Important Safeguards (Be sure to read this page first because it contains critical information about the operation of the unit.)

Please read and follow these essential safety procedures to prevent accidents, injury to yourself and others, as well as property damage. Read all these instructions carefully to insure the safe use of your Sunpak flash unit. After reading, retain this booklet in an easily accessible place for future reference.

WARNING

These symbols warn of the presence of non-insulated "hazardous voltage" inside the product. Failure to observe the instructions marked by these symbols and opening of modifying the product may result in loss of life or serious bodily injury. Make sure to observe the instructions.

CAUTION

Failure to observe the instructions marked by this symbol while handling the product may result in serious bodily injury or damage to property. Make sure to observe the instructions.

WARNING

- When this unit needs maintenance, inspection or servicing, take it to your dealer or nearest SUNPAK service center.
- Do not attempt to open, repair, or modify this unit. It contains a high-voltage circuit, which may cause a fire, electric shock or serious injury.
- Do not use accessories other than those specified by SUNPAK. Doing so may cause a fire, electric shock or other injury.
- If the unit is dropped or damaged or if foreign matter enters the unit, bring it to your dealer or nearest SUNPAK service center.
- Do not operate the unit near the eyes (especially those of infants). Firing the unit near someone's eyes may cause visual impairment. Make sure to allow a minimum distance of approximately about 1 meter (3.3 ft), especially when taking pictures of infants.
- Make sure to install the batteries with correct +/– polarity. When replacing batteries, replace all of the batteries with new ones of the same manufacturer and type. Using batteries improperly may result in leakage, overheating, rupture, shortened service life or contact failure.
- Keep the unit away from beverages, cosmetics or chemicals. If spilled or splashed liquid gets inside the unit, it may result in fire, electric shock or injury.
- Do not operate the unit in extremely humid environments, such as a bathroom or near a humidifier. This may result in a fire, electric shock or injury.
- Always remove batteries before cleaning or otherwise maintaining the unit.
- Do not operate the unit if there is any possibility that a flammable or explosive gas is present.
- It is extremely hazardous to swallow a battery by accident. Always keep the batteries out of reach of infants.

CAUTION

- Do not place the unit in a dusty place under direct sunlight or where it can be exposed to high humidity. This can result in overheating inside the unit, which can cause a fire hazard.
- Do not store the unit in a dusty place; otherwise, subsequent use of the unit may result in a fire or electric shock.
- Do not place the unit in an unstable position, otherwise, the unit may fall or drop accidentally, causing damage to the unit or personal injury.

Other Precautions

- Do not clean the unit with benzine, lacquer thinner or alcohol. This can result in discoloration or deformation of the unit. Serious stains or dirt should be removed with a soft dry cloth.
- Remove the batteries from the unit after use. Leaving the batteries in the unit may cause a failure or malfunction due to battery fluid leak.

Welcome to the worldwide family of Sunpak owners.
Your Sunpak RD2000 is a flash unit designed exclusively for use with a Canon (CA/E-TTLII), Nikon (NE/I-TTL) or Sony (SO/ADI) digital SLR camera. Note that it cannot be used with other cameras. Please read this owner's manual carefully so that you can use this unit correctly.

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Features and Functions of the Sunpak RD2000

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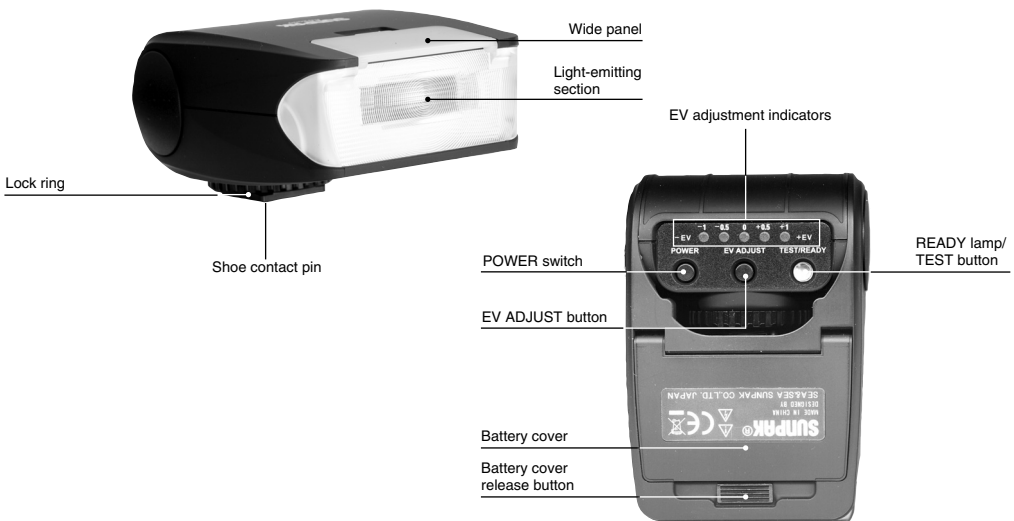
★When this unit is installed on a camera and switched on, the unit automatically adjusts brightness on the E-TTL II (Canon), I-TTL (Nikon) or ADI (Sony) operation to enable accurate, optimum firing.
★The position of the subject or the use of bounce lighting may make the brightness level insufficient or excessive. This unit has an EV ADJUST button that allows you to easily increase or decrease the brightness as required.
★Bounce lighting is possible at an upward angle of up to 90 degrees.
★Less than half the size of our previous model and weighing about 85 grams less, the RD2000 boasts a compact, lightweight design that provides a high degree of freedom in camera work. In addition, when the unit is not installed on the camera, the shoe section can be ratated inside the flash body so that the unit can be carried even in a shirt pocket.

■Handling Precaution
● When the flash is installed on the camera, do not hold the combination by the flash; otherwise the camera could slip off the shoe.
● For details on functions interlocked with the camera, consult your nearest SUNPAK service center or SUNPAK website (http://www.sunpak.com).

Description of Parts



Installing the Batteries

① Slide the battery cover release button downward to open the battery compartment.

② Insert two new “AA”-size alkaline or NiMH batteries into the battery compartment, ensuring that the polarity indications “+” and “–” are aligned correctly. The unit will not operate properly if the batteries are installed incorrectly.

③ Close the battery cover until it clicks.
Press the POWER switch to the “ON” position. When the unit is switched on, it will start charging with a slight humming sound and the READY lamp starts to blink. Now the unit is ready for shooting. (The READY lamp stops blinking and remains illuminated when the unit is fully charged.)

④ To switch the power off, press the POWER switch again. The READY lamp will go off and the unit will not flash.

* Be careful not to short-circuit the shoe terminals while the unit is switched on without being mounted on the camera. Otherwise, unexpected firing or a failure may result.

* It is recommended to use the NiMH (Nickel Metal Hydride) batteries in order to decrease the charging time and increase the firing count.

About the READY Lamp

The firing power may be insufficient immediately after lighting of the READY lamp. To obtain optimum brightness for shooting, wait a few seconds before releasing the shutter after the READY lamp comes on.

* If the READY lamp blinks for more than 30 seconds, it is likely that the batteries are exhausted and need replacement (provided that the unit is not mounted on the camera and the READY lamp blinks for more than 30 seconds after previous firing).

Mounting the Unit on the Camera

Be sure to set the POWER switch to OFF before mounting or dismounting the unit. If the POWER switch is left ON, unexpected flashing or a malfunction of the camera may result.

① Firmly slide the flash onto the camera’s shoe and turn the lock ring to the left to fix the flash.
② Once the flash has been mounted on the shoe, the shutter speed will be automatically set when both the flash and camera are turned on.

Now the camera is ready for flashing.

Test Firing

After the READY lamp lights steadily, press the TEST/READY button to activate test firing. This allows you to confirm that the flash fires.

TTL Effective Range

When the subject is within the TTL effective range, the selected EV adjustment indicator lights for about 3 seconds after firing.
If the indicator does not come on, approach the subject or open up the aperture (decrease the f-number) and retry shooting. Changing the ISO speed to a higher sensitivity (higher value) can also be helpful.

* The effective TTL range is shorter than usual immediately after the READY lamp comes on.

If the Picture is Too Bright or Too Dark

The RD2000 has an EV ADJUST button for fine adjustment of the brightness level.
Use this button to adjust the brightness to obtain a satisfactory effect in the following cases.

★ When satisfactory brightness cannot be obtained during daylight sync flashing (in outdoor shooting under sunlight, the strobe light can be used as an auxiliary light source to minimize shadows on the subject formed by the sun) or shooting against light.
★ When you want to take several pictures by varying the brightness.
★ When the brightness is insufficient in bounce lighting.

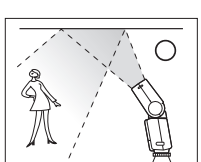
First, shoot a picture in standard auto mode (when the EV adjustment indicator is lit) and check it on the monitor. If you find that the brightness is too high or low, press the EV ADJUST button to fine adjust the brightness and take another picture.
If the picture is darker than expected, press the EV ADJUST button once to increase the EV by one step so that the red “+0.5” EV adjustment indicator lights up. In this condition, the unit emits light by increasing the brightness by +0.5 EV. After shooting, check the picture on the monitor again. If the brightness is still insufficient, press the button again so that the “+1” EV adjustment indicator lights up and retry shooting.
If the picture is too bright, press the EV ADJUST button to change the lighting EV adjustment indicator in the “-“ direction until the desired brightness is obtained.
The adjustment with the ED ADJUST button is invalid when no EV adjustment indicator is lit (i.e. when the TTL auto brightness adjustment is not activated). Make sure that one of the EV adjustment indicators is lit before pressing the EV ADJUST button.

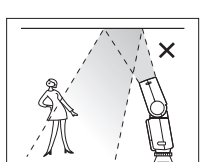
To exit from the EV adjustment mode, press the EV ADJUST button again. Alternatively, the EV adjustment mode can also be exited by pressing the POWER switch to OFF then ON again.

Bounce Lighting

The light-emitting section of the RD2000 can be pointed upward for bounce lighting.
If the flash is fired by pointing the light-emitting section directly at the subject, the picture may look unnatural due to a strong shadow produced behind the subject under certain conditions. In such a case, pointing the light-emitting section to the ceiling may make it possible to take beautiful pictures with softer, more natural shadows.

The brightness of bounce lighting may sometimes be insufficient depending on the distance of the ceiling (wall) surface where the light is reflected. In this case, press the EV ADJUST button to adjust the EV value in the positive direction, position the AF frame in the viewfinder on





the subject and half-press the shutter release button. Confirm that the "ϟ" mark is visible in the viewfinder and that the shutter speed and f-stop are correct before fully pressing the shutter release button.

* To prevent damage or malfunction, do not bend the light-emitting section above 90 degrees.
* Bounce lighting is possible simply by turning the light-emitting section up toward the ceiling,. All other operations are identical to shooting with direct lighting. However, note that the brightness may drop to about 25%, though this is variable depending on the color and material of the reflecting surface. It is therefore recommended to open up the aperture (to decrease the f-number as much as possible). The surface used for bounce lighting should be as white as possible and its reflectivity as high as possible. Note that, in color photography, if the reflecting surface has a color, the colored reflection will stain the subject in that color.

Using the Wide Panel

The RD2000 has a "wide panel" attached to it.
The flash usually covers an area with a focal length up to 32 mm, and the wide panel is for use when the lens in use is a wide-angle lens with a shorter focal length. Specifically, the wide panel makes the flash compatible with a focal length up to 24 mm.
Operation is easy. All that is needed is flip up the white panel on the light-emitting section with a fingertip and place it on the lens of the light-emitting section. Note that the use of the guide panel decreases the guide number to 14.

Important Note on Successive Firing

To prevent degradation due to overheating that may result from successive firing, it is recommended to pause firing for more than 10 minutes after successive firing.

Specifications and Performances

Guide number	20 ISO100-m (14)
Valid focal length of lens (Figures inside ( ) are the values when the wide panel is used)	35mm film size camera or equivalent: 32 mm (24 mm) or more APS size digital SLR camera: 23 mm (17 mm) or more
Firing time	Approx. 1/800 sec. (Full firing)
Color temperature	5600K
TTL effective range	$\text{Shooting range} = \frac{\text{Guide number}}{\text{Set f-number}} \times \sqrt{\frac{\text{Film speed}}{\text{ISO 100}}}$
Bouncing mechanism	0, 45, 60, 75 and 90 degrees in the upward direction
Operating power	"AA"-size alkaline/NiMH/Oxyride batteries x 2
Operating temperature	0° to 40°C
Dimensions	During operation: 43(H) x 61(W) x 88(D) mm When the shoe is accommodated: 35(H) x 61(W) x 88(H) mm
Weight	Approx. 100 grams (excl. batteries)

● **The design and specifications of this product are subject to change without prior notice.**

Initial Number of Flashes and Recycling Time

	Number of flashes (Full power)	Recycling time (Full power)
"AA"-size alkaline batteries x 2	Approx. 200 times	Approx. 5 sec.
"AA"-size NiMH batteries x 2	Approx. 280 times	Approx. 4 sec,

● Number of flashes: Measured under normal temperature, with new batteries that are within 3 months from their date of production, flashed every 30 seconds successively and recycled to the point at which the READY lamp takes 30 seconds to come on after the last flash.
● Recycling time: The minimum time taken to activate the READY lamp after firing under the above conditions.