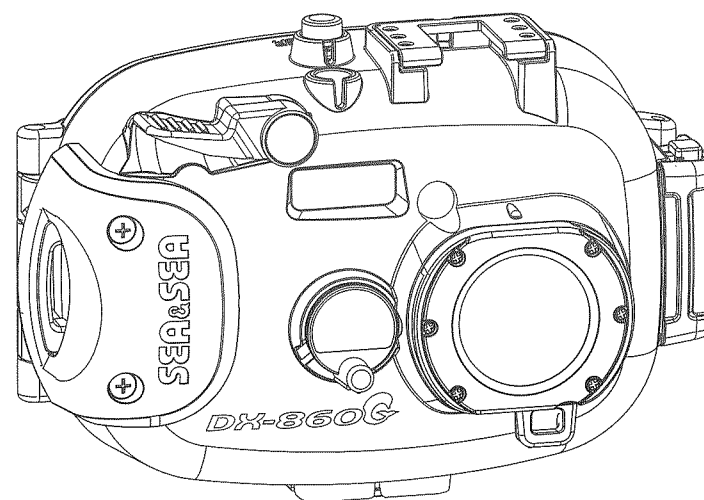


SEA&SEA

UNDERWATER DIGITAL CAMERA HOUSING

06121 DX-860G

Instruction Manual



SEA&SEA

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0603-Z-02

DX-860G

Thank you for your purchase of SEA&SEA product. For proper operation of the product and safe handling, please read the following instructions carefully before use. This manual should be retained for future reference.

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Safety Precautions

- For safe handling of the product, please read the following precautions carefully before use.

* Failure to heed the precautions listed below could result in serious consequences. To prevent injury or damage to yourself and/or others, please observe the precautions as they contain highly important information related to personal and product safety.

⚠ **WARNING** : Situations that could result in severe injury or death.

⚠ **CAUTION** : Situations that could result in property damage or personal injury.

⚠ **WARNING**

- Keep out of reach of children to prevent accidental ingestion. If swallowed, seek medical advice immediately.

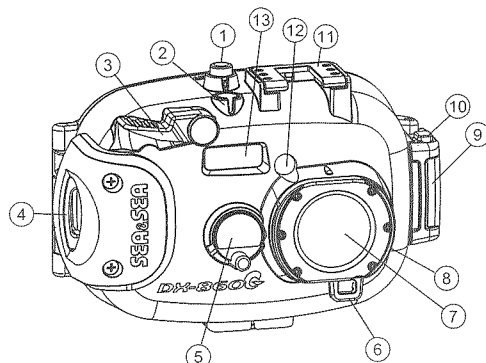
⚠ **CAUTION**

- Read the instruction manual and observe proper precautions before use of this product.
- Carefully observe the instruction manual for the compatible camera for this product before use.
- Unauthorized disassembling and/or modification could result in malfunction or flooding, and void product warranty. Take the product to a SEA&SEA authorized service center for repair or inspection.
- Should you notice smoke or an unusual smell coming from the product, turn it off and remove the batteries immediately, taking care to avoid burns. Continued operation could result in injury. After removing the battery, take the product to a SEA&SEA authorized service center for inspection.
- Discontinue use and turn the product off immediately should you notice flooding or leakage.

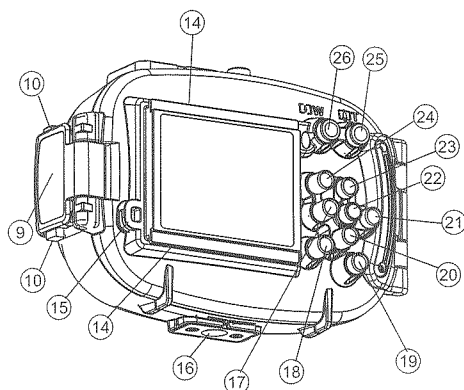
- When the product is flooding, interior pressure may build up. Please be careful when opening the product as water may spurt out or the cap may open explosively and cause injuries.
- Do not open the chassis or battery cap in the vicinity of open flames.
- The product has been constructed with an airtight seal. When packing the product for airplane travel, do not seal-up the product to alleviate pressure build up due to atmospheric changes.
- The product for airplane travel, do not seal-up the product to alleviate pressure build up due to atmospheric changes.
- Do not open the product in a wet or sandy environment. Protect the interior from moisture and debris in order to prevent malfunction or flooding.
- Avoid strong shocks/impacts or excess stress to prevent malfunction, damage or breakdown. Make sure that the product has been securely mounted to other products in order to prevent injury, fall or missing.
- Do not carry the camera or housing by holding the accessories such as arm, cable, strobe, etc. Heavy components may fall and cause damage or injury.
- Do not rest heavy weight on the product. It might deform the outer casing, damage internal parts, make the waterproofing fail, or result in fire or electric shock.
- Please note that some marks may be left on the camera scraping against the dials or gears of the housing.
- Handle the product carefully so as not to scratch the front port, the lens, the flash window or the finder.
- Always dry the front port, the lens, the flash window or the finder using a soft cloth to prevent stain or salt residue from marring the glass surface.
- Rinse the product with fresh water, after underwater use. Ensure that the product is waterproofed before rinsing. Refer to [Maintenance and Storage] for details.
- Never use chemicals, cosmetics, any petroleum solvents such as paint thinner, or neutral detergent on the product. They may deform and damage the product.

- Do not leave the product in places with hot temperatures such as inside of a car or in a car trunk in summer. The heat may deform plastic parts of the product, damaging internal parts and resulting in potential fire or electric shock. If the product is sealed tight in hot conditions, heated air expanding inside the product may deform the casing and ruin the waterproofing.
- Do not store the product in wet or high humidity place, to avoid mold, rust, corrosion or malfunction.
- Do not store the product with naphthalene or camphor mothballs, or in locations such as a laboratory where chemicals are used. This environment can cause mold, rust, corrosion or malfunction.
- SEA&SEA assumes no liability for compensation of loss of captured images or expenses caused by loss of images, even if you are unable to shoot due to a product defect or malfunction.
- SEA&SEA will not be responsible for the replacement or compensation for cameras, lenses or those accessories damaged due to your invalid operation.
- SEA&SEA assumes no liability for errors or discrepancies in this manual.
- Specifications and appearance are subject to change without notice.
- Carefully observe the O-ring maintenance manual for the handling of O-rings before use.

Identification of Parts

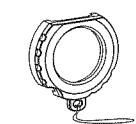


- 1 Power button
- 2 Fiber-optic cable socket
- 3 Shutter lever
- 4 Hand strap hook
- 5 Flashlight diffuser lever
- 6 Close-up lens strap hook
- 7 Lens
- 8 Lens frame
- 9 Buckle
- 10 Buckle lock button
- 11 Accessory shoe
- 12 AF auxiliary light window
- 13 Flash window

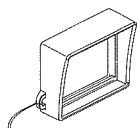


- 14 LCD monitor hood holder
- 15 LCD monitor hood hook
- 16 Tripod hole
- 17 [ON]/Selftimer button
- 18 [PLAY] Playback button
- 19 [EXP/DEL] Exposure/Delete button
- 20 [V/M] Voice Memo button
- 21 [FLASH] Flash button
- 22 [OK/MENU] OK / MENU button
- 23 [MACRO] Macro button
- 24 [MODE] Mode button
- 25 [TELE] Telephoto button
- 26 [WIDE] Wide-angle button

Accessories



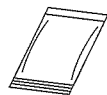
Close-up lens



LCD monitor hood



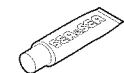
O-ring remover



Desiccant pack



Hand strap



Silicon grease

Installing the 860G Camera to the Housing

1. Turn off the power of the 860G camera and place it as shown in Figure .

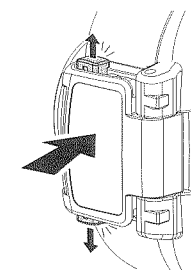
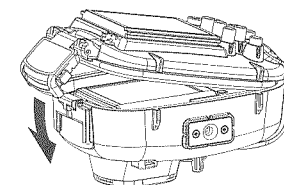
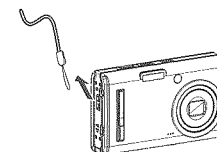
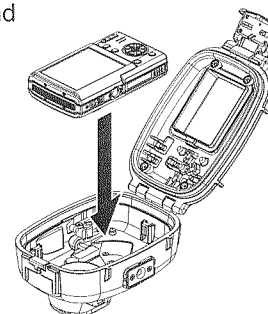
CAUTION

- Make sure that the digital camera is set parallel to the housing case and not excessively slanted.
- To avoid possible camera damage, make sure the camera's power switch is in off position when installing and removing the camera from the DX-860G housing. Do not install/remove the 860G camera while the camera is on. The ejected lens will interfere the housing, and it may damage the 860G camera and the lens.

- It is possible to flood the housing by closing the back on the camera hand strap. Always remove the hand strap from camera before loading it in the housing.

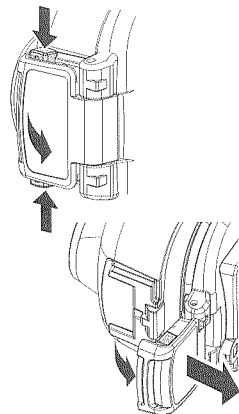
2. Make sure that there is no dust, scratches or warp on the O-ring/O-ring mating surface before closing the rear cover. Take the hand strap out, press the rear cover, and then put the buckle over the front case.

3. Push the buckle down until it clicks. Make sure that the red buckle lock buttons on both sides are popped out.



Opening the Rear Cover

1. Before opening the rear cover, make sure that the housing is completely dry and free of salt deposits. If you find any salt deposits, rinse with fresh water and wipe off water completely with a soft cloth.
2. Push the red buckle lock buttons together to unlock, and pull the buckle all the way towards back to lift the rear cover from the front case.
3. Pull the rear cover to open.

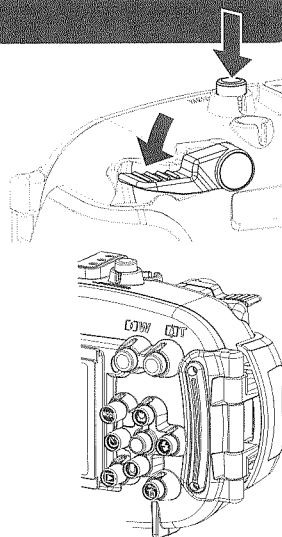


CAUTION

- Never use the buckle/buckle lock buttons underwater.
- When opening the rear door after use in the water, open it carefully not to let water or sand enter inside the housing.

External Controls

- Power button
Use the power button to turn ON/OFF the 860G camera.
- Shutter lever
Press the shutter lever to use shutter of the 860G camera.
- Other operation buttons
Use buttons to operate each function of the 860G camera underwater. Please refer to the instruction manual of the 860G camera.

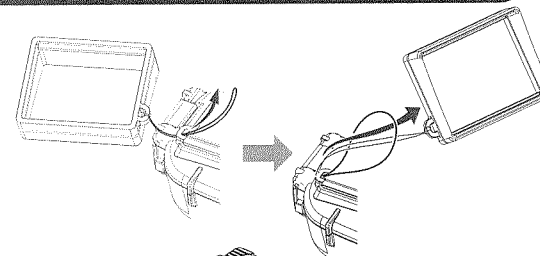


CAUTION

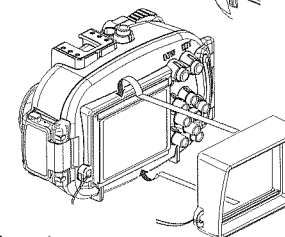
Digital music player function of the 860G camera can not be used underwater.

LCD Monitor Hood

1. Put the LCD monitor hood strap through the rear cover as shown.



2. Mount the LCD monitor hood to the holder.

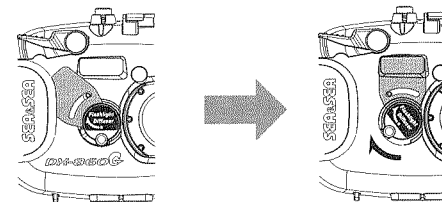


CAUTION

- Please be careful not to get the strap of the LCD monitor hood caught in the rear cover when closing.
- Do not hold the light trap hood to carry the housing. It may come off and the housing may fall down.

Built-In Flashlight Diffuser

To use the built-in flashlight diffuser, turn the flashlight diffuser lever clockwise. The built-in flash diffuser disperses and softens light from the built-in flash. It helps prevent backscatter -- that is, it reduces light reflection from particles in the water.



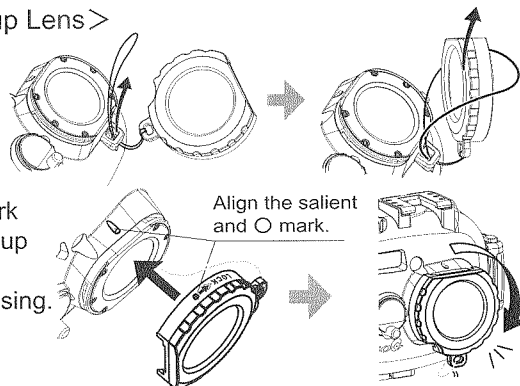
Close-up Lens

Using the close-up lens that came with the product will allow to focus on a smaller subject and capture the image in greater width. The close-up lens is ideal for taking images of small objects, such as fish, which may hide and run when the camera approaches.

860G camera minimal focal distance table (under Macro Mode)		
Zoom position	without close-up lens	with close-up lens
WIDE	5cm	5cm
TELE	30cm	15cm

<Attaching the Close-up Lens>

1. Put the strap of the close-up lens through housing as shown.
2. Align the salient on the upper surface of the housing lens and O mark on the side of the close-up lens, then impose the close-up lens to the housing.
3. Turn the close-up lens clockwise until it clicks.



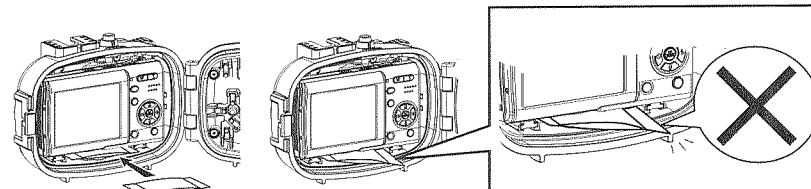
CAUTION ● Please be careful not to get the close-up lens strap caught in the rear cover when closing.

Desiccant (Silica Gel) Pack

A substantial difference between the external (water) and internal (camera and air) temperatures sometimes result in dewfall on the inside surface of the housing lens. This phenomenon typically happens when the camera becomes hot due to long and consecutive use. To mitigate the effect of the dew, use the desiccant pack (included in the product package) as follows:

<Using the Desiccant (Silica Gel) Pack>

1. Before mounting the camera to the housing, place the desiccant pack at the location shown below.
2. Then mount the camera to the housing.

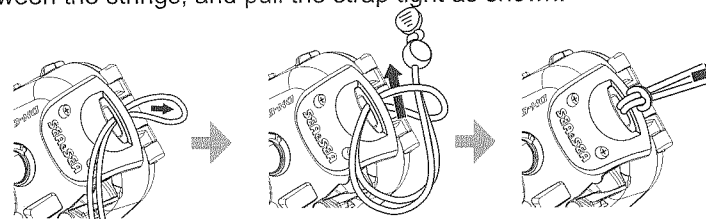


- Make sure that the edge of desiccant pack is not covering the O-ring contact surface.
- When closing the rear door, make sure that the desiccant pack is not pinched between the rear door and the front case.

Hand Strap

<Attaching the Hand strap>

Put the hand strap through the hook on the housing, let other end go through between the strings, and pull the strap tight as shown.



- When the DX-860G housing has options mounted on it such as a wide-angle conversion lens, a stay, an arm, a strobe, and/or a video light, do not hold the housing by the hand strap when the housing is out of the water. The increased weight of the options may damage the hand strap, which may result in equipment damage, equipment loss, or personal injury.

Attaching the Optional Accessories

DX-860G accepts SEA&SEA accessories that are sold separately. By using DX-860G in combination with optional accessories, you will be able to try various shooting techniques.

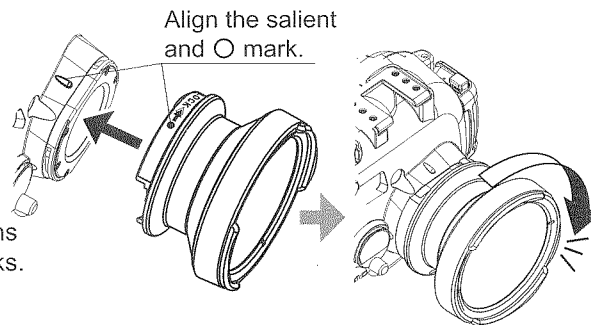
- Lenses, strobes and other accessories have different depth rating. Check the depth rating before you use the accessories.
- Read the instruction manuals of the accessories before using them.

Wide-Angle Conversion Lens (Option)

Using an optional Wide-Angle Conversion Lens for DX-860G (#52115) will expand the field angle approximately 20mm (0.55x).

<Attaching the Wide-Angle Conversion Lens>

1. Align the salient on the upper surface of the housing lens and O mark on the side of the close-up lens, then impose the close-up lens to the housing.
2. Turn the close-up lens clockwise until it clicks.



⚠ CAUTION

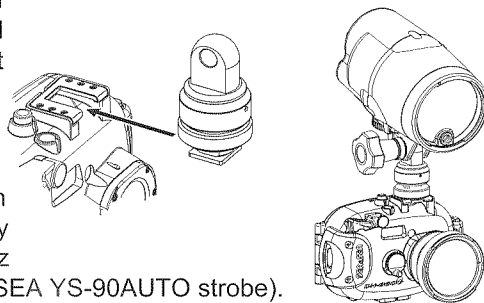
- When you start using a new lens, remove it in the water and shake it to eliminate bubbles between the housing and the lens.
- When the Wide-Angle Conversion Lens for the DX-860G is mounted, vignetting (dimmed-out image corners) may occur depending upon the aperture setting and the shooting conditions.

Accessory shoe

SEA&SEA strobes/lights can be attached by using optional Mini Shoe Arm (#29511) or Hot Shoe Arm (#29501).

⚠ CAUTION

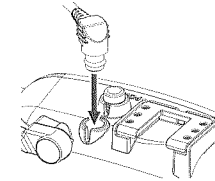
- The maximum weight of an accessory for the accessory shoe is approx. 750g / 26.3oz (about the weight of SEA&SEA YS-90AUTO strobe).
- Remove the attached accessories from the accessory shoe such as strobes when using the products on land.



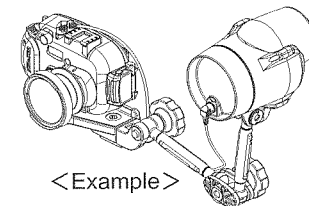
<Example>

Fiber-Optic Cable (Option) Connection

DX-860G has a receptacle for an optic fiber cable to connect a Sea & Seaexternal strobe. To use an optic fiber cable, plug the cable fully into the receptacle as shown.



Since the optic fiber cable conveys the light of the built-in strobe to the external strobe, the system may not work properly if the cable receptacle is dirty. Before using the optic fiber cable, make sure that the receptacle and the cable plug is free from salt residue or sand.



<Example>

About the PASSED Label

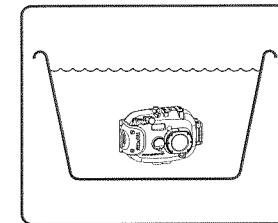
The Pressure Test Passed label on a product indicates that the product has passed the SEA&SEA pressure test and is waterproof at depth.



Maintenance and Storage

⚠ CAUTION

- Never use chemicals, cosmetics, any petroleum solvents such as paint thinner, or neutral detergent on the product. They may deform and damage the product.
- After each use in salt water, make sure it's watertight, then soak it sufficiently in fresh water. Never use the buckle/buckle lock buttons underwater.



- Insufficient soaking causes damage by salt to the product. Salty residue may be left on the product where it will crystallize as it evaporates. Crystallized salt is hard to dissolve and difficult to be removed once formed, and it will result in water leakage.
- After rinsing, dry the product well with a soft dry cloth, then let the product dry in the shade, out of direct sunlight.
- Do not dry the product by heating (using a hair dryer, for example). Heating can deform and damage the product.
- If you will not use the product for an extended period of time, store it away from high temperatures, high humidity, direct sunlight, or extreme cold.
- Do not store the product with naphthalene or camphor mothballs, or in locations such as a laboratory where chemicals are used. This environment can cause mold, rust, corrosion or malfunction.
- Remove batteries from the product before storing.
- After using the product, maintain the O-rings before storing. Examine the O-rings before and after each dive. We recommend early exchange of the O-rings, at least once a year.
- Every two years we recommend a complete overhaul of O-rings regardless of the frequency in use, for the best performance of the product.

Specifications

【Controls】 Power button, Shutter lever, Flashlight diffuser lever,
 [⬅] Wide angle button, [➡] Telephoto button, Mode button,
 Play-back button, [⏸] Selftimer button, [⬆] Macro button,
 [▶] Flash button, [🗣] Voice memo button,
 Exposure/Delete button

【Construction】 Polycarbonate

【Dimensions】 140.7x96.7x73.7mm / 5.5x3.8x2.9inch (WxHxD)

【Weight】 350g / 12.3oz

【Dimensions】 45m / 150ft)

【Accessories】 Close-up lens, LCD monitor hood, Silicone grease,
 desiccant pack, O-ring remover, Instruction manual,
 O-ring maintenance manual

※Specifications and appearance are subject to change without notice.

SEA&SEA Underwater Digital Camera Accessories System Chart for DX-860G

