

Owner's Manual

SunRay-S Mini Elite Lighting System



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Welcome

Congratulations on your purchase of the SunRay-S Mini Elite lighting system.

Please inspect the packaging of your product to verify that there was no damage during shipping.

Periodically refer to the website for instruction revisions.

Caution - Caution - Caution

We hope you have a wonderful underwater experience with Light & Motion equipment. To increase your enjoyment and the life span of your new gear please take an extra minute to review common errors which will result in equipment damage or destruction.

- Check the operation of all your equipment several weeks prior to your trip. If maintenance or repair is necessary, then time is available for both shipping and repair scheduling.
- Never transport or ship the housing with the camcorder inside. This may damage your camcorder.
- Never leave your equipment in the rinse bucket, it may be damaged by other equipment.
- If a product is flooded, immediately rinse it with fresh water. Most non-electrical parts will be salvageable if not corroded by salt water.

Look for these symbols to help identify special information.



Hot Tip



Important



Caution

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Getting Started

Pictured below are the components of the SunRay-S Mini Elite lighting system. Take a moment to familiarize yourself with each part for later identification and use.

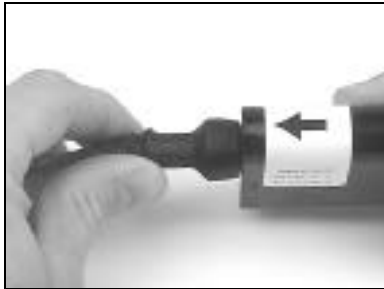


Charging Batteries

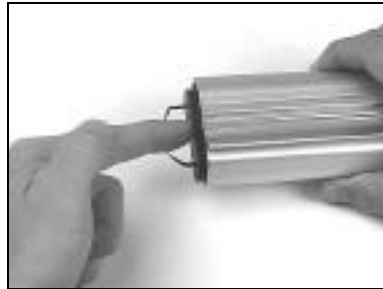
✘ Due to shipping, batteries charge states will vary. It is recommended that you charge your Mini TC batteries when they are received.

- 1) The charger can accept an electrical range of 100 - 240v and 50 - 60hz.
- 2) The charger has two LED lights, one green and one yellow. Green LED illuminates when charger is receiving power. Yellow LED is illuminated when charging and blinking when charge is complete.
- 3) To attach charger to battery, align arrow on charger connector with arrow on battery label and push together until connectors seat. (Refer fig. 1)

✘ Charge time for the 7.2v fast charger is approximately 1.5 hours.



(Fig. 1)



(Fig. 2)

Installing Batteries

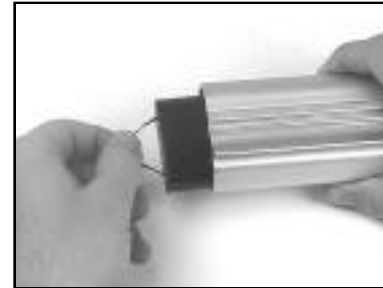
- 1) Slide the battery back into the pod with the contact end inserted first so that the connector will align with the socket inside the pod. (Refer fig. 2)
- 2) Servicing the o-rings (See o-ring maintenance).
- 3) Replace the front cap onto the pod.

✔ Insure that the removal strap attached to the battery does not interfere with the seal when the end cap is attached to the pod

- 4) Turn the knob on the end cap clockwise 1/8 turn until it stops. The endcap will now be locked into place. The endcaps are specific to the left and right pods.

Removing Batteries

- 1) Rotate latch at the front of the pod counter-clockwise 1/8 turn or until it stops.
- 2) Pull the front cap off the pod.
- 3) Pull the battery from the pod using removal strap (Refer Fig. 3).



(Fig. 3)



(Fig. 4)

Mounting Battery Pods

✔ Battery Pods can be mounted prior to installing batteries into pods.

- 1) Remove the rear plate or monitor back of the housing.
- 2) Slide the battery pods into channels along bottom of housing (Refer fig. 4).
- 3) Insert Pod Locker between the pods and tighten using 1/8" allen wrench (Refer fig. 5). Do not over tighten.



(Fig. 5)



(Fig. 6)

Mounting Arm to Housing

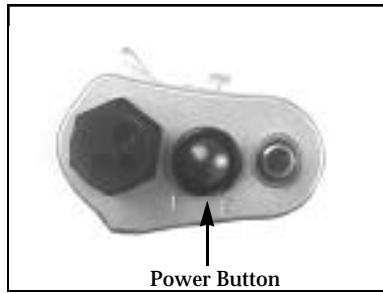
Attach are to arm base by pressing **FIRMLY** until arm snaps into place (Refer fig. 6).

Mounting Arm to Light Heads

Align top of arm with light head base and press **FIRMLY** together. Arm will snap into position. (Refer fig. 7).



(Fig. 7)



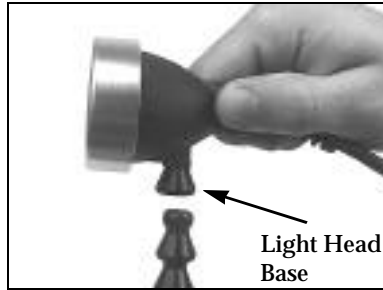
(Fig. 8)

Removing Arm from Light Heads

To remove light head from arm, “break” the arm at the upper most joint. Applying pressure on the Light Arm and not the Light Head (Refer fig. 9). Do not apply pressure to the Light Head Base (Refer fig. 10). Doing so may cause the Base to break from the Light Head damaging the light.



(Fig. 9)



(Fig. 10)

Light Operation

Before you turn on the lights, verify that the mode selector (flat position of black ring around red power button) is set to the E setting. If it is set to the P setting, it will not scroll through the three power levels. It will simply turn the light on and off and will reduce the over all life of the lamp.

Operation with Mako housing

If your Mako is equipped with a Monitor Back, the Mini Elite lights can also be operated from the Smart Grip controls.

Operation from Smart Grips

- 1) Activate initial power up by pressing the Pod Power Button. (Refer Fig 8).
- 2) Use the LIGHTS button to cycle through power settings.
- 3) Turn off lights by pressing and holding the LIGHT button for three seconds.

Operation from Battery Pods

- 1) Turn on light by pressing the Power Button on the rear cap (Refer Fig 8).
- 2) Press the red button again to change the light output level.
- 3) Turn off light by holding the red button down for three seconds.

Operation with other brand housing

- 1) Turn on light by pressing the red button on the rear cap (Refer Fig 8).
- 2) Press the red button again to change the light output level.
- 3) Turn off light by holding the red button down for three seconds.

Post dive cleaning

- 1) After each dive, you should dunk the lights and pods in fresh water.
- 2) Press the red button to flush out any water.
- 3) After you are geared down and completely dried off, simply towel dry the lights in a safe dry place.

- ☑ Do not leave your lights in the rinse bucket with other equipment. Underwater gear has been known to be damaged by jostling against other products.

Storage

After diving remove your batteries and charge them. Leaving your batteries discharged will significantly reduce the life of the battery. The lighting system requires no special storing instructions. Store as you would any other valuable piece of electronic equipment.

Changing Lamps

- 1) Unscrew the front bezel and remove the front glass port, reflector & spring to expose the lamp.
- 2) Remove the lamp with your fingers.
- 3) Install a new lamp. When inserting the lamp into the socket, be careful not to bend the pins. Push and “wiggle” the lamp until it is seated into the socket.

- ☑ Be careful not to get the oils from your finger on the lamp. If you do, be sure to clean the lamp.

- 4) Replace the reflector, spring, and front port.
- 5) Screw down the bezel. The bezel is fully seated when the back of it is flush with the back of the light body.

Other Maintenance

- Apply a light film of o-ring grease to cables and connectors to prevent premature degradation.
- We highly recommend a factory annual service to maintain proper operation of your SunRay Lights.
- If a product is flooded, immediately remove the battery, and rinse with fresh water. Most non-electrical parts will be salvageable if not corroded by salt water.

O-ring care & maintenance

O-rings are the critical component that keep water out of the equipment and the electrical components dry. Routinely inspect o-rings and replace at least once per year. If your o-rings become unusable, contact the Light & Motion Service department for an o-ring replacement kit.

Follow these steps for proper o-ring function.


- 1) The sealing system used on the front cap incorporates one o-ring. This is the most critical area of the battery pod for maintenance and should be inspected before every dive.
- 2) Make sure the battery pod o-ring and the mating surface on the inside of the main housing are clean from grit, hair, lint and anything that could potentially breach the o-ring seal.
- 3) After frequent diving or if o-rings or grooves appear dirty, remove o-rings and clean the grooves. To remove o-rings, use finger pressure or the rounded edge of a plastic card to lift the o-ring out of the groove.

❑ Never use a metal object to remove an o-ring. It will cause damage to the o-ring.

- 4) To check o-rings for damage, place the o-ring between the middle and index finger and thumb. Then pull the o-ring through your fingers, feeling for any debris or wear.
- 5) If o-rings are dirty, it is best to replace them. Washing dirty o-rings with soap and water is not recommended. Soap breaks down the lubricants and will compromise the integrity of the seal.
- 6) Properly greased o-rings will help maintain sealing integrity and minimize o-ring degradation. Use enough grease to lubricate the o-ring thoroughly, but not so much that it will attract additional debris.
- 7) Clean the groove with a lint free swab or the folded edge of a paper towel.

The light heads utilize two o-ring seals. After changing lamps, these seals should also be checked and cared for in the same manner that you care for the rear cap o-rings.

Returning Products for Care

 We highly recommend a factory annual service to maintain proper operation of your SunRay lights.

- 1) Before returning your Light & Motion product for care, please call or email our service department for a RMA number.
- 2) Ship your product pre-paid freight with the return number printed on the outside of the box. It is recommended that you keep your shipper's tracking number until the product is returned to you.

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