

# INON S-2000

## User Manual

### Compatible battery, operational limitation on flashing

Thank you for purchasing INON S-2000.

Please use your S-2000 within following operational limitations to avoid possible heat generation/degradation of light emitting part and inner electrical circuit etc.

#### **Compatible battery**

Five battery types can be used with this product, as below.

Make sure to use fresh and good quality 4 x AA size batteries of same model/manufacture.

- Panasonic AA “eneloop” rechargeable battery (Model: BK-3MCC) 【Recommended】
- Panasonic AA “eneloop pro” rechargeable battery (Model: BK-3HCD) 【Recommended】
- AA NiMH Battery other than above (1.2V) [good quality] (\*1)
- AA Alkaline Battery (1.5V)
- AA Lithium Battery (1.5V)
- 

(\*1)Some “conventional” or “high-capacity” NiMH rechargeable batteries have significant self-discharge and heat-generating characteristic resulting difficulty to keep their performance during usage. We recommend using recommended batteries.

#### **Limitation on repeated flashes**

The table below explains maximum number of repeated flashes (\*2). Make sure to cool down light emitting part and inner electrical circuit of the strobe by NOT making flash for at least about 2 minutes.

Also additional 10 minutes cooling-down period is required by turning OFF the Main Mode Switch after total number of flashes according to the table below.

Also take extra cooling-down period to maintain initial performance of the product according to frequency of usage and generated heat.

S-2000 switches setting [S-2000 flash output]		Maximum number of repeated flashes	Total number of flashes
Main Mode Switch	EV. Control Switch		
M-5.5▼Full	Full, -0.5, -1	10 flashes	50 flashes
	-1.5, -2, -2.5, -3	30 flashes	100 flashes
	-3.5, -4, -4.5, -5, -5.5	50 flashes	150 flashes
S-TTL	-- [Marginal far end] (*3)	10 flashes	50 flashes
	-- [approx. -1.5EV.~ -3EV.] (*4)	30 flashes	100 flashes
	-- [less than approx.-3.5EV.] (*5)	50 flashes	150 flashes

(\*2) Repeated flashes at or less than 30 seconds intervals.

(\*3) Actual flash output is marginal far end of exposure range (approx. Full~-1EV.)

(\*4) Actual flash output is approximately -1.5EV.~ -3EV.

(\*5) Actual flash output is less than approximately -3.5EV.

# INON

# S-2000

## User Manual

Thank you for purchasing INON S-2000 strobe.

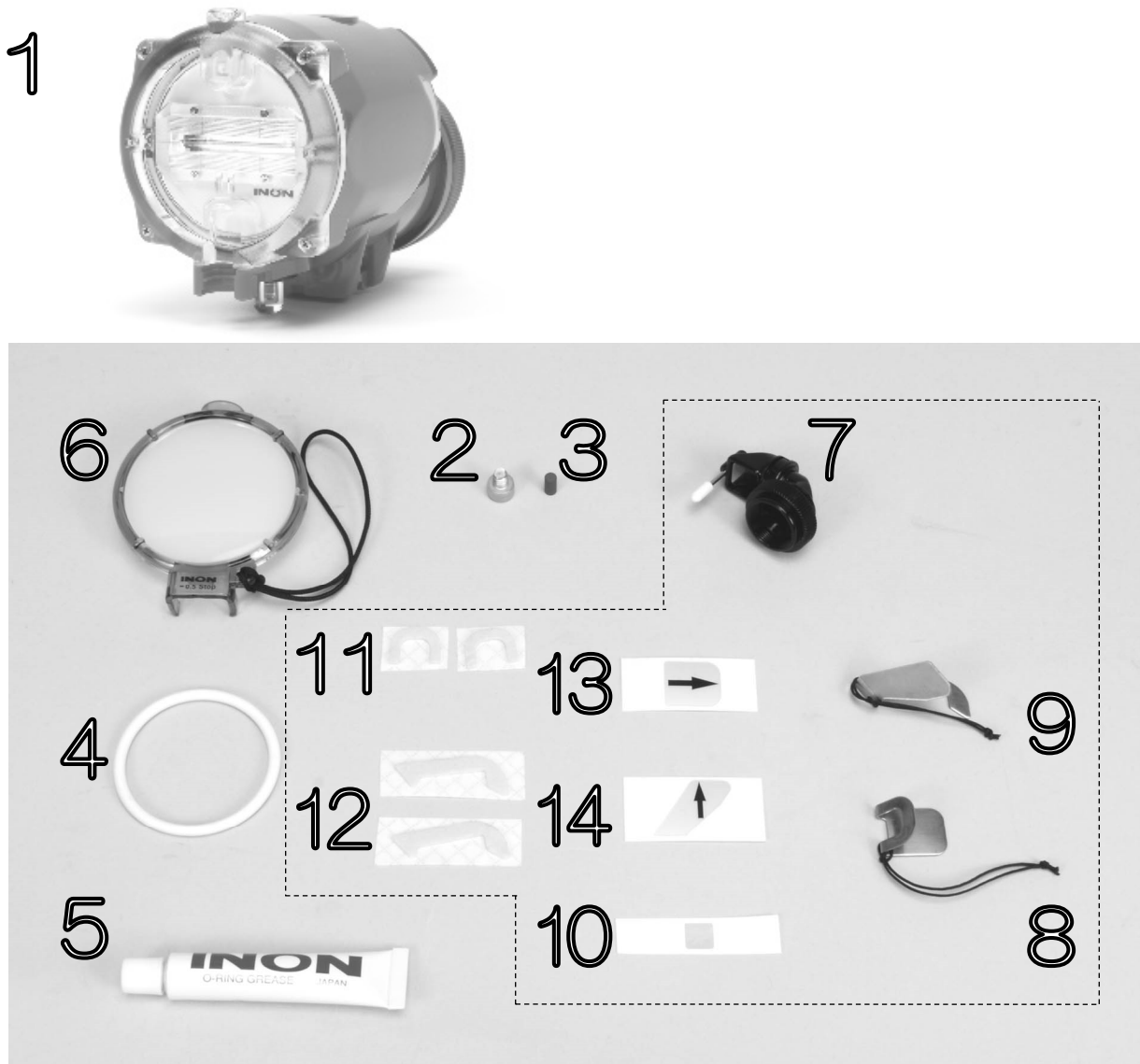
- Before using, please make sure to read this user manual, **Safety Precautions** and **Safety Precautions on Batteries**.
- Always ensure proper operation of the S-2000 strobe according to this use manual
- Keep this user manual handy for quick reference.

### Contents

Check Strobe and Accessories	1
Safety Precautions	2
Safety Precautions on Batteries	5
Before Using the S-2000 Strobe	6
Prevent Accidental Flooding	7
Nomenclature	9
Controls	10
Displays	11
Preparation	12
O-ring Maintenance	12
Load Batteries	12
Options to Connect to Camera	14
Connecting with Camera	15
Taking a Photo	16
Shoot with Optical Connection (Optical D Cable, Wireless)	17
Using -0.5 White Diffuser for S-2000	20
Maintenance and Storage	21
Troubleshooting	24
After Service	25
Specifications	26

# Check Strobe and Accessories

When unboxed, please check all contents below have been included. Should you find anything missing, please contact your purchasing dealer.



- 1: S-2000 Body
- 2: Magnet Screw
- 3: Magnet
- 4: Spare O-ring
- 5: INON grease
- 6: -0.5 White Diffuser for S-2000

## 【Wireless Connection Kit】

- 7: Mirror Unit (strobe)
- 8: Camera Mirror 1
- 9: Camera Mirror 2
- 10: Mirror Sticker (camera)
- 11: Double Side Sticker • Camera Mirror 1
- 12: Double Side Sticker • Camera Mirror 2
- 13: Arrow Sticker • Camera Mirror 1
- 14: Arrow Sticker • Camera Mirror 2

# Safety Precautions

- Before using, please make sure to read 「Safety Precautions」 and 「Safety Precautions on Batteries」 to ensure safety and proper operation of the product.
- Safety precautions described here are to prevent your and other people's injuries or damage.
- When using accessories, read through respective manual(s) as well.



**DANGER**

Failure to observe the precautions by this symbol may lead to high possibility of serious injury or death.

**NEVER attempt to disassemble, modify the strobe**

**DO NOT touch exposed internal portions as a result of damage**

The high-voltage circuitry in the strobe may lead to electric shock even without batteries. Those activities could cause malfunction/flooding.

**STOP operating the strobe (including function check on land) if any water is observed inside strobe or strobe operates improperly.**

The product could burn or explode leading to serious injury or malfunction/flooding may cause abnormal operation leading personal injury. Immediately turn OFF the strobe and execute controlled ascent to surface then wipe off the strobe completely and unload batteries *not to get burned*. Contact your purchasing dealer for repair.

**Prevent water/foreign substances from entering strobe**

**Avoid replacing batteries in splashed or humid area**

Malfunction causing abnormal operation or flooding could lead to personal injury.

The flash/light may cause irreparable injury to the eyes or cause temporary visual impairment to avoid safety relating operations.

**DO NOT cover/touch light emitting part by hand during flashing or after rapid flashing**

Light emitting parts becomes hot and may cause burn. Malfunction causing abnormal operation or flooding could lead to personal injury.

**DO NOT use the product in area with flammable or explosive gas.**

Using the product in such area could cause fire ignition, explosion or fire.

**DO NOT use organic solvent like alcohol, benzene or thinners, or antirust, lubricant, polish or detergent (especially alkaline detergent) to clean the strobe.**

Using those chemicals may cause damage on the product or fire ignition, explosion or fire.

**Keep the strobe out of reach of children**

Their inability to read and understand warnings may lead to serious injury. They may swallow parts of the strobe or batteries. See a doctor immediately if a child swallow parts or batteries.

**DO NOT fire/turn ON the strobe on land except functional check. DO NOT fire the strobe shorter than 30 sec. interval during functional check on land.**

**Make sure to rest the product for 2 min. when the product has been fired 10 flashes at FULL or FULL -1.0 E.V. in 30 sec. underwater.**

Excessive heat can damage inner circuitry.

**DO NOT use the strobe in aircraft or proximity of medical equipment.**

The strobe can interfere with flight instruments or medical equipment.

**Turn OFF the strobe after use. (Never leave the strobe with power ON)**

**Unload flat batteries immediately**

Flammable gas may be generated from batteries to cause explosion of the product. Loaded flat batteries may leak or generate heat to cause fire, personal injury or damage on premises.

**Unload batteries when not in use or during transportation**

Vibration etc. may cause unexpected operation leading to fire or personal injury. Loaded batteries may leak or generate heat to cause fire, personal injury or damage on premises.

**DO NOT apply heat on the product**

The product may be burned or exploded to cause serious personal injury. Malfunction causing abnormal operation or flooding could lead to personal injury.

**CAUTION**

Failure to observe the precautions by this symbol may result in possibility of injury or property damage

**DO NOT** apply strong vibration or shock to the product by dropping or hitting against something. Take special care not to apply strong shock to protruded Slave Sensor of the strobe.

Damage to the strobe may cause malfunction or flooding which may cause fire or personal injury.

**DO NOT “jump”** into water with the strobe or photographic equipment

Malfunction, abnormal operation, flooding or strobe setting change caused by shock when entering water may cause personal injury.

**DO NOT** leave/store the strobe subject to direct sunlight or high temperatures, such as beach, boat deck, dashboard or trunk of a car.

Abnormal operation caused by malfunction or deformation of outer body may lead to flooding to cause fire or personal injury.

**Remove Battery Box Outer Cap** when transporting in an aircraft or through a place with lower air pressure than ground level

This product is not designed to have lower pressure inside and may lose water-proof property leading to flooding to cause personal injury.

**Do not leave the S-2000 on sand area**

The Main Mode Switch has a magnet and can collect iron sands around the switch causing interference from proper operation. In the case you observe iron sands around the switch, do not change switch position as practically as possible and take care of it according to Maintenance and Storage (P.21).

# Safety Precautions on Batteries



**DANGER**

Failure to observe the precautions by this symbol may lead to high possibility of serious injury or death.

**DO NOT use batteries other than batteries specified in this manual.**

Usable batteries :

- Panasonic AA “eneloop” rechargeable battery (Model: BK-3MCC) 【Recommended】
- Panasonic AA “eneloop pro” rechargeable battery (Model: BK-3HCD) 【Recommended】
- AA NiMH Battery other than above (1.2V) [good quality]
- AA Alkaline Battery (1.5V)
- AA Lithium Battery (1.5V)
- 

**DO NOT throw a battery in a fire or heat it. Never attempt to disassemble or short-circuit a battery.**

**DO NOT immerse battery in water or wet it.**

**DO NOT use abnormal battery causing leakage, discoloration, deformation or outer damage**

**DO NOT mix old and new batteries, recharged and discharged batteries or batteries of different capacities, types, brand or manufacturer.**

**DO NOT attempt to recharge non-rechargeable batteries.**

**Always use specified charger by battery manufacture. Follow any other instructions indicated by battery/battery charger user manual.**

**DO NOT load batteries with the +/- battery terminal reversed.**

**Follow any other instructions indicated on battery/battery user manual.**

**Dispose batteries in accordance with all applicable federal, state and local regulations.**

### **If a battery leaks . . .**

- Immediately move away from fire to avoid possible risk of fire, explosion.
- If battery fluid contacts eye, immediately wash with a lot of clean fresh water without rubbing it and consult a doctor.
- If battery fluid gets into the mouth, immediately wash with a lot of fresh water and consult a doctor.
- If battery fluid contacts skin or cloth, immediately wash with a lot of fresh water.

## **Before Using the S-2000**

Make sure to take test shots before using the S-2000 underwater to make sure it works properly especially before taking important shot(s).

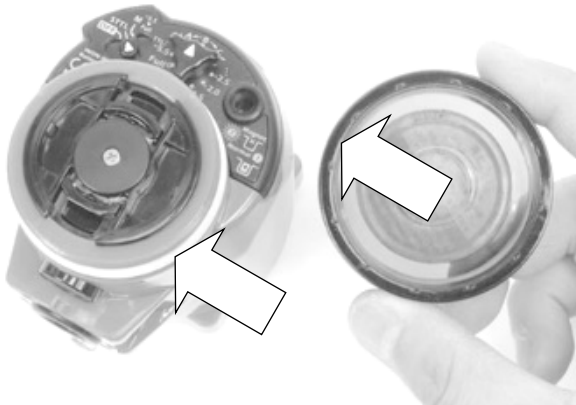
INON Inc. cannot indemnify anyone for any loss/damage regardless of whether it is directly/indirectly caused by malfunction/flooding of the product.



# Prevent Accidental Flooding

The S-2000 secures waterproof property due to a rubber O-ring. O-rings, O-ring contact surfaces must be inspected/cleaned each time before using strobe to ensure waterproof integrity to prevent accidental flooding. After inspection/cleaning, apply grease on O-rings/O-ring contact surfaces.

## ■ O-ring Inspection Location



「Battery Box」

→ Check condition of Battery Box O-ring, O-ring groove



「Battery Box Outer Cap」

→ Check condition of O-ring contact surface and visually check if the O-ring is uniformly compressed.

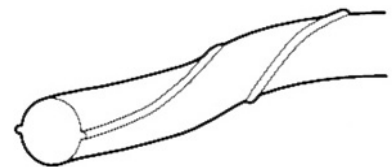
## ■ O-ring Inspection

These are the essential factors below ensuring waterproof property:

- O-ring itself
- O-ring contact surfaces
- O-ring grooves
- If an O-ring is properly seated in a groove
- Grease

### 1 Is O-ring twisted?

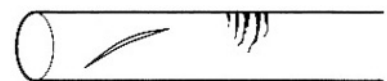
→ Remove the O-ring and re-install properly



### 2 If the O-ring, O-ring Contact surface or O-ring groove is cut, cracked, deformed or swelled.

→ O-ring: Replace with new O-ring

→ O-ring contact surface, O-ring groove: Not usable as it is. Please consult with your purchasing dealer for repair.



### 3 If hair, sand, lint or other debris is attached.

→ O-ring, O-ring groove:

Remove O-ring and wipe-off debris completely, apply grease and re-install the O-ring.

→ O-ring contact surface: Wipe-off debris completely



## ■ How To Apply INON Grease

 Use INON Grease Only

The battery box O-ring may be cut or damaged by friction, so add a little extra grease to the O-ring and its O-ring contact surface. Also, slowly rotate the battery box outer cap whenever opening/closing Battery Box Outer Cap not to apply excessive load to the O-ring.

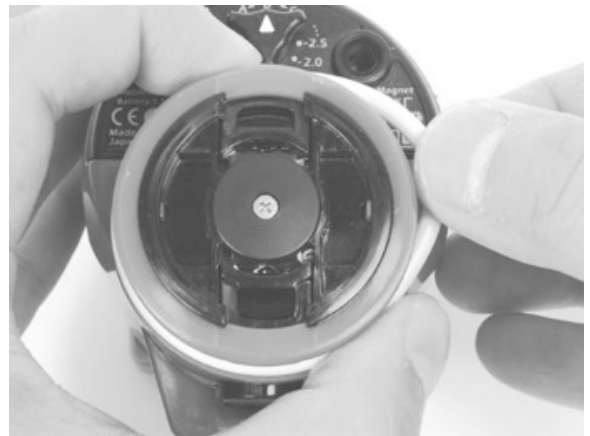
## ■ Installing/Removing O-ring

Be sure to follow below procedure whenever to install/remove an O-ring to avoid fatal flooding caused by poor O-ring handling.

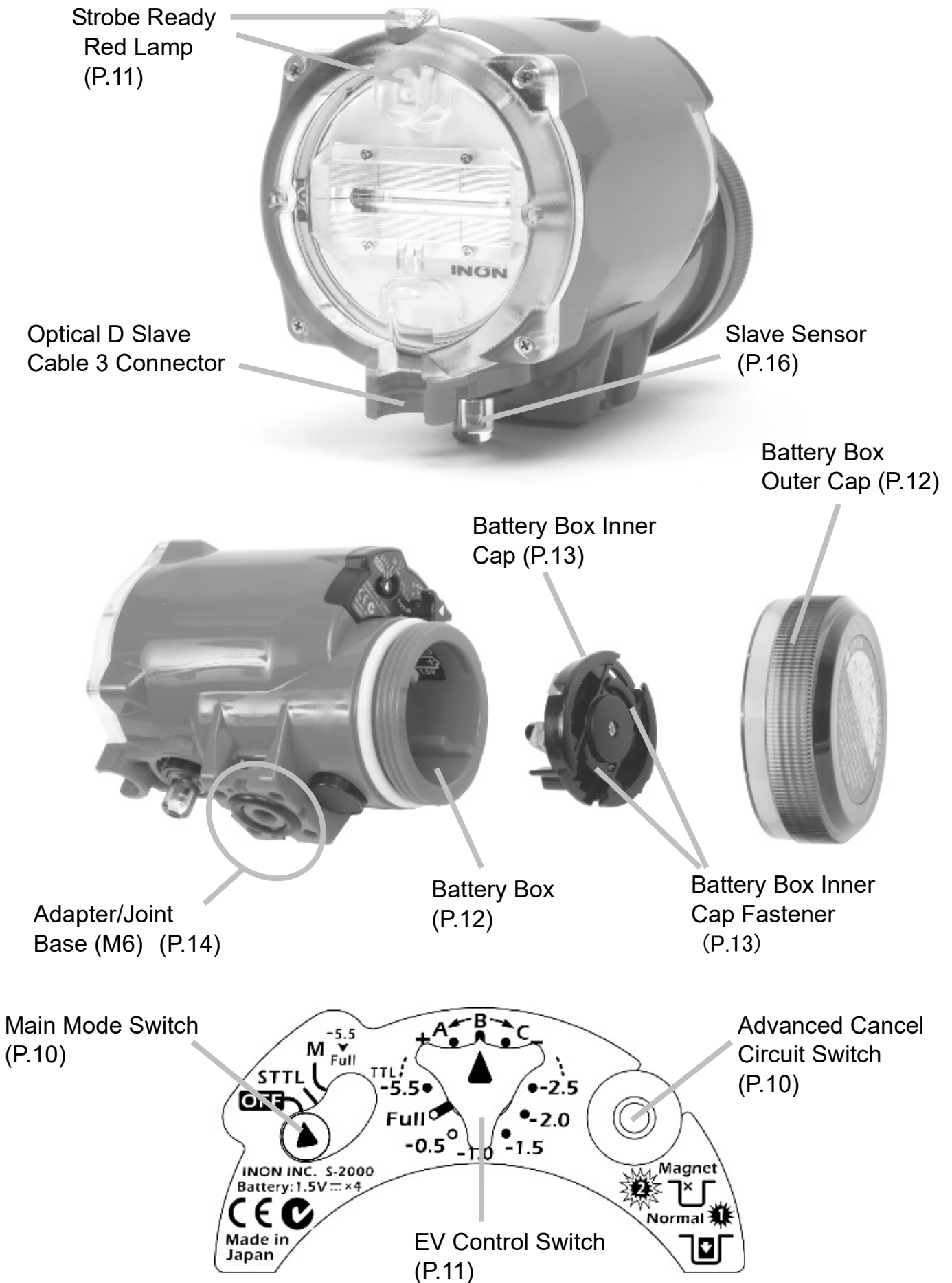
- 1 To remove, lightly squeeze from the sides so it bulges out from one side, grasp and pull off slowly.

 Never use sharp material to remove an O-ring

- 2 Clean any residual grease from the O-ring and O-ring groove, and check the condition of both surfaces.
- 3 Using your fingertips, apply a thin uniform film of INON grease on the O-ring. Use the packaged spare O-ring if the original one shows any deformation/swell/crack/cut or other irregularity.
- 4 Gently install the O-ring in the O-ring groove, not stretching it too much, and making sure it is seated uniformly and not twisted.



# Nomenclature

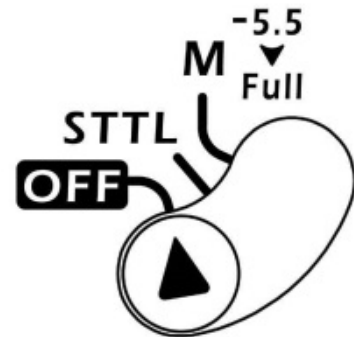


# Controls

## Main Mode Switch

**OFF** Turn OFF the strobe

**STTL** Automatic flash control  
*Not* usable for a digital camera  
*not* making pre-flash.

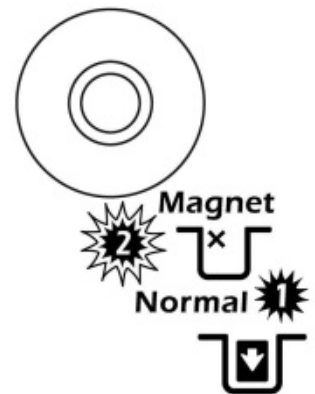


**M** -5.5▼-Full Manual flash mode

## Advanced Cancel Circuit Switch

Install supplied magnet here to turn Advanced Cancel Circuit OFF, when using camera/housing below.

- Non pre-flash type digital camera
- Optical connection compatible film camera Housing (INON X1 housing)

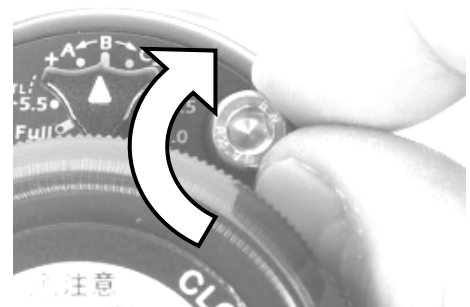


**1** Insert the magnet into the Advanced Cancel Circuit Switch hole.

**2** Thread in and screw down supplied magnet switch screw.



**!** As in image, only lightly screw in by hand.  
Make sure to lightly tighten the screw only by hand not using any tool to avoid possible damage on the S-2000.



## EV. Control Switch

Main Mode Switch: **M** -5.5▼Full

**12 power settings available**

(Full ~ -5.5EV. with 0.5EV. increments)

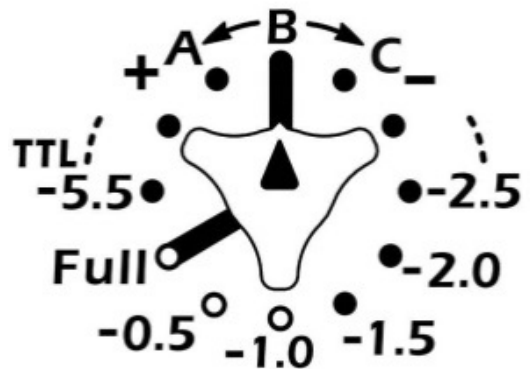
Main Mode Switch: **STTL**

**9 steps fine adjustment is available**

when connected with a pre-flash type camera via fiber optics (within a range of [yellow ●] from 9 o'clock through 5 o'clock position)

Set to [-5.5] when connected with a film camera via fiber optics.

(Fine adjustment is not available)



## Displays

### Strobe Ready Red Lamp

**Shines red** when strobe becomes ready to flash.

**!** Insufficient battery capacity for proper functioning may cause 10 sec. (Alkaline battery)/5 sec. ("eneloop" battery) or more before you see red light after power on the strobe. It would be advisable to change batteries before this happens.


**!** The Strobe Ready Lamp will be activated when the strobe has been charged about 80%. So please wait for another couple of seconds when firing the strobe nearly full power either in Manual or S-TTL Auto mode.

# Preparation

## O-ring Maintenance

Conduct O-ring maintenance according to **Prevent Accidental Flooding (P6)**. Especially make sure to conduct maintenance of the Battery Box O-ring before loading batteries.

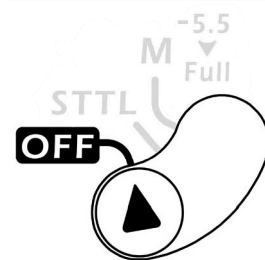
## Load Batteries

 **DO NOT** load batteries in the area to get splashed or with high humidity. The strobe must be dry. If this is not possible, make sure to thoroughly wash the S-2000 in fresh water and completely wipe dry, then facing down the battery box cap to open so no water enters inside of the battery box.


This product requires four AA batteries of same type / model / capacity / charge status among below 5 categories

- AA “eneloop” battery (BK-3MCC) **【recommended】**
- AA “eneloop pro” battery (BK-3HCD) **【recommended】**
- AA Ni-MH battery (good quality)
- AA Alkaline battery • AA Lithium battery (1.5V)

**1** Set Main Mode Switch to **[OFF]**

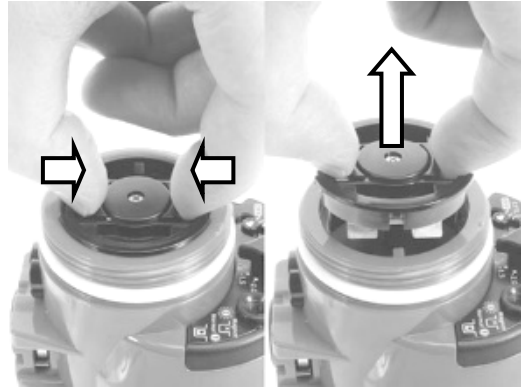


**2** Remove the battery box outer cap by turning counterclockwise.

 Make sure to turn the Battery Box Outer Cap slowly not to damage the Battery Box O-ring.



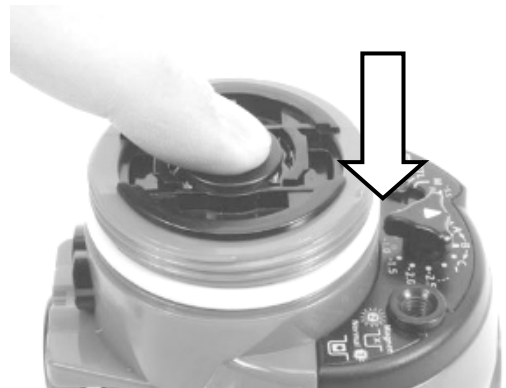
- 3** Unlock the Battery Box inner cap screw by pressing Battery Box Inner Cap Fasteners towards to its center and remove Battery Box inner cap.




- 4** Install batteries in proper position as indicated on the inside of the battery box.



- 5** Align the notches on the Battery Box inner cap with the index ridges on the inside of the Battery Box, and press down the Battery Box Inner Cap. *Make sure that you hear clicking sound and nail parts of the Battery Box Inner Cap properly seat in notches on the battery box.*



- 6** Close the Battery Box Outer Cap by turning clockwise.

 Stop tightening screw/cap when they are lightly stopped. (**DO NOT** tighten too much)

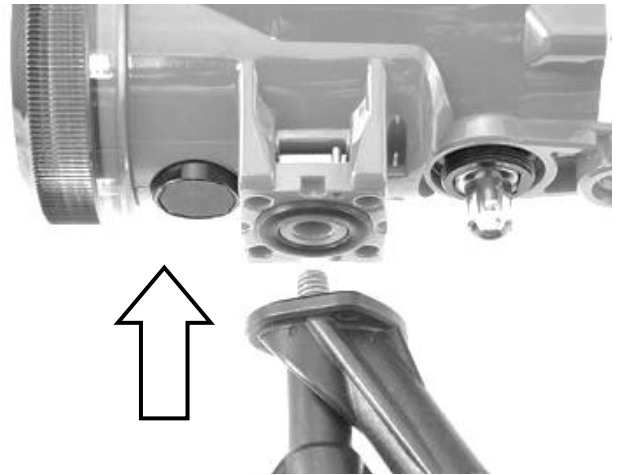
 Make sure to turn the Battery Box Outer Cap slowly not to damage the Battery Box O-ring.

- 7** Visually check Battery Box O-ring to see if the O-ring is not came off (slipped off from O-ring groove) and is compressed uniformly with 1.5mm or wider flat area around the complete circumference.



## Options to Connect to Camera

Select either options below according to your housing or shooting condition and attach it on the strobe at Adapter/Joint Base (M6).



Z Adapter MV



Z Joint



Direct Base III



Quick Holder Set S-Z



For detail, please refer to user manuals of respective optional parts or our web site



## Connecting with Camera

Depending on camera/housing, necessary cable, compatible flash mode/strobe setting differs. This part explains connection method.

Please refer to **Taking a Photo** (P16) for detailed setting when shooting.

Camera		Digital Camera		Film Camera
		Built-in Flash with Pre-flash	Built-in Flash Without Pre-flash	INON X1 Housing
Flash mode/Strobe setting				
Manual (-5.5~Full)	Main Mode Switch	<b>M</b> -5.5▼Full		
	Advanced Cancel Circuit Switch	<u>No magnet</u>	Insert the magnet	
	EV. Control Switch	12 steps		
Auto Exposure (Digital: S-TTL Film: TTL)	Main Mode Switch	<b>STTL</b>	/	<b>STTL</b>
	Advanced Cancel Circuit Switch	-----		-----
	EV. Control Switch	9 steps (yellow ●)		「-5.5」 (*)

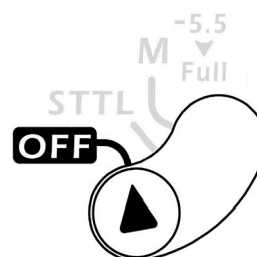
\* Not able to make fine power adjustment.

## Optical Cable Connection


Connect with an Optical D Cable (option) to trigger this product by digital camera's built-in flash. Also this product can be connected to a film camera housing (INON X1) which supports optical connection via Optical D Cable.

Variety of optional parts to fix an optical cable on different housing are available. Please contact your purchasing dealer or refer to our web site for detail of compatibility.

**1** Set Main Mode Switch to **[OFF]**.



## 2 Attach Sensor Plug of the Optical D Cable on the Slave Sensor.

 Screw the Sensor Plug straight in and stop tightening when it lightly stops.  
(**DO NOT** overtighten)




## 3 Attach the Optical D Cable on the housing Refer to respective user manuals of the housing/optional product.

### Wireless Connection

Some digital camera can trigger the strobe without cable by packaged Wireless Connection Kit.

Please refer to the separate user manual of the Wireless Connection Kit, or INON web site, or contact your purchasing dealer.

### Taking a Photo

 When making sequential firing (series of flashes within 30 seconds interval), stop firing at accumulative numbers of flashes below to cool down the strobe **2 minutes or more**

FULL	~ -1 EV.	:	10 times
-1.5 EV.	~ -3 EV.	:	30 times
-3.5 EV.	~ -5.5 EV.	:	50 times

In addition to above, turn OFF the strobe for **10 minutes or more** when total flash numbers reach to below regardless of sequential or not sequential firing.

FULL	~ -1 EV.	:	50 times
-1.5 EV.	~ -3 EV.	:	100 times
-3.5 EV.	~ -5.5 EV.	:	150 times

When using STTL, follow above procedure based on expected power output.

## Shoot with Optical Connection (Optical D Cable, Wireless)

Turn off camera's red-eye reduction mode.

Select *force flash*, *fill-in flash* on digital camera's built-in flash and turn off modeling light or AF assisting light by the built-in flash.

Refer to INON web site to see compatible digital cameras.

### Manual Flash

Control flash output manually.

**1** Set the Advanced Cancel Circuit Switch based on combined camera.

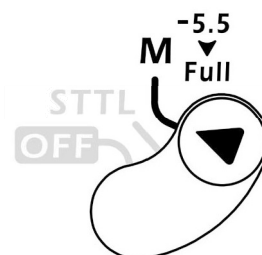
- Pre-flash digital camera: **[No magnet]**
- No pre-flash digital camera: **[Insert the magnet]**
- Film camera(INON X1): **[Insert the magnet]**

Please refer to "Nomenclature --Controls" (P10) for how to insert the magnet.



If you intend to use several flash modes underwater, it is recommended to set the Advanced Cancel Circuit properly to accommodate with your camera system/master strobe so that the S-2000 works properly in all modes. The Advanced Cancel Circuit switch setting changes the circuitry only in Manual mode (The switch setting is ignored in S-TTL Auto/TTL Auto mode)

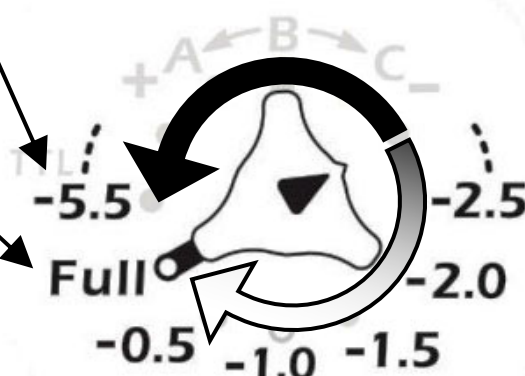
**2** Set the Main Mode Switch to **[M -5.5 ▼ Full]**.



**3** Adjust flash output with the EV. Control Switch.

- Dialing counter clockwise up to **[-5.5]** decreases flash output.
- Dialing clockwise up to **[Full]** increases flash output.

(12 steps with 0.5EV. increments)

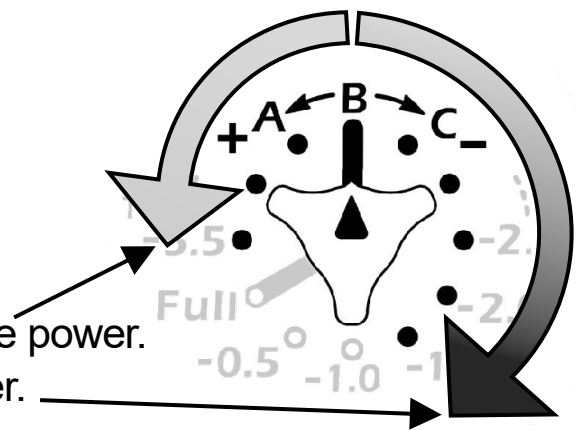
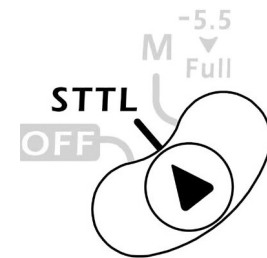


**4** Take a photo.

## S-TTL Auto

Pre-flash type digital camera can use the S-TTL Auto mode supported by fine output adjustment.

- 1 Set the Main Mode Switch to [ **STTL** ]
- 2 Set the EV. Control Switch to 「**B**」 position (12 o'clock position)
- 3 Take a photo.
- 4 If necessary adjust the output with the EV. Control Switch.
  - Dialing counterclockwise increases the power.
  - Dialing clockwise decreases the power.
 (Total 9 steps within [yellow •])



Effectiveness of the EV. Control Switch varies depending on combined camera or shooting condition. If it should not work as you wish, then use camera's exposure compensation or take following procedures.

### ■ When images are overexposed

Try to change camera setting as one of below or in combination if power adjustment setting with minimum output still have overexposed or washed out images.

- 1 Use bigger f-number (close the aperture).
- 2 Locates strobe bit further from a subject.
- 3 Use lower ISO speed.

### ■ When images are underexposed

Try to change camera setting as one of below or in combination if power adjustment setting with maximum output still have underexposed or black out images.

- 1 Use smaller f-number (open the aperture).
- 2 Locates strobe close to a subject.
- 3 Use higher ISO speed.

## ■ When images show blue cast

Try to change camera setting as one of below or in combination if you see bluish image overall without natural color.

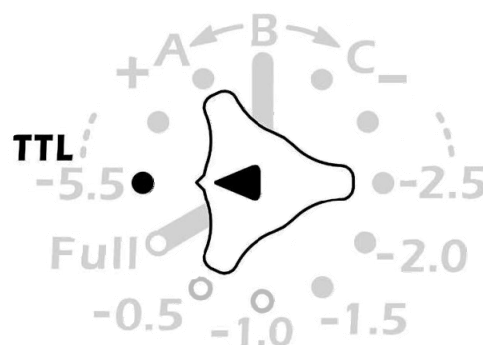
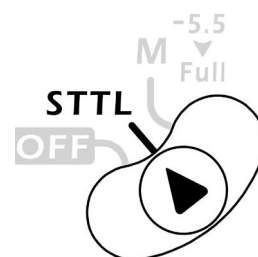
- 1 Use faster shutter speed.
- 2 Use lower ISO speed.

## TTL Auto

Optical connection compatible film camera housing (INON X1) can use TTL Auto mode.

\*No fine adjustment is supported in this mode.

- 1 Set the Main Mode Switch to **[STTL]**
- 2 Set the EV. Control Switch to **[TTL Optical]** ([-5.5], 9 o'clock position).
- 3 Take a photo.

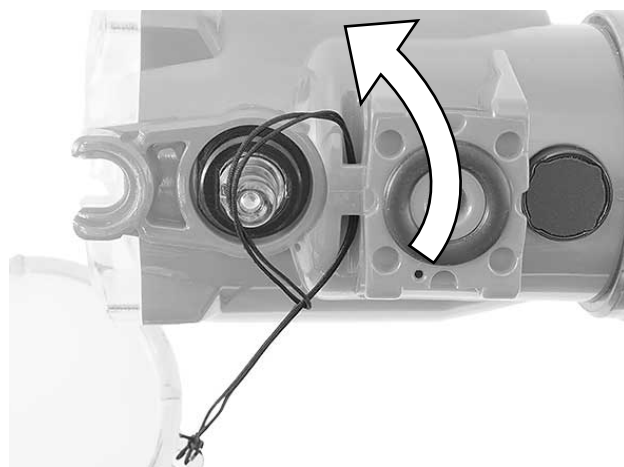


## Using -0.5 White Diffuser for S-2000

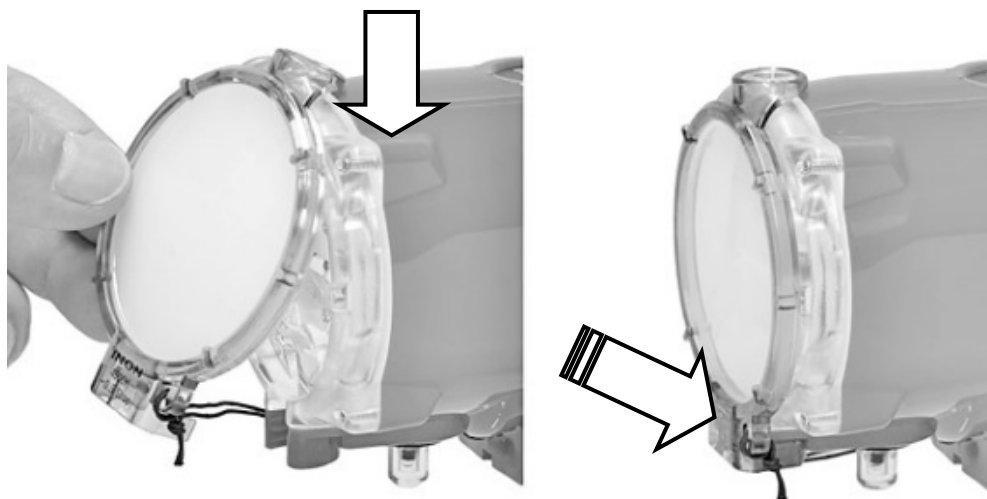
The -0.5 White Diffuser is attached on in front of S-2000 flash tube to increase beam angle to 110° and soften the flash light. This filter cut strobe output at approx. 0.5EV. underwater. It is recommended to use this diffuser unless you need actual full amount of flash.

### ■ Installation

- 1 Thread the string of the diffuser through the hole between the "slave sensor" and the "adapter/joint base" of the product and tie it.



- 2 Put the top eyelet of the diffuser on the **Strobe Ready Red Lamp** of the S-2000 strobe and snap the bottom coupler on the **Optical D Slave Cable 3 connector**. You should hear clicking sound which confirms proper installation.



# After Use Maintenance, Storage

## Salt removal/Clean, Dry

- 1 Soak the strobe in freshwater within operable temperature (0°C~30°C/32°F~86°F) as it is for several hours to remove salt build-up.
- 2 Slowly move switches, levers to remove trapped sands and salt during above procedure.

 **DO NOT** unscrew/retighten the Battery Box Outer Cap.

- 3 Blow off remaining water droplets by compressed air etc. and dry well the strobe in shaded, well-ventilated area within storage temperature range [0°C~30°C/32°F~86°F]

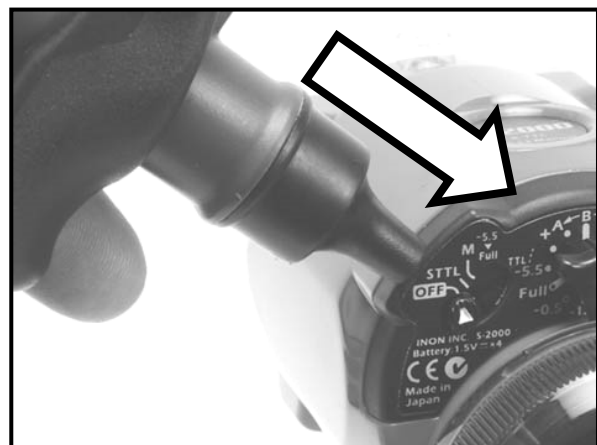
 Never apply flame or direct heat or damage may result

- 4 After surface is thoroughly dry, remove Battery Box Outer Cap and Inner Lid to remove batteries from Battery Box and continue to dry with Battery Box open. It may take several days for moisture in the small gaps and recesses of the strobe to completely dry.

## When iron sand adheres to the Main Mode Switch

If you observe iron sands around the Main Mode Switch (below left image), use air blower to blow them away from the direction indicated by the arrow in below right image.

In case iron sands are trapped and can not take them away (you may not feel clicking of the switch as like before), the unit needs to be checked and repaired properly. Please contact your purchasing dealer or Inon authorized service center.



## O-ring Maintenance

After completely dry, inspect/grease O-ring in accordance with 「Prevent Accidental Flooding (P.6)」

## Battery Terminals/Battery Box Contacts Maintenance

- 1** Gently bend the terminals back to the correct position, if they have been bent.

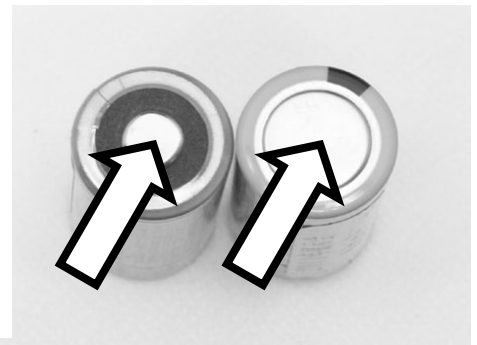
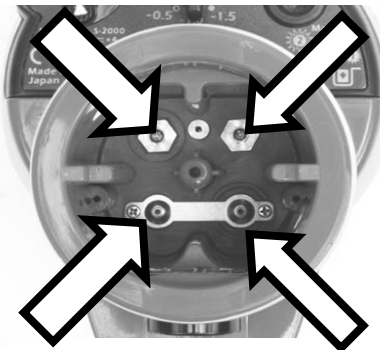
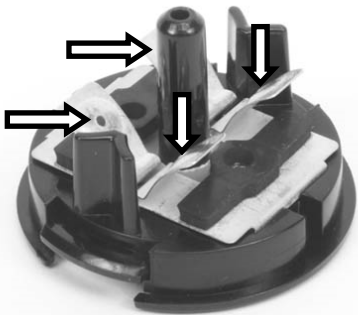
**Correct**



**Bent**



- 2** Clean battery terminals, Battery Box Inner Lid contacts and Battery Box contacts.



### ■ Cleaning Procedure

**!** When cleaning battery terminals, always check and follow precautions/restrictions of the battery.

**!** Make sure not to put chemical other than terminals.

- 1** Wipe terminal surface with a cotton swab (or similar) soaked in alcohol to remove any oil or similar residue.
- 2** (Only if the strobe shows unstable operation like suddenly stop charging and above step does not solve the problem) dap a small amount of silver polish on a cotton swab (or similar) and wipe terminal surface to remove oxidized film. Then clean off any silver polish residue with a clean swab.



## Overhaul

To keep optimum performance of this product, it is necessary to receive periodic overhaul at INON or authorized service facility.

O-rings and other degradable parts life can vary considerably due to type of use, frequency of use, storage conditions etc., INON recommends overhaul once per year to prevent accidental flooding.

## Storage



Always remove batteries during storage

Close the Battery Box Outer Cap and store out of direct sunlight in well-ventilated, dry area within storage temperature [0°C~30°C/32°F~ 86°F].

Avoid storing near chemicals (camphor or naphthalene etc.), magnetic fields (TV etc.) and large temperature fluctuations (even within storage temperature).

It would be recommended to put a desiccant agent in the battery box during storage.

When not using the strobe for extended period, put in a set of batteries, test fire once, turn the Main Mode Switch to OFF when the red ready lamp comes on and remove batteries to prevent degradation of internal circuitry about once a month or so during the storage period.

# Trouble Shooting

When you doubt malfunction of the product, please check below first then consult your purchasing dealer if problem remains.

## Power

If Strobe Ready Lamp does not come on.

- Compatible batteries are loaded? (P12)
- Loaded batteries are with proper orientation? (P13)

If charging takes longer.

- Batteries have been sufficiently charged? (P11)
- Batteries degradation? (P11)
- Dirt on battery terminals, battery box contacts? (P22)

## Basic Operation

If strobe doesn't fire...

- Is the Optical D Cable properly connected? (P15-16)
- Has the Optical D Cable got damaged or got dirt on its bear end? (P15-16)
- Does camera's built-in flash fire? (P17)

## Exposure Control

If Manual flash mode gives underexposed images....

- Camera's built-in flash makes pre-flash or not....(P17)
- Advanced Cancel Circuit Switch is properly set? (P15)
- Check compatible digital cameras on INON web site.

If Manual flash mode gives overexposed images (the strobe always delivers FULL)....

- Advanced Cancel Circuit Switch is properly set? (P15)
- Check compatible digital cameras on INON web site.

S-TTL Auto gives underexposed images....

- Does camera's built-in flash make pre-flash?
- Check compatible digital cameras on INON web site.

S-TTL Auto always gives FULL dump....

- Is the Optical D Cable properly set? (P15-16)
- Has Optical D Cable got damaged or got dirt on its bear end? (P15-16)
- Is Wireless Connection Kit properly set? (When using wireless)
- Check compatible digital cameras on INON web site.

## After Service

Please contact your purchasing dealer for any questions about this product.

Please contact your purchasing dealer for product inspection/repair.

The S-2000 sold by authorized overseas distributor/dealer carries limited warranty provided by the distributor/dealer. Warranty repair will be provided according to the warranty terms and conditions. In principle, repair service is not free of charge after the warranty period has expired. A customer is required to bear shipping costs to and from INON's designated repair facility. Please contact your authorized INON distributor/dealer for warranty service or warranty condition.

### Manufacturer

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### Update history

Ver. 1.0.0	Dec. 2008
Ver. 1.1.0	Apr. 2009
Ver. 1.2.0	Jul. 2009
Ver. 1.2.2	Jul. 2009
Ver. 2.0.0	Jan. 2022

# Specifications

Model	S-2000
Flash Mode (*1)	S-TTL Auto/ Manual /TTL Auto
Connection (*1)	Wireless connection / Optical D cable connection / Optical D Slave Cable connection
Guide Number at FULL(*2)	20 [without a diffuser] 17 [with supplied -0.5 White diffuser]
Settable flash output in Manual mode(*2)	20(FULL) 17(-0.5) 14(-1) 12(-1.5) 10(-2) 8.4(-2.5) 7.1(-3) 5.9(-3.5) 5.0(-4) 4.2(-4.5) 3.5(-5) 3.0(-5.5) (12 steps in 1/2EV increments)
Beam Angle	105°(horizontal) × 95°(vertical) [without a diffuser] 110°×110° circular beam [with supplied -0.5 White Diffuser]
Color Temp. (at FULL)	5,500K [without a diffuser] 5,400K [with supplied -0.5 White Diffuser]
Recycle Time at FULL (*3)	Approx. 1.5 seconds minimum: ["eneloop" batteries(*4)] Approx. 1.5 seconds minimum: [NiMH batteries(*5)] Approx. 1.6 seconds minimum: [Alkaline batteries] Approx. 2.1 seconds minimum: [Lithium (1.5V) batteries]
Flash Capacity at FULL (*3)	Approx. 450 flashes: ["eneloop" batteries (*4)] Approx. 570 flashes: [NiMH batteries(*5)] Approx. 430 flashes: [Alkaline batteries] Approx. 670 flashes: [Lithium (1.5V) batteries]
Compatible Battery	AA "eneloop" battery x 4 (Model:BK-3MCC) <b>【Recommended】</b> AA "eneloop pro" battery x 4 (Model:BK-3HCD) <b>【Recommended】</b> AA Ni-MH battery (*5) x 4 AA Alkaline battery x 4 AA Lithium battery (1.5V) x 4
Dimensions	Width:64mm/2.5in. Height: 83.1mm/3.3in. Depth 106.5mm/4.2in. (*Including Slave Sensor and Arm Base)
Weight (air)	Approx. 295g/10.4oz (without batteries)
U/W Weight	Approx. 69g/2.4oz (with 4 "eneloop" batteries)
Working Temp.	0°C~30°C/32°F~86°F *water temperature
Storage Temp.	0°C~30°C/32°F~86°F *air temperature 50°C/122°F (temporary allowable temperature limit when strobe is not in use)
Depth Rating	100m/328ft
Body Material	Body : Polycarbonate/red
Package Contents	-0.5 White Diffuser, Magnet, Magnet Screw, Spare O-ring (Battery Box), INON Grease, Wireless Connection Kit
EMC Standards	EN55015:2006 +A1:2007, EN61547:1995 + A1:2000, CFR47 FCC-P15 Class B, ICES-003 Class B, AS/NZS CISPER15:2006

## Specifications (continued)

- \*1 Compatible flash mode/connection method varies depending on combined camera system and usable flash mode differs depending on connection method. Refer to this user manual for detail.
- \*2 Measurement in air, at ISO100 x 1 meter. Nominal value.
- \*3 Measured with FULL strobe output at 30-second intervals with Advanced Cancel Circuit OFF, at 25°C. with using following batteries giving 10 minutes cooling period every 50 flashes.  
Recycle Time / Flash Capacity based on INON test data. Actual values may vary based on battery manufacturer, battery type and age.

### Test battery

“eneloop” battery	SANYO“eneloop”, HR-3UTG, 1.2V, Min.1,900mAh
NiMH battery	SANYO Twicell 2700 Series, HR-3UG, 1.2V, Min 2,500mAh
Alkaline battery	Maxcell ALKALINE ACE “voltage”, LR6(T), 1.5V
Lithium battery (1.5V)	Energizer e2 LITHIUM, FR6, 1.5V

- \*4 Including below listed “new generation” NiMH batteries (“eneloop” type) having less self-discharging and heat generating characteristic comparing to “conventional” or “high-capacity” NiMH and confirmed compatibility by INON INC.

SANYO Electric Co.,Ltd (Panasonic Corporation)	Model name : eneloop <b>【recommended】</b> Model code : HR-3UTG
Sony Corp.	Model name : Cycle Energy Blue Model code : NH-AA-2BKA, NH-AA-4BKA
Panasonic Corporation	Model name : Rechargeable Ni-MH (AA) Model code : HHR-3MPS
Maha Energy Corporation	Model name : IMEDION Model code : MHRAAI4
GP Batteries International Limited	Model name : ReCyko+ Model code : 210AAHCBE
ANSMANN AG	Model name : maxE Model code : 5030991, 5030992, 5035052
Electrochem Automation Inc.	Model name : NEXcell energyON Model code : n/a (AA 2000mAh)

- \*5 Some “conventional” or “high-capacity” NiMH rechargeable batteries have significant self-discharge and heat-generating characteristic resulting difficulty to keep their performance during usage. We recommend to use recommended batteries.

Specifications, performance subject to change without prior notice.

As of January 2022

**CC Notice**Information to user

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

NOTE: 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.

**Canadian Radio Interference Regulations**

This apparatus complies with the Class B limits for radio interference as specified in the Canadian Department of Communications Radio Interference Regulations.

Cet appareil est conforme aux normes de Classe B d'interference radio tel que spe'cifie' par le Ministère Canadien des Communications dans les règlements d'interfe'rence radio.







This manual is intended to be exclusively used for following unit.

Product	:	S-2000
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Serial number	:	
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The serial number above should correspond with serial number of the strobe comes with this manual. INON Inc. /INON overseas authorized distributor/dealer may not be able to offer official support/maintenance if;

1. Manual without serial number
2. Manual with unidentifiable serial number
3. Manual/part of Manual illegally copied against copyright term in the manual