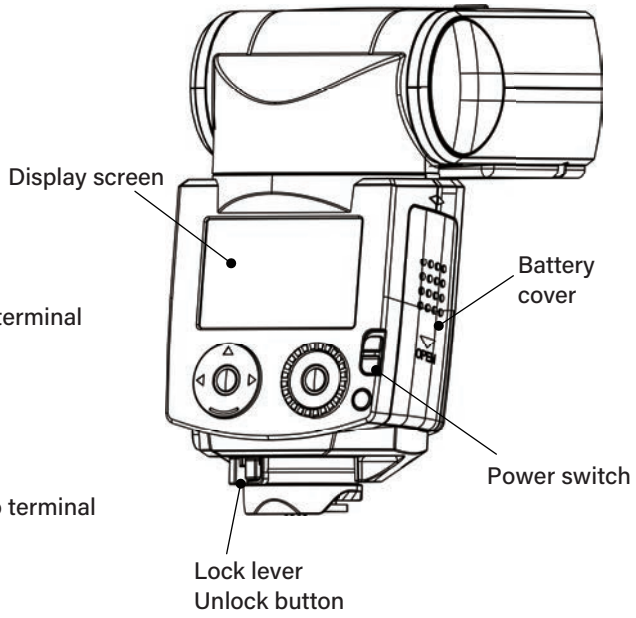


Mini-stand

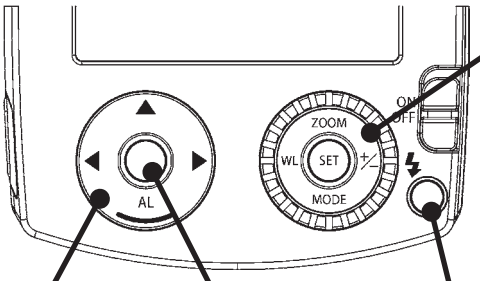
Other printed matter
- Quick start guide
- Warranty

Names of parts





● Control part names

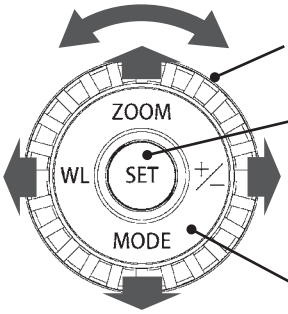


[AB OFF] button
> p18 to 19

Auto-bounce button
Auto-bounce function control
and disabling
> p18 to 19

Test flash button
Green: Charging, Red: Charging complete

Wheel / directional buttons / SET button



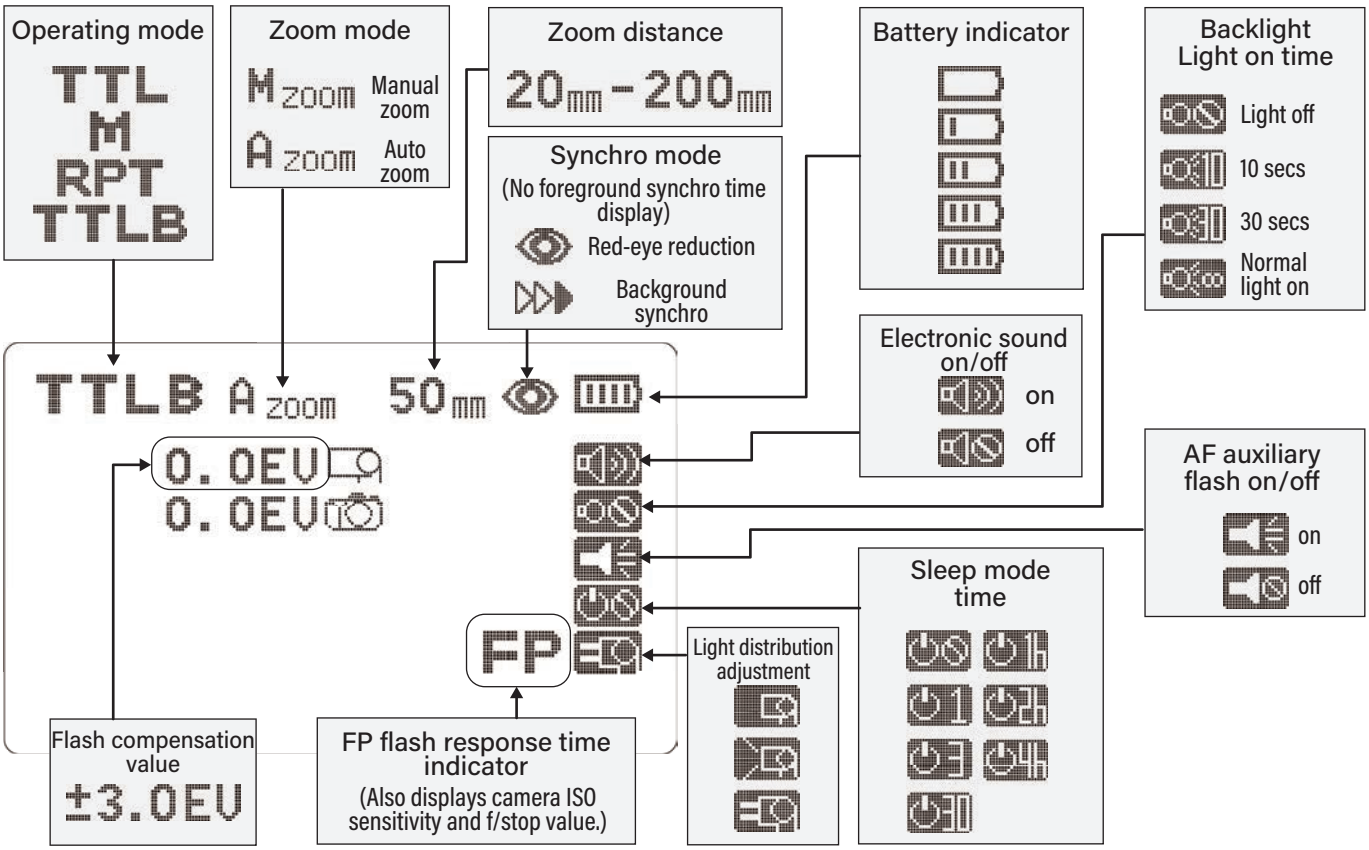
Wheel
Turn left or right to select item

[SET] button
Confirm selected item

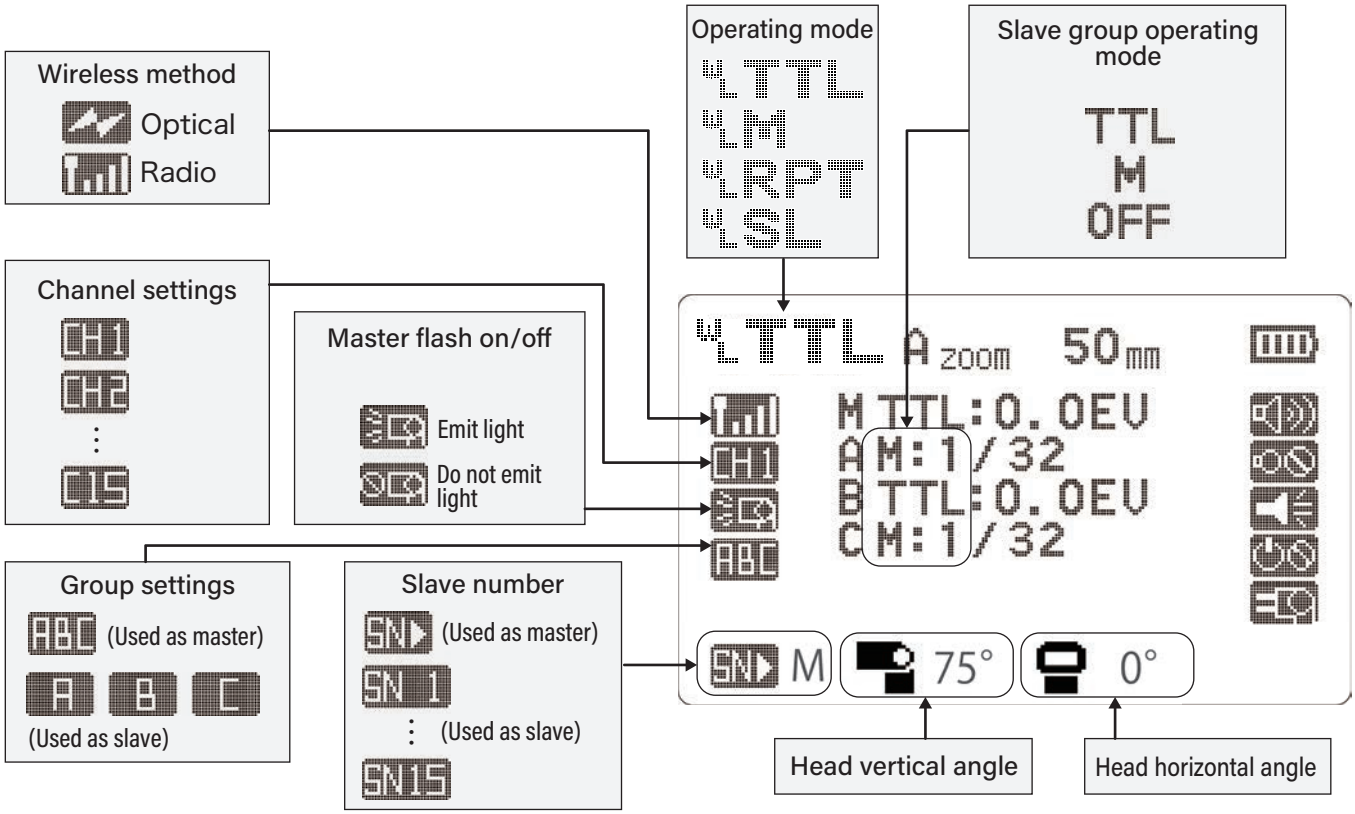
Direction Buttons
Up: [ZOOM]
Down: [MODE]
Right: [+/-]
Left: [WL]

Explanation of display screen

Main settings in single operation mode



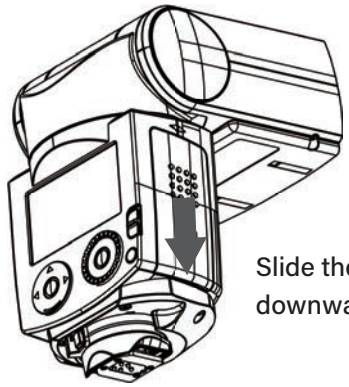
Main settings in wireless operation mode



Prior to use

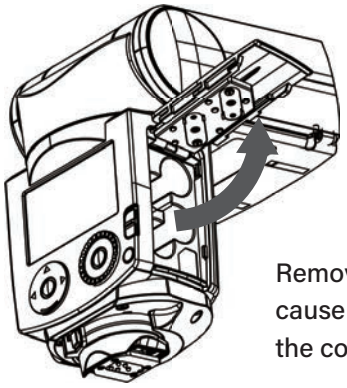
How to insert batteries

① Disengage the battery cover lock



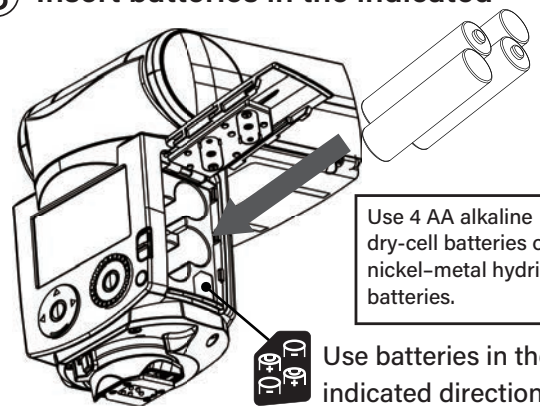
Slide the battery cover downward.

② Open battery cover



Removing your hand will cause the spring to open the cover automatically.

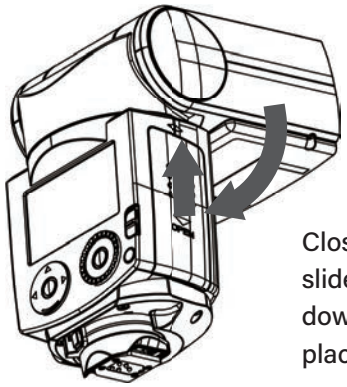
③ Insert batteries in the indicated



Use 4 AA alkaline dry-cell batteries or 4 nickel-metal hydride batteries.

Use batteries in the indicated direction.

④ Close battery cover

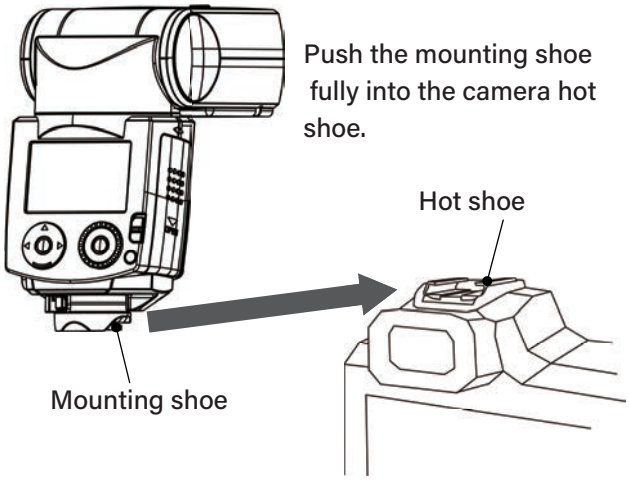


Close the battery cover and slide up while holding down the cover to lock it in place.

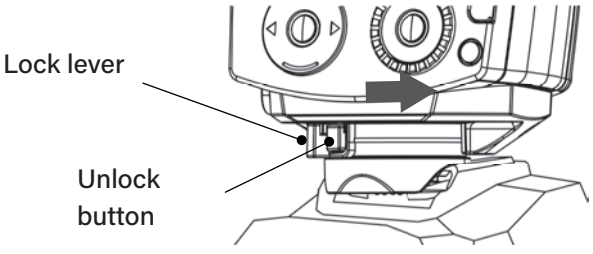
Make sure to use prescribed batteries and insert batteries in the proper direction (+/-).
Putting batteries in backwards could cause batteries to rupture or cause battery fluid to leak.

How to attach to camera

① Attach to camera



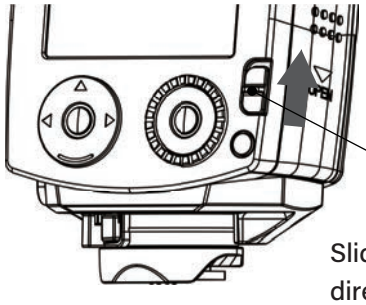
② Lock



To lock, rotate the lock lever in the direction of the arrow and turn until you hear a clicking sound.

※To remove, press the unlock button while moving the lock lever to remove from the shoe.

How to turn on power



Slide the power switch in the direction of the arrow.

List of operating modes

Auto-shooting	Auto-flash photography based on camera-side flash settings
Manual shooting	Manual shooting that allows power to be set on the flash independently regardless of camera settings
Multi-flash shooting	Continuous flash for shooting continuous photos of moving objects
AI bounce function	Uses ceiling and left and right walls to automatically optimize bounce angle
Wireless function	Wireless flash photography using optical or radio signals
Adjustment functions	Adjustment functions such as manual zoom, flash compensation, synchro mode
Other auxiliary functions	Modeling flash, test flash, etc.

Auto-shooting

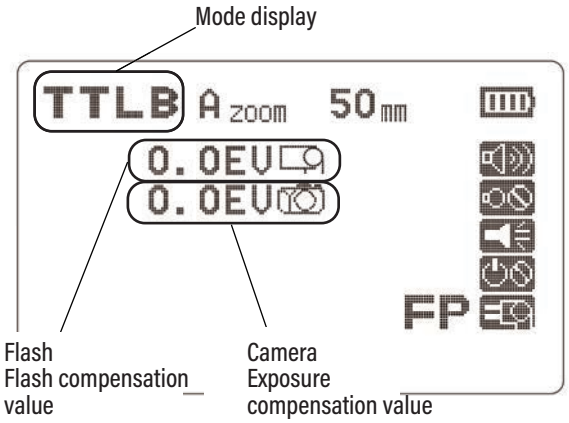
You can configure the following settings on the camera and this product to use auto-flash controlled by the camera settings.

● Set the camera photography mode to mode that allows automatic flash control.

● Select flash mode

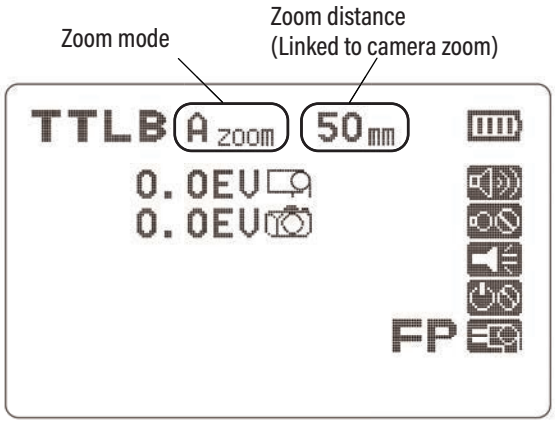
Press the directional button in the [MODE] direction to align the monochrome inverted display to [TTLB]or[TTLB]

[TTLB]: Compatible with i-TTL-BL flash
[TTL]: Compatible with i-TTL flash



● Auto zoom settings

Press the directional button in the [ZOOM] direction to align the monochrome inverted display to [A zoom].



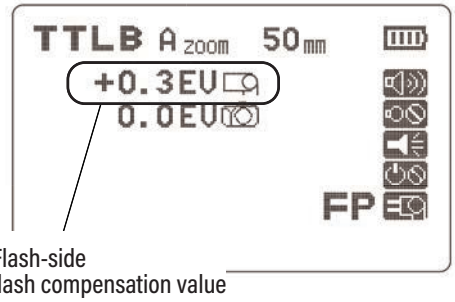
● Confirm that the test flash button is lit red (fully charged) and press the camera shutter.

Flash compensation

You can make minute adjustments to flash power based on object color tone.

● Press the directional button in the [+/-] direction to align the monochrome inverted display to the desired value.

Allowed settings range:
-3.0 to 3.0EV (0.3EV increments)

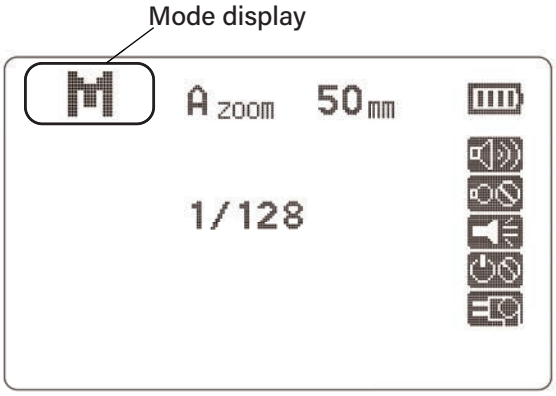


Manual shooting

You can set flash power as desired to conduct flash settings regardless of camera settings.

● Select flash mode

Press the directional button in the [MODE] direction to align the monochrome inverted display to [M].

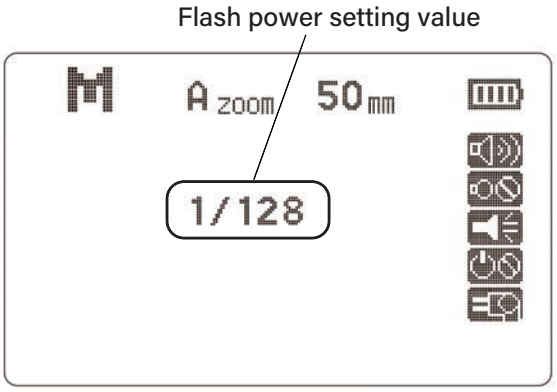


● Flash power settings

Press the directional button in the [+/-] direction to align the monochrome inverted display to the desired value.

Allowed settings range:

1/128 to 1/1 (0.3EV increments)



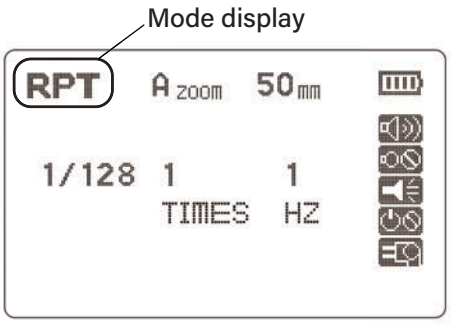
● Confirm that the test flash button is lit red (fully charged) and press the camera shutter.

Multi-flash shooting

You can shoot continuous photographs of moving objects by emitting multiple flashes while the camera shutter is open.

● Select flash mode

Press the directional button in the [MODE] direction to align the monochrome inverted display to [RPT].

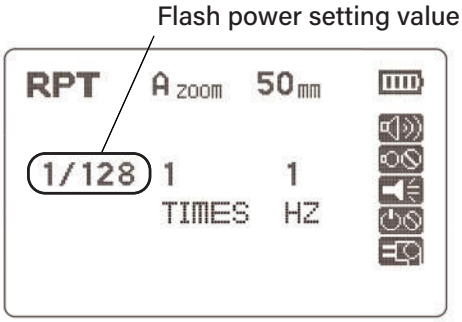


● Flash power settings

Press the directional button in the[+/-] direction to align themonochrome inverted display to the desired value.

Allowed settings range: 1/128 to 1/8

*The allowed settings range is limited depending on the combined parameters.

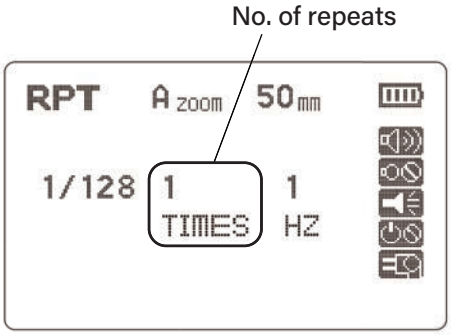


● No. of flashes

Press the directional button in the[+/-] direction to align themonochrome inverted display to the desired value.

No. of repeated flashes

Allowed settings range: 1 to 100 (times)

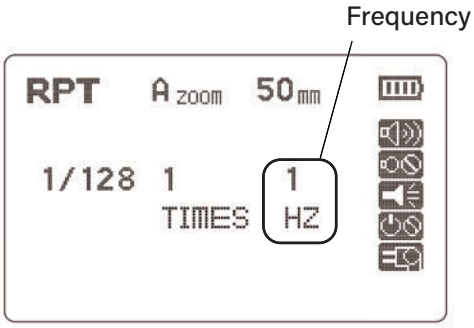


● Flash frequency

Press the directional button in the [+/-]direction to align the monochrome inverted display to the desired value.

Flash frequency

Allowed settings range: 1 to 200 (Hz)



● Confirm that the test flash button is lit red (fully charged) and press the camera shutter.

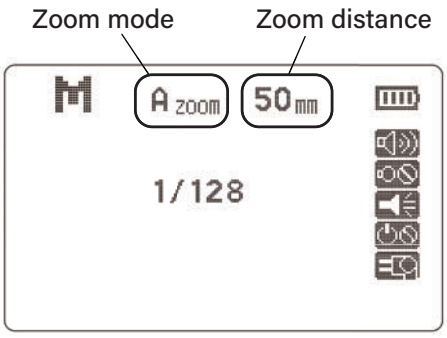
Limit multi-flash photograph to up to 10 consecutive times and allow 15 minutes for cooling after use. The overheating prevention mechanism may engage after using the flash over 10 times consecutively.

After consecutive flash use, the flash body or batteries may get hot. This could result in burns so do not contact the flash or battery area

Auto-zoom and manual zoom

You can switch between using auto-zoom, which is linked to the camera's settings, and manual zoom, which allows you to set the zoom distance at will.

- Press the directional button in the [ZOOM] direction to change the monochrome inverted display.
  [A zoom]: Auto zoom
  [M zoom]: Manual zoom



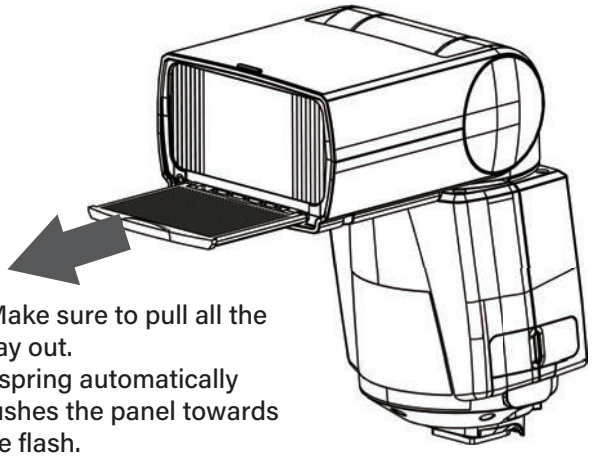
Allowed settings range

Auto	Manual zoom (mm)											
AUTO	20	24	28	35	50	70	85	105	120	135	180	200

Wide panel

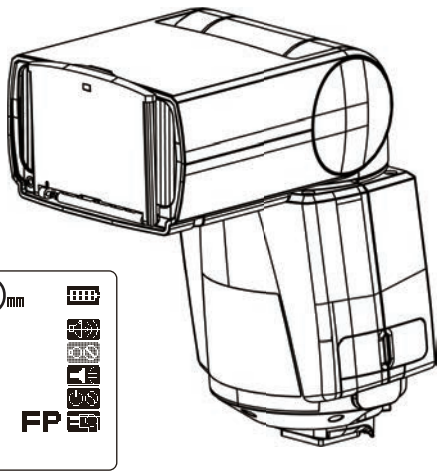
Using the wide panel enclosed in the flash body, you can emit flash compatible with angles equivalent to a focal distance of 18mm.

① **Pull wide panel out.**

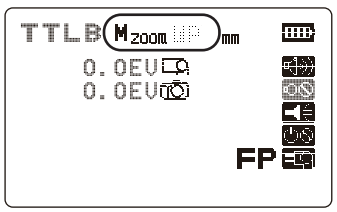


*Make sure to pull all the way out.
A spring automatically pushes the panel towards the flash.

② **The wide panel covers the flash.**



[M zoom WP] display appears.



*When using the wide panel, the zoom mode is fixed automatically.
You cannot set to camera zoom-linked or to manual zoom.

Synchro mode

This product is compatible with three types of synchro mode, foreground synchro, background synchro, and redeye reduction mode.
You can change the synchro mode from the camera's external flash control settings.
(*Setting may not be available depending on your camera.)

● Synchro mode display explanation

No display Foreground synchro	Normal synchro mode Compatible with FP flash
Background synchro	Car lights and other light trails are exposed naturally.
Redeye reduction mode	Reduced effect of people's eye appearing red in dark locations.

Synchro cord

You can use a commercial synchro cord to connect to the synchro terminal to use the flash away from the camera via a wired connection.

Modeling flash

Press a button on camera compatible with modeling flash to use consecutive flash for approximately 1 second.

*Modeling flash function may not be available depending on your camera.

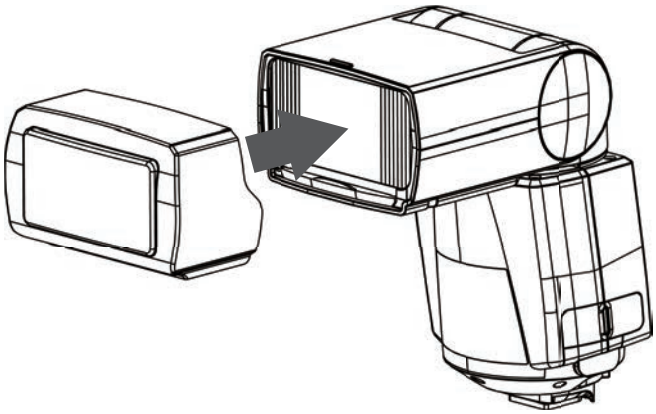
After repeated using of the modeling flash function, the flash body or batteries may get hot. This could result in burns so do not contact the flash or battery area.

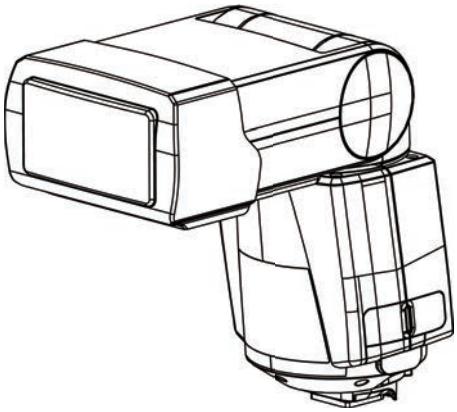
Test flash

Press the test flash button to operate the flash.

Bounce adapter

You can connect a bounce adapter to the flash to create soft flash lighting.



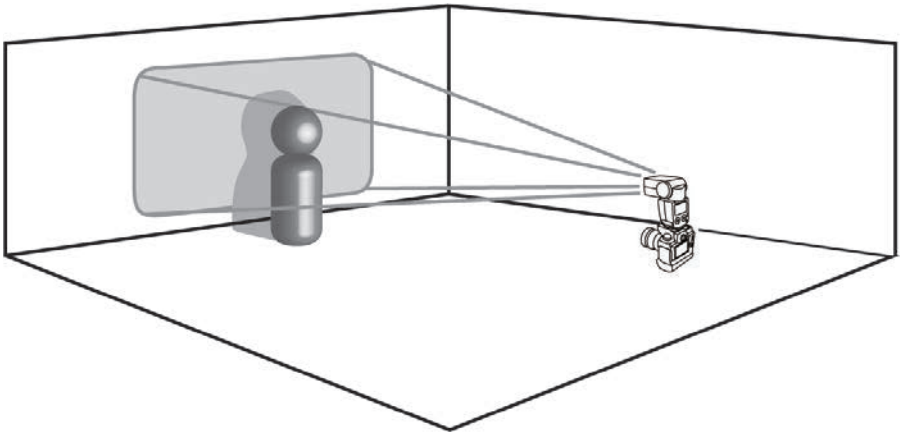


Bounce photography function

About bounce photography

Photography method involving changing the flash angle.
Instead of directly pointing the flash light in the direction of the object, uses light reflection of the ceiling or walls to illuminate the object in a soft light. Or, changes the light source angle to create more natural shadows.

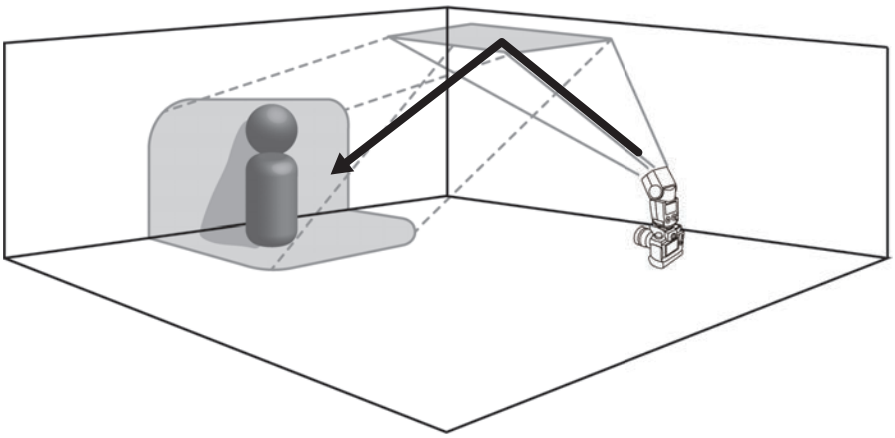
●Do not use bounce



Object shadow

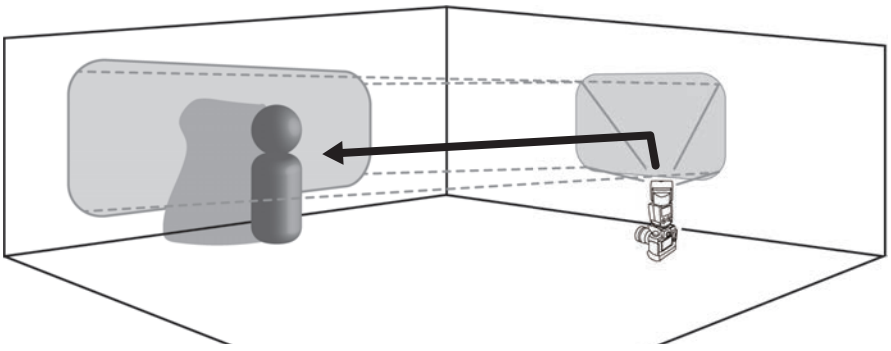
Bright but produces a strong reflected light.

●Bounce using ceiling



This produces natural shadows that make it appear like the object is being illuminated by sunlight from the sky.

●Bounce using wall (right wall)



Creates a strong 3D effect to produce shadows that appear like natural light coming from a window.

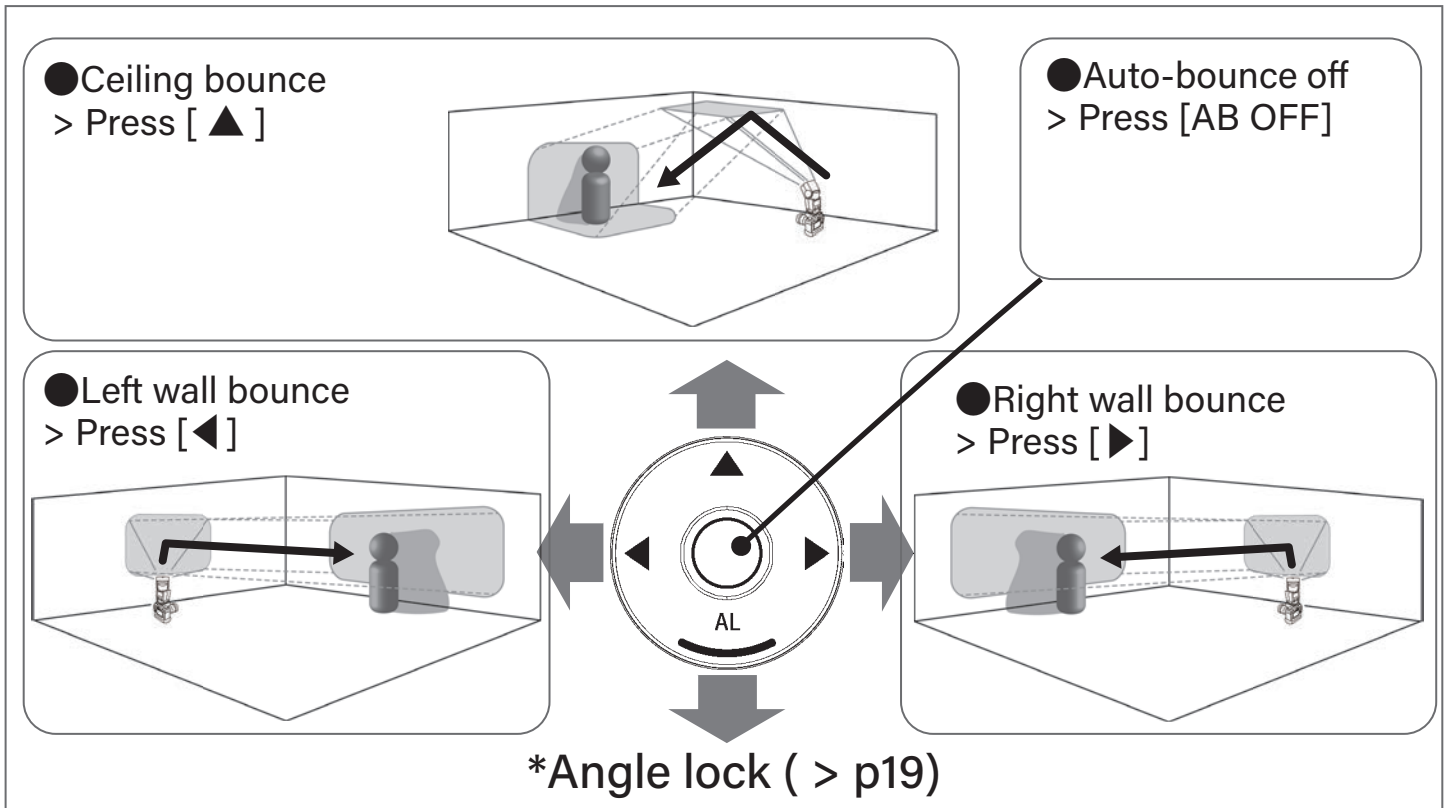
*The characteristics of light illuminating the object may change depending on the reflected ceiling or wall color or surface texture.

Auto bounce function

The [Auto-bounce function], the greatest feature of this device, is a function that automatically calculates and adjusts the flash angle, normally a process that requires experience and trial and error.
Simply pointing the camera at the object and pressing the auto-bounce button causes sensors mounted in the device to measure distance to the ceiling, left wall, and right wall to automatically point the flash in the optimal bounce angle.
Also includes [Angle lock Function] so that after setting, even if you change the direction of the camera (vertical or horizontal position), the set bounce direction is maintained.

Auto bounce photography

Press the (▲◀ ▶) buttons based on the direction of the ceiling or walls you want to use as a bounce surface to automatically point the flash in the optimal bounce angle and maintain that angle.
Press the camera shutter to take a photo.



*Emits flash multiple times to measure distance from object, ceiling, and walls, and moves automatically. Do not move the camera during the approx. 5 seconds required to complete this operation.
*The auto-bounce function will not operate if the device is not attached to the camera.
The auto-bounce function will not operate when using the wide panel.
May not function properly when the bounce adapter is attached.

Manual bounce photography

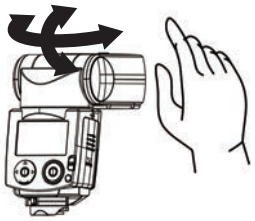
You can adjust the bounce angle manually without using the auto-bounce function. When the [AB OFF] button lit to orange, move the flash manually to adjust the bounce direction.

*When the [AB OFF] button blinking or lit blue, do not move the flash.
There is a possibility of causing damage.

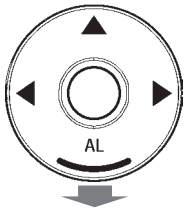
Angle lock function

Includes function so that after moving the flash manually to set the angle, even if you change the direction of the camera (vertical or horizontal position), the set bounce direction is maintained.

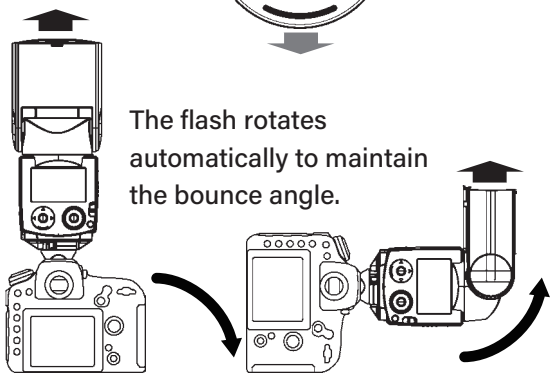
● Change flash direction
*When the [AB OFF] button is lit orange.



● Press the AM directional button [AL].
*[AB OFF] button is lit blue.



● Even if you change the camera position, the bounce direction initially set is maintained.



[AB OFF] button color and operating mode.

LED display	Angle lock	Flash
Blue light (blinking)	Distance measuring, auto-bounce engaged	Should not be move
Blue light (lit)	Bounce operation finished, angle lock on	Should not be move
Orange (Lit)	Auto-bounce and angle lock both off	Can be moved

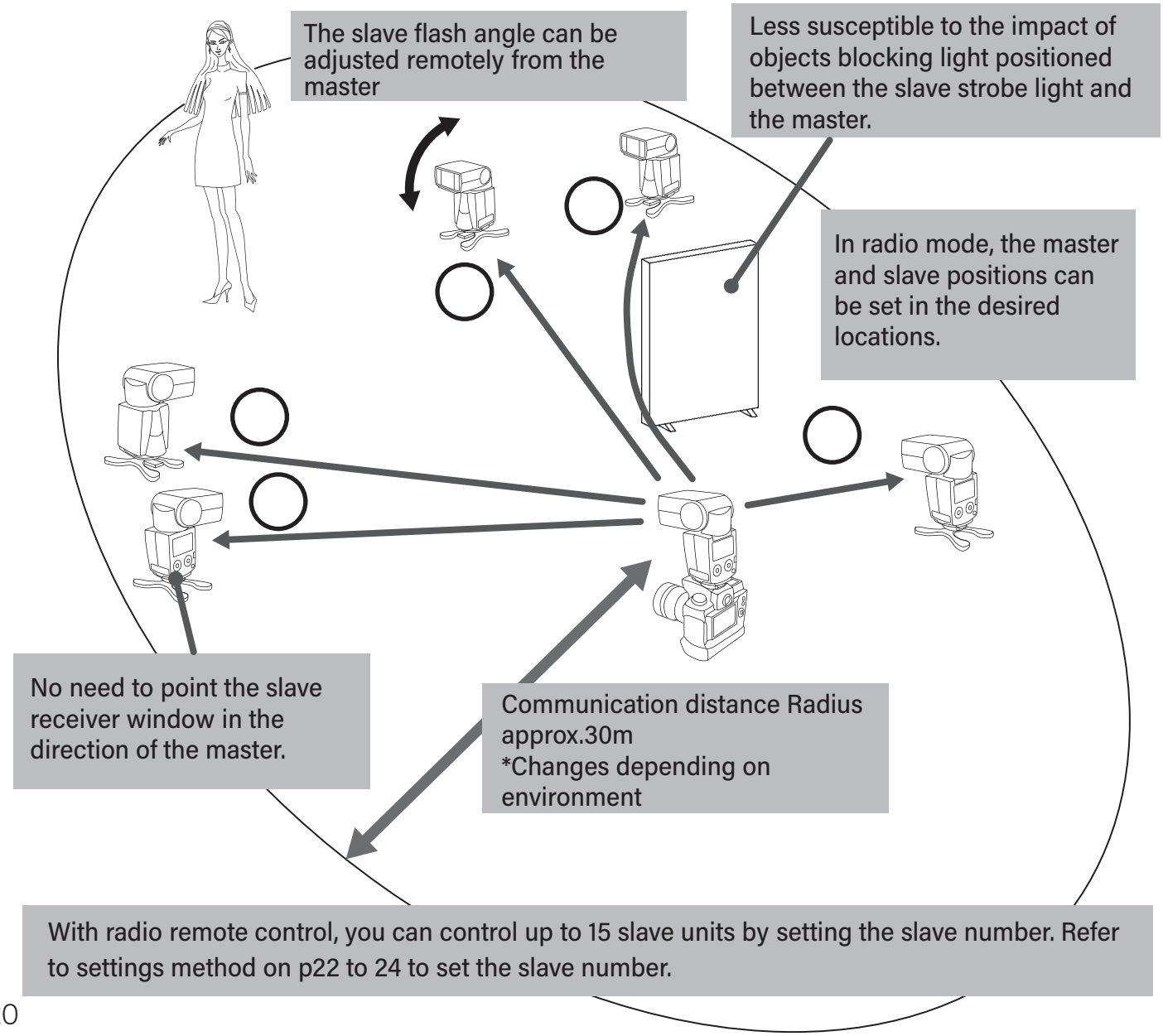
Wireless photography function

This product is equipped with two wireless shooting functions: radio and optical.

Radio Wireless function (2.4GHz signal)

Using 2.4GHz band wireless communication, it is possible to conduct multiple flash photography or flash photography from positions removed from the camera.
This method is beneficial because you can control slave flash units from a farther distance compared to optical control and is less susceptible to interference from objects.
With radio remote, you can adjust the flash angle of this unit set as slaves to be controlled remotely from the master.

● Layout example for radio wireless



With radio remote control, you can control up to 15 slave units by setting the slave number. Refer to settings method on p22 to 24 to set the slave number.

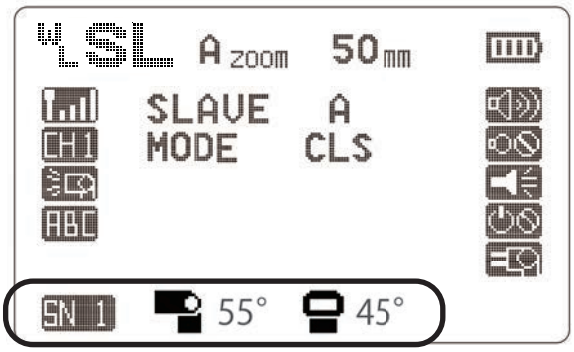
Remote head angle adjustment function

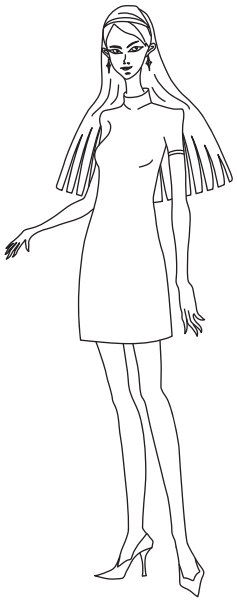
When using several of these units to conduct wireless photography using multiple flashes, you can adjust the slave flash angle remotely from the master.

Convenient in the following types of situations.
- Sunlight angle changed
- Object moved

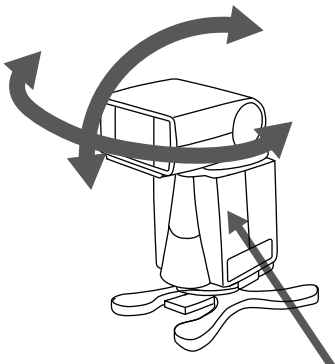
> Want to make minor adjustments to slave angle...

Slave-side screen



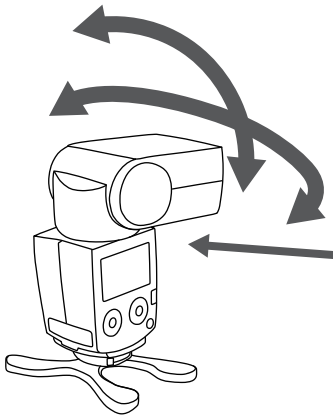


Slave number 1

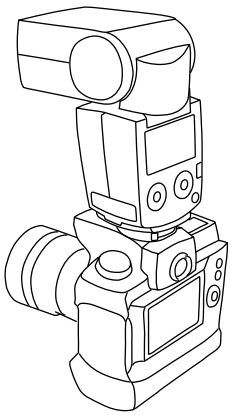


Set the channel and slave number in the slave.

You can set the slave number for up to 15 units.

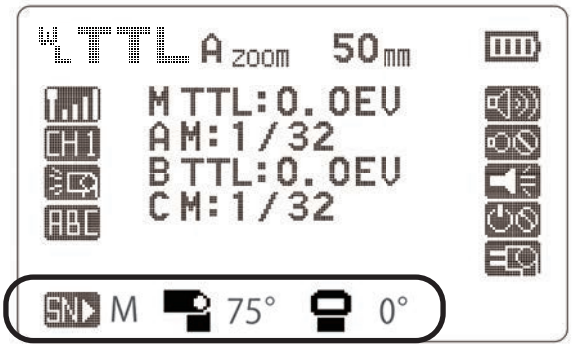


Slave number 2



Master

Master-side screen



Slave head angle adjustment location

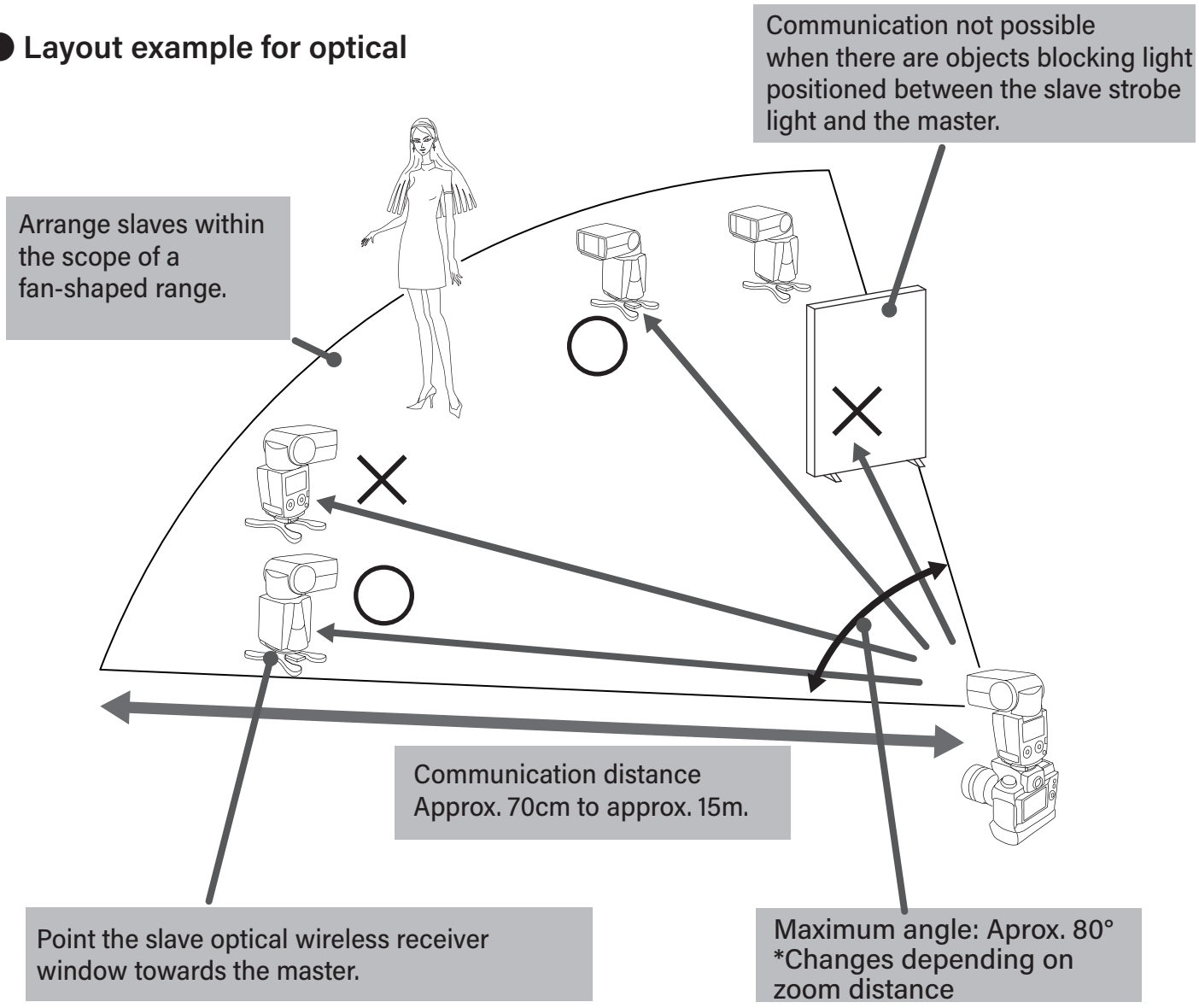
SN▶ : [M] > When master is selected
1 to 15 > Select slave number
: Vertical angle of selected flash head
: Horizontal angle of selected flash head

You can adjust the head angle in 5-degree increments for each slave number.

Optical wireless function

You can use flash lighting for optical communication to conduct multiple flash photography or flash photography from positions removed from the camera. You can also use the camera internal flash as the master flash.
This has the benefit of enabling wireless photography without the use of radio equipment but this system can only be used for the relatively short distances up to which the flash light reaches.

● **Layout example for optical**



Difference between radio and optical signals

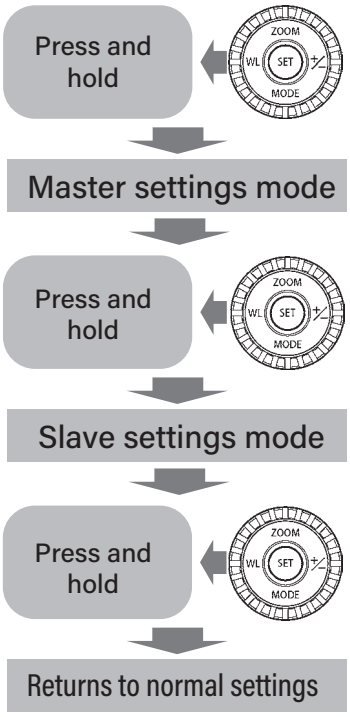
Wireless method	Radio	Optical
Channel select	ch1 to ch15	ch1 to ch4
Slave number setting	SN1 to SN15	Not possible
Slave head angle adjustment	Possible	Not possible

How to enter wireless settings mode

● Press and hold the directional button in the [WL] direction for approx. 2 seconds.
> Enter settings mode using this product as a master flash.

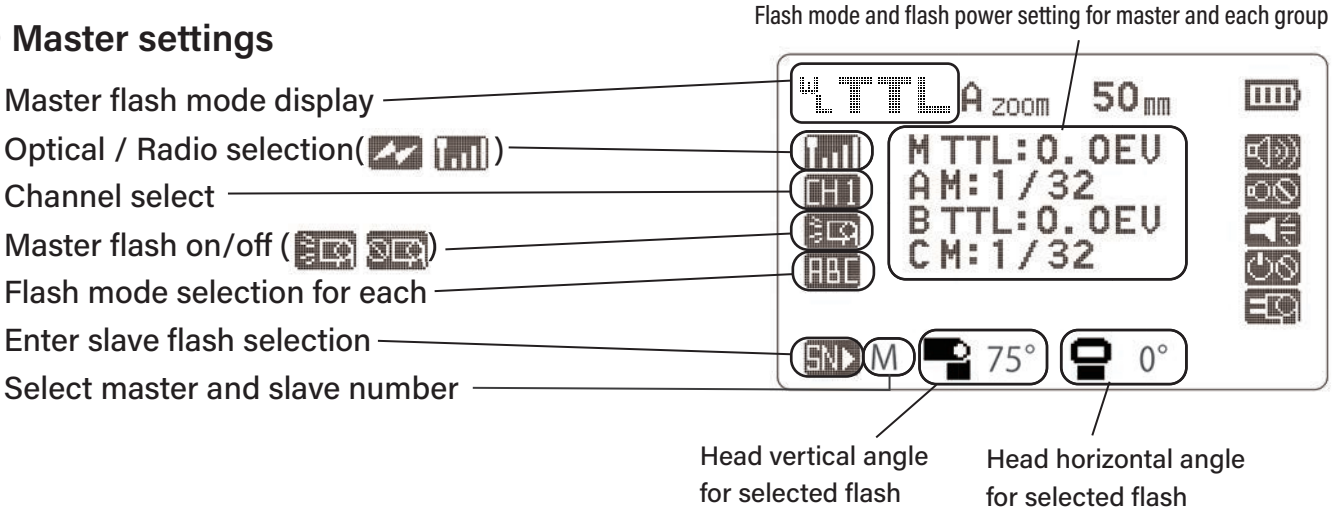
● Press and hold the directional button in the [WL] direction again for approx. 2 seconds.
> Enter settings mode using this product as a slave flash.

● Press and hold the directional button in the [WL] direction again for approx. 2 seconds.
> Exit from wireless settings and return to normal mode.

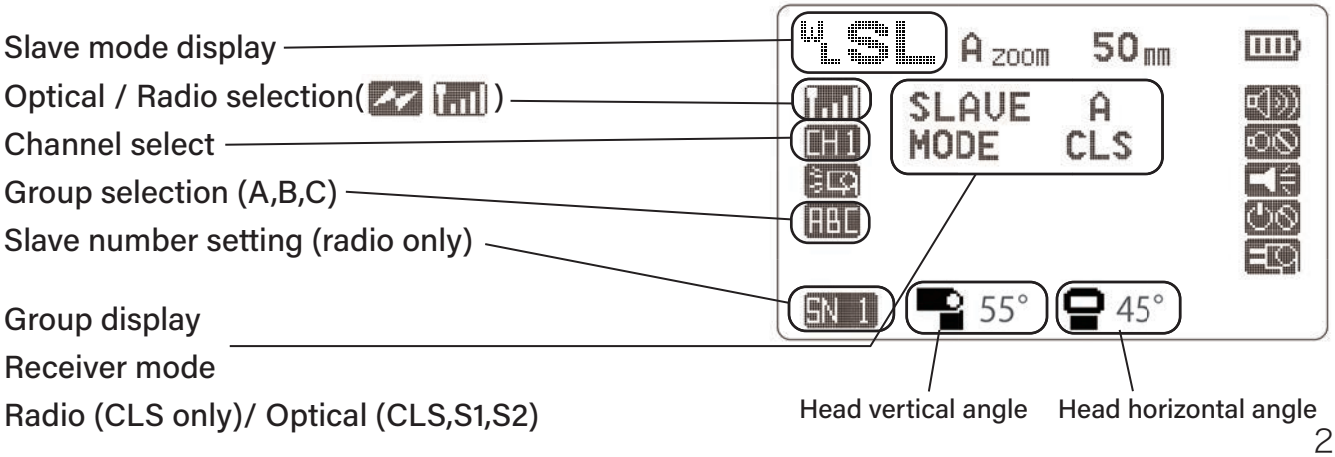


Master settings screen and slave settings screen

● Master settings

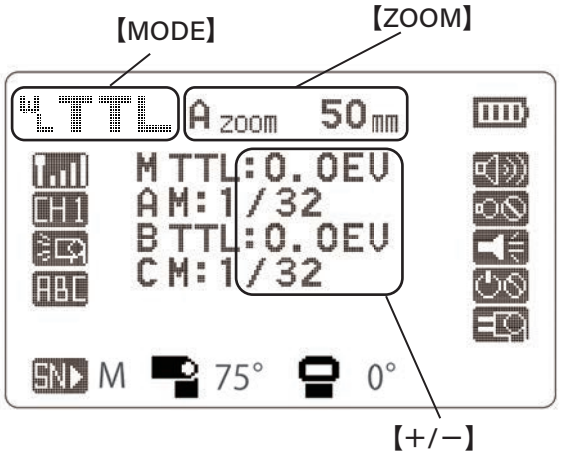


● Slave settings mode



Using this product as a master

Using this product as a master, it is possible to control multiple slave flash units from the main unit settings screen.



● Press and hold the directional button in the [WL] direction to enter into master settings mode.

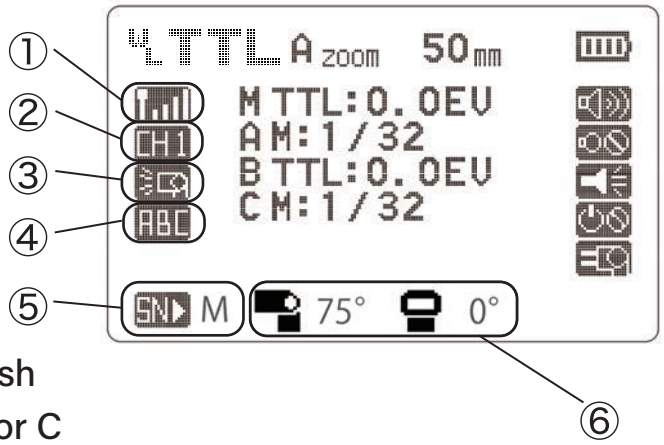
● In the master settings screen, press the control button in the desired direction to configure settings for the following items.

● Master flash mode settings [MODE]

> Use directional button [MODE] to change the master flash mode.
You can select from three modes: TTL, M, or RPT.

● Master zoom distance setting [ZOOM]

> Use directional button [ZOOM] to change the zoom distance.
*Slave flash zoom cannot be controlled from the master.



Wireless settings [WL] (quick press)

① Wireless method select

② Optical ↔ Radio (⇔)

③ Channel select

*Radio channels are 1-15, optical channels are 1-4

④ Master flash on/off

Select whether or not to use master flash

⑤ Select light mode for each group A, B, or C

You can select the flash mode for each group:

TTL, M, or OFF (do not use).

⑥ Select slave number (SN1 to 15, M is for master)

Head angle adjustment for selected slave

You can adjust the angle of the slave flash selected in (5).

Both vertical angle and horizontal angle can be adjusted in 5-degree increments.

*(5) and (6) are only when using radio wireless

● Flash compensation for master and each group

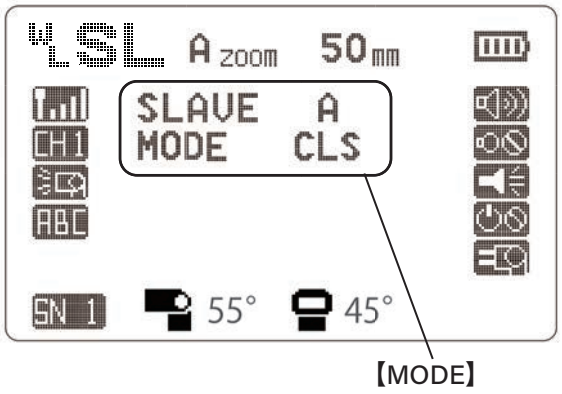
> You can use the directional buttons [+/-] for Flash compensation setting for the master and each group A, B, and C.

Using this product as a slave

Configure the following settings when you wish to use this product as a slave.

● Press and hold the directional button in the [WL] direction to enter into slave settings mode.

● In the slave settings screen, press the control button in the desired direction to configure settings for the following items.



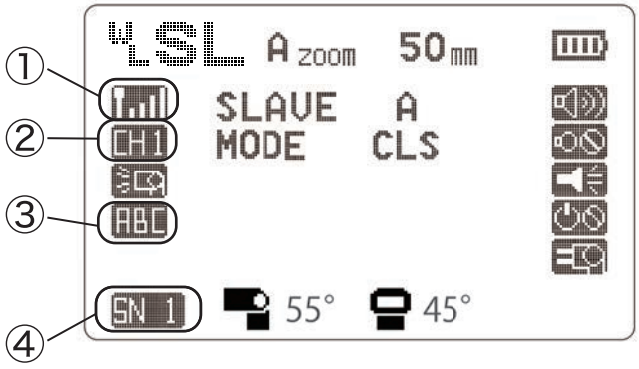
● Wireless settings [WL] (quick press)

① Wireless method select
Optical ↔ Radio(⇔)

② Channel select
Set the same channel as the one set for the master.

③ Group setting
Select from the 3 groups A, B, or C that you set for the master.

④ Slave number setting
Set to any number between SN1 and SN15.



*Only when using radio signal

*If the same slave number is set for multiple slave flashes, the slave number display blinks and "ERR: SAME NUMBER" is displayed. In this case, the slaves set to the same number do not operate normally.

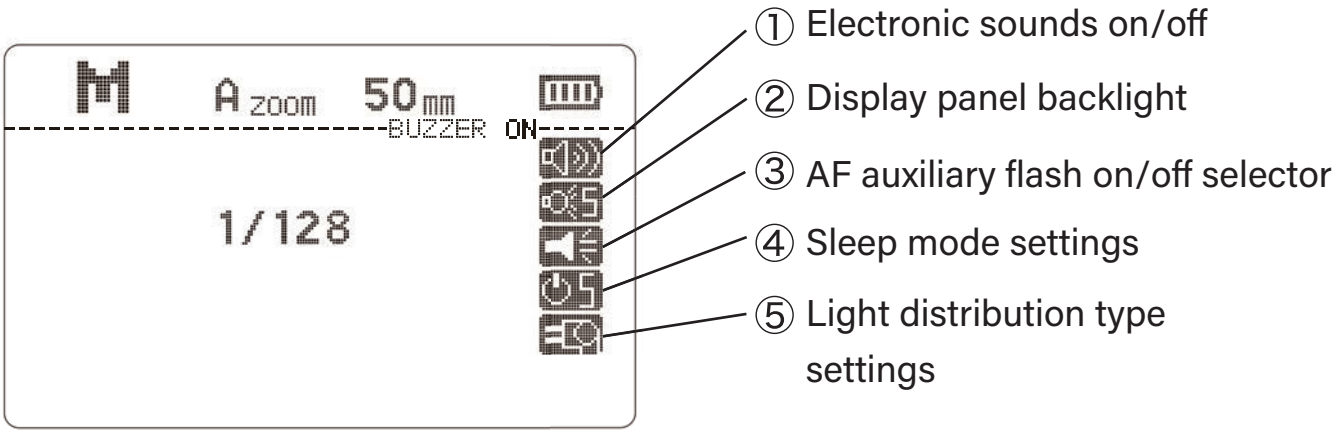
● Optical wireless receiver setting [MODE]

> Use the directional button [MODE] to select the optical communication settings from one of three modes: CLS, S1, or S2. (Only CLS for radio) When selected to S1/S2, use [+/-] to set the flash power.

CLS mode	Mode compatible with Nikon Creative Lighting Systems. The slaves flash based on the flash power settings for each group set on the master side.
S1 mode	The slave units flash in alignment with the first flash of the master flash. In this mode, set the master to manual mode. The group and channel settings are ignored.
S2 mode	Ignores the master pre-flash setting to flash in alignment with the main flash. This mode does not operate unless the master is set to TTL mode. The group and channel settings are ignored.

Option settings

●Press and hold the [SET] button for 2 seconds to enable the settings for the items to the far right. You can use the directional buttons to select the item you want to set.



① Electronic sounds on/off selector

Switch the beep click sound.

BUZZER ON ：Click sound on
BUZZER OFF：Click sound off

② Display panel backlight

Switches between 4 levels for the display panel backlight lighting time.

BACK LIGHT OFF ：Does not light
BACK LIGHT 10 SEC. ：10 seconds from button operation
BACK LIGHT 30 SEC. ：30 seconds from button operation
BACK LIGHT ALWAYS ON：Always lit

③ AF auxiliary flash on/off selector

Sets whether or not flash emits AF auxiliary flash.

AF LIGHT ON ：AF auxiliary flash on
AF LIGHT OFF：AF auxiliary flash off

④ Sleep mode settings

Enters sleep mode if no operations are conducted for the specified period of time. You can select the time until the device enters sleep mode.

 SLEEP DELAY OFF : Does not enter sleep mode
 SLEEP DELAY 1 MIN. : Enters sleep mode after 1 minute
 SLEEP DELAY 3 MIN. : Enters sleep mode after 3 minutes
 SLEEP DELAY 30 MIN. : Enters sleep mode after 30 minutes
 SLEEP DELAY 1 HOUR : Enters sleep mode after 1 hour
 SLEEP DELAY 2 HOUR : Enters sleep mode after 2 hours
 SLEEP DELAY 4 HOUR : Enters sleep mode after 4 hours

*1h, 2h, 4h for slave units only

⑤ Light distribution type settings

You can select from 3 light distribution settings.

 STANDARD : Standard light distribution setting.
 EVENNESS : Prioritizes even light distribution for slightly wide angle shot.
 CENTER : Prioritizes plane center light distribution for slightly narrow angle zoom shot.

Combine with wireless transceiver

You can use in combination with the separately sold wireless transceiver "WTR-1" to conduct highly flexible wireless flash photography.

List of specs

Compatible flash systems	i-TTL (Nikon)
Guide number	GN60: at ISO 100. 200mm zoom GN29: at ISO 100, 35mm zom GN19: at ISO100, with wide panel attached (18mm)
Zoom range	20mm to 200mm (equivalent to 18mm with wide panel attached)
Zoom method	Auto-zoom, manual zoom
Flash mode	TTLB, TTL, M (manual), RPT(multi-flash)
Flash frequency	1 to 200Hz
Wireless method	2.4GHz radio, optical
Compatible synchro mode	Foreground synchro, background synchro, and redeye reduction
Bounce method	AI bounce, manual bounce, angle lock function
Bounce angle	Horizontal: -180 to 180 degrees Vertical: 0 to 120 degrees
Recycle time (*1)	0.1 to 3.5 secs (depends on flash power settings)
Battery	4 AA nickel–metal hydride batteries 4 AA alkaline dry-cell batteries
External connection	micro-USB terminal, synchro terminal, external power source terminal
Flash compensation	-3.0 to 3.0EV, 1/3EV step (TTL)
Flash power	1/1 to 1/128, 1/3EV step (manual)
Consecutive performance (*2)	30 times or more
Battery life (*3)	180 times or more
Temperature warning function	Compatible
AF auxiliary flash	29 point AF
Firmware	Can be updated from the micro-USB terminal
Dimensions (W×D×H)	Approx. 80(mm)×62(mm)×196(mm)
Weight	Approx. 470(g) (not including batteries)
Operating environment	0 to 40(℃)

*1. When using fully charged AA nickel–metal hydride batteries.
*2. Number when using fully charged AA nickel–metal hydride batteries and using consecutive flash at a flash power setting of 1/1.
*3. Battery life refers to number of times until charge time exceeds 30 seconds when using fully charged AA nickel–metal hydride batteries and using flash once every 30 seconds at a flash power setting of 1/1.

Troubleshooting

In the event of trouble or a warning is displayed, confirm the following prior to contacting the store of purchase or Kenko help desk.

Trouble	Possible causes	Response
Won't turn on	Batteries in wrong direction	Insert batteries again
	Batteries depleted	Replace with new or freshly charged batteries
Test button does not turn red	Device in sleep mode	Press the test flash button
	Batteries depleted	Replace with new or freshly charged batteries
Flash won't work	Flash overheating prevention function running	Wait for the flash to cool sufficiently
	Shoe or contact dirt	Clean the shoe, terminal
	Not attached properly	Make sure device is firmly pushed into the shoe
Power turns off by itself	Device in sleep mode	Press the test flash button
Auto zoom does not work	Device set to manual zoom	Set device to auto zoom
	Not attached properly	Make sure device is firmly pushed into the shoe
	Wide panel is open	Close the wide panel

Trouble	Possible causes	Response
Cannot set zoom distance	Wide panel is open	Close the wide panel
Under/over-exposed	Object is too dark or too light	Conduct flash compensation
	During high speed synchro shooting	Shoot as close as possible to the object
Part of the photo is dark	Zoom distance is not correct	Set device to auto zoom. Set the zoom to a distance shorter than the angle of view (converted to distance)
	Too close to object	Shoot photo from a distance of 1m or greater
Flash operates on its own	Auto-bounce is engaged ([AB OFF] button is lit blue)	Auto-bounce and angle lock functions are on. Press the [AB OFF] button when you do not intend to use the function.
Auto-bounce not operating	Device is set to slave mode.	Set to normal mode or master mode.
	Wide panel is open	Close the wide panel
Angle lock not operating	Device is set to slave mode.	Set to normal mode or master mode.
	Wide panel is open	Close the wide panel
Modeling flash not operating	Camera type, settings	Confirm camera settings. Some cameras are not compatible with modeling flash.

Trouble	Possible causes	Response
Slave flash won't work	Distance between master and slave too far, or an interfering object is in between them.	Check the position of the master and slave
	Master and slave settings are not appropriate	Check the group and channel settings
Not operating normally Display is not normal Operations not accepted	Could be a CPU operation error	Press the [AB OFF] button and [SET] button simultaneously for approx. 2 seconds. If not resolved, open the battery cover with the power switch left to ON and reinsert the batteries
Reset settings	Press the [AB OFF] button and [SET] button simultaneously for approx. 2 seconds. A long press and hold resets the device to factory settings.	
Other	If the above responses do not resolve the problem, or if you need repairs due to damage or malfunction, contact the store of purchase or contact the help desk indicated on P32.	

List of error codes

Error message	Error details	Response
WARNING:BOUNCE ERROR	Bounce operation error	※1
WARNING:ZOOM ERROR	Zoom operation error	※2
WARNING:RF ERROR	Wireless communications error has occurred.	※2
WARNING:BATTERY HEAT	Batteries are overheating.	※3
WARNING:LAMP HEAT	Flash is overheating.	※3

※1 Redo operation. Device has returned to normal if the display disappears.

※2 Power cycle the device. It has returned to normal if the display disappears.

※3 Turn off power and wait for batteries to cool down. Device can be used if the display disappears.

Multiple messages displayed if different errors occur at the same time.

<E.g.: WARNING:BATTERY+LAMP HEAT>

If the error message does not disappear, the device may be malfunctioning.

Contact the store of purchase or our inquiry help desk.

Notice

CE

Hereby, Kenko Tokina Co., Ltd. declares that the radio equipment type AB600-R is in compliance with Directive 2014/53/EU.
The full text of the EU declaration of conformity is available at the following internet address: http://www.kenkoglobal.com

FCC Compliance Statement:
changes or modifications not expressly approved by the party responsible for compliance could void the user' s authority to operate the equipment.

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

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.

ISED Compliance Statement:

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada' s licence-exempt RSS(s). Operation is subject to the following two conditions:
1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

L' émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d' Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L' exploitation est autorisée aux deux conditions suivantes :
1. L' appareil ne doit pas produire de brouillage;
2. L' appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d' en compromettre le fonctionnement.

RF Exposure Compliance:
This equipment complies with FCC/IC radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
ce matériel est conforme aux limites de dose d'exposition aux rayonnements FCC/IC énoncées pour un autre environnement.cet émetteur ne doit pas être situées ou opérant conjointement avec toute autre antenne ou l'émetteur.

For Customers in Europe
CULLMANN GERMANY GMBH
Waldstraße 12, 90579 Langenzenn, Germany

CAN ICES-3 (B)/NMB-3(B)

Complies with
IMDA Standards
[DA105282]

Service and maintenance

Firmware update method

Use a commercially available micro USB cable to connect the device to a PC and follow the instructions on the product support page to update the device.

Maintenance

- Using the flash with trash or dirt on the flash panel could lead to flash panel damage. Clean the device regularly.
- To clean the device, use a blower to spray away dirt or dust and wipe lightly with a clean cloth.
- If using near the ocean and exposed to saltwater, dampen a soft, clean cloth with a few drops of fresh water and wipe away saltwater, then dry by wiping with a dry cloth.
- The product is not waterproof or drip-proof. When cleaning, prevent exposure to water and do not use a wet cloth.
- Do not use dirt removal sprays or sheets containing organic agents such as thinner, benzene, or alcohol.

Contacts

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KT Nakano Building, 5-68-10, Nakano
Nakano-ku, Tokyo 164-8616, Japan
www.kenkoglobal.com