

# **Sunray 2000**

## **LED Lighting System**





## **Standard Warranty**

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Light & Motion provides a limited warranty to the original purchaser for the Sunray 2000 LED Light System against all defects in original workmanship and material, under normal use and service, for one year from the date of purchase with the following exceptions: Batteries are warranted for 90 days, and battery chargers are only warranted for use in the US and Canada. Using a battery charger in conjunction with a voltage converter is NOT considered normal use, and chargers will not be warranted under such conditions.

Light & Motion will not be liable for any further loss, damages, or expenses, including incidental or consequential damages directly or indirectly arising from the sale or use of this product. Products not manufactured by Light & Motion, such as strobes and strobe arms, are not covered under the Light & Motion warranty. These products are covered by the Terms and Conditions set forth by their respective manufacturers.

## Welcome

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Congratulations on your purchase of the Sunray 2000 LED light system.

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

Periodically refer to <http://www.uwimaging.com> for instruction revisions.

### Caution - Caution - Caution - Caution

To increase your enjoyment and the life span of your equipment please take an extra minute to review common errors which will result in equipment damage or destruction.

- **Always remove batteries from battery pods before storage or travel. Failure to do so may inadvertently power-on the lighting system and possibly cause heat damage.**
- 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.
- If a battery pod is flooded, immediately remove the battery. POD: rinse with fresh water (good) or rubbing alcohol (better). Shake vigorously, towel dry, and leave the pod where it can drain excess moisture. BATTERY: Dry the battery off, blow any water out of the connectors, and then shake the battery to remove remaining moisture. **If there is water inside the battery do not attempt to use it again.** If the battery seems damp inside, allow it to dry for at least 24 hours, away from flammable items. Then, on land, charge the battery and test your lights before attempting another dive.

### Warning • Warning • Warning • Warning

**Caution:** The Sunray 2000 LED Lighting System is designed for use underwater. Prolonged operation in air may cause the outer surfaces of the light to become hot. Light & Motion recommends that you limit the operation of the Sunray light out of the water to less than two minutes.

### Warning • Warning • Warning • Warning

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**Look for these symbols to help identify special information:**



**Hot Tip**



**Important**



**Caution**

## Getting Started

Pictured below are the components of the Sunray 2000 LED 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 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.  
Left LED illuminates when charging a NiMH battery.  
Right LED is illuminated orange when charging and green when the charging cycle is complete.
3. To attach charger to battery, align arrow on charger connector with arrow on battery and push together until connectors seat. (Refer fig. 1)




Charge time for the Multi-Chem fast charger is 1.5 hours.

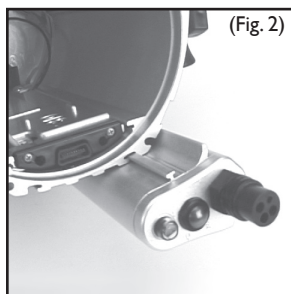
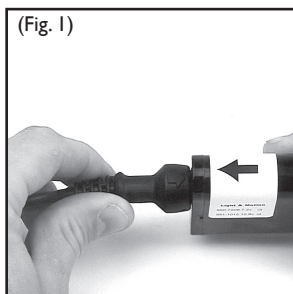
## Installing Batteries

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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. 1)
2. Service 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. Note that endcaps are specific to the left and right pods.




## Removing Batteries

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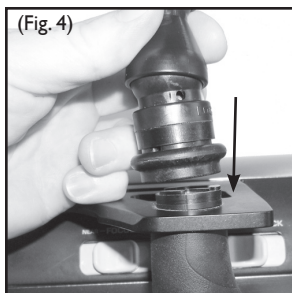
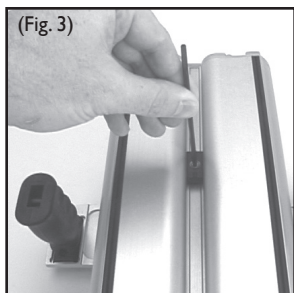
1. Rotate latch at the front of the pod counter-clockwise 1/8 turn or until it stops.
2. Pull the front cap off the pod.
3. Pull the battery from the pod using removal strap.

## Mounting Battery Pods

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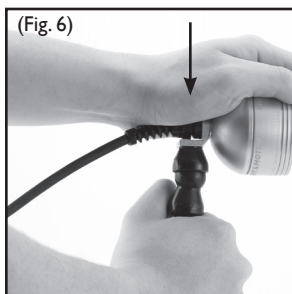
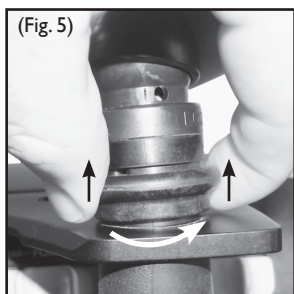
 Battery Pods can be mounted prior to installing batteries into pods.

1. Remove the rear plate or monitor back of the housing.
2. Slide battery pods into channels along bottom of housing (Refer fig. 2).
- 3) Insert Pod Locker between the pods and tighten using 1/8" allen wrench.  
**DO NOT OVER TIGHTEN** (Refer fig. 3 on next page).



## Mounting/Removing Light Arms

To attach the arm to the base, place the arm on the base squarely, gently pushing down and rotating arm until you hear a audible click (Refer fig. 4). Remove arm by gently lifting the ring at the base of the arm upward with your thumb and forefinger while rotating the arm itself. The arm will release after 30-degrees of rotation in either direction (Refer fig. 5).



## Mounting Light Arms to Light Heads

Align top of arm with arm light head base and press FIRMLY together. Arm should snap into position. (Refer fig. 6).

## Removing Light Arms from Light Heads

To remove light head from arm, “break” the arm at the upper most joint.

## Connecting Batteries to Light Heads

1. Plug in the light connectors on pod.
2. Tighten the locking sleeves by rotating clockwise until tight.

## Light Operation

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After initial power-up the LED Receiver will flash a green light. This indicates the battery pod is ready to receive IR signals from the housing. IR controls are only available with housings that feature Smart Grips.

## Operation with Bluefin Housing

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Sunray LED lights can be operated either by the Pod Power Button or from the Smart Grip controls.

### Operation from Smart Grips

1. Activate initial power up by pressing the Pod Power Button. (Refer Fig 7).
2. Use the LIGHTS button to cycle through power settings.
3. Turn off lights by pressing and holding the LIGHT button for three seconds.

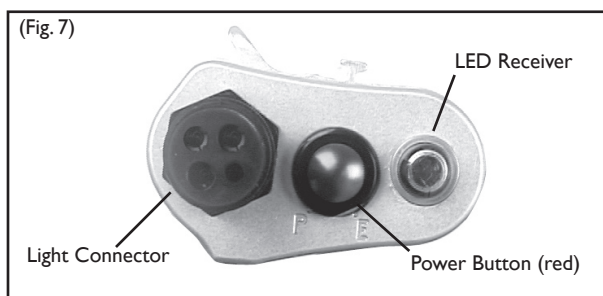
### Operation from Battery Pods

1. Turn on light by pressing the Power Button on the rear cap (Refer Fig 7).
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 Stingray Housing

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1. Turn on light by pressing the red button on the rear cap. (Refer Fig 7).
2. Press the red button again to change the light output level.
3. Turn off lights by pressing and holding the red button for three seconds.



## **Operation With Other Brands of Video Housing**

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1. Turn on light by pressing the red button on the rear cap (Refer Fig 7).
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**

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1. After each dive, you should dunk the lights and pods in fresh water.
2. Press the red button to flush out any salt 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. Video lights have been damaged by jostling against other products.

## **Storage**

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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.

## **Other Maintenance**

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- **CLEAN THE CONNECTORS!!!** — Pay special attention to the condition of the connectors at the end of the cables. Equally important is the female receptacle in the battery pod. These metal connectors should “shine like a new penny”.
- Apply a light film of O-ring grease to cables and connectors to prevent premature degradation.

## Returning Products for Care

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We highly recommend a factory annual service to maintain proper operation of your Sunray 2000 LED 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.



Warning: Do not ship your camera inside the housing. Shipping companies may drop your system from up to three feet which could damage your camera.

## Contact Light and Motion

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### Sales & Support:

Phone (831) 645-1525

Fax (831) 375-2517

### Mail:

Light & Motion  
300 Cannery Row  
Monterey, CA 93940

### E-mail:

[support@lightandmotion.com](mailto:support@lightandmotion.com)

### World Wide Web:

[www.uwimaging.com](http://www.uwimaging.com)

### European Service Center

#### Fish Eye Productions

Attn: Steve Mawle  
Unit 5 Vanguard Trading Estate  
Britania Rd  
Chesterfield  
S402TZ  
England  
Tel. +44 (0)1246 216016  
Fax. +44 (0)1246 563785  
[sales@fep.co.uk](mailto:sales@fep.co.uk)  
[service@fep.co.uk](mailto:service@fep.co.uk)  
[www.fep.co.uk](http://www.fep.co.uk)



300 Cannery Row • Monterey, CA 93940  
(831) 645-1525 • Fax (831) 375-2517  
[www.uwimaging.com](http://www.uwimaging.com)