SeaArc 5000 P/N 720-004-601
User Manual, Rev. 07/02/04

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GENERAL NOTES AND WARNINGS

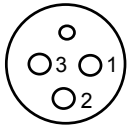
- Do not burn a SeaArc 5000 out of water for more than about 20 seconds.
- Do not operate any high voltage electrical equipment without using a Ground Fault Interrupt circuit for safety, especially when divers are in the water!
- Do not operate a lamp at higher than recommended voltage.
- Be sure that any fingerprints are cleaned off the lamp with Isopropyl alcohol before us. (Use reagent grade alcohol if possible, contaminated alcohol will damage the lamp – insure that all alcohol has evaporated before reassembling the lamp).

SEAARC 5000 PRE- AND POST-DEPLOYMENT CHECKLIST: Each SeaArc 5000 is shipped ready for immediate use. To ensure that the light will perform reliably, please observe the following maintenance guidelines:

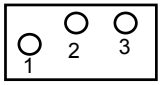
1. Rinse the light with fresh water after use in salt water.
2. Always check to make sure that the rear bulkhead connector assembly is secure before deployment.
3. Check for condensation inside the glass dome, especially after changing lamps. If any condensation is evident, unscrew the connector/socket assembly from the body and remove the lamp. Place the connector/socket assembly and lamp inside a warm oven (at least 100 C or 212 deg F) for at least 30 minutes to bake out any moisture that may present. If possible, purge with dry nitrogen while reassembling the light.
4. After each deployment, examine the power cable and rear connector for damage.

Warning: After each deployment, carefully check to make sure the light has not flooded. It is possible for the light to partially flood and then reseal itself while underwater. Upon surfacing, the light can become internally pressurized, which may be potentially dangerous. Additionally, if the power remains on when the light has partially flooded, it is possible for electrolytic generation of an explosive mixture of hydrogen and oxygen gases. **If a light appears flooded upon removal from the water, it should be treated as potentially dangerous. Point the light away from persons and valuable equipment and verify whether or not it is internally pressurized. Make sure that the power is disconnected as soon as a flooded condition is suspected.**

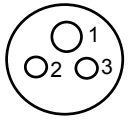
CONNECTOR OPTIONS: Four different industry standard underwater connectors can be used with the SeaArc 5000: BH3MP, LPBH3MP, XSG3BCL, and 1503. The standard connector pin-outs are illustrated below.



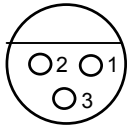
BH3MP
1 = Hot
2 = Neutral
3 = Ground to shell



LPBH3MP
1 = Hot
2 = Neutral
3 = Ground to shell



XSG3BCL
1 = Ground to shell
2 = Hot
3 = Neutral



1503
1 = Hot
2 = Neutral
3 = Ground to shell

ELECTRICAL AND THERMAL WARNINGS: A Ground Fault Interrupt should be used whenever high voltage lights are being utilized; when divers are in the water this is especially critical! **Do not operate AC-powered lights without a GFCI!** Additionally, all high voltage lights should be case grounded for safety. It is also important not to burn the SeaArc 5000 in air for more than 20 seconds, as it relies on the surrounding water to provide cooling. When an underwater light is burned in air, the resulting heat buildup can pose a fire hazard. If the light is operated for testing purposes in air, be sure to let it cool down for a couple of minutes before immersing it in water. It is also a good idea to turn the light off a few seconds prior to removing it from the water.

LAMP:

Model Number	Part Number	Volts	Watts	Hours	Color Temp	Lumens
SA5000-70	460-00134	120	70	12,000	4000K	6600

SEAARC 5000 SPECIFICATIONS

MECHANICAL

Housing Material:	aluminum or titanium
Diameter:	
Body	5.6 cm (2.22 inches)
Cowl	8.4 cm (3.03 inches)
Length:	39.4 cm (15.50 inches)
Lens:	Clear tempered borosilicate
Reflectors:	Proprietary design wide flood
Depth Rating:	1,000 meters (3,280 feet) of seawater
	3,000 meters (10,000 feet) of seawater
	6,000 meters (20,000 feet) of seawater
Air Weight:	Al-1.6kg (3.5 lbs) Ti-1.9 kg (4.2 lbs)
Water weight:	Al- 0.5kg (1.2ilbs) Ti-1.0 kg (2.2 lbs)

OPTICAL

Beam Pattern:	
Spot:	25 degrees
Wide flood	40 degrees

TROUBLESHOOTING:

PROBLEM	POSSIBLE CAUSE	RECOMMENDED ACTION
Light does not operate.	Not plugged in.	Secure all connections.
	GFI tripped.	Reset GCFI.
	Lamp burned out.	Change lamp.
	Cable defective.	Check continuity from one end to the other. Meg test if possible.
	Insufficient voltage	Make sure battery is fully charged. Verify power supply is adequate.
Light flooded.	Connector loose.	Tighten. If still leaking, replace.
	Damaged O-ring.	Replace as required.
	Glass cracked or chipped.	Return to DeepSea.

FLOODED LIGHT REPAIR

If the light is leaking, first suspect that there is a damaged O-ring, or that the glass envelope is cracked or has a chipped edge.

When looking for the source of a leak, first check if the rear connector is loose. If the connector is secure, check for a sliced or otherwise damaged O-ring; make sure the O-ring sealing surfaces are clean. If there is no apparently damaged O-ring, remove the glass dome and inspect the edge of the glass. If the edge is chipped, this is probably the source of the leak, and the dome should be replaced.

If a light is flooded and/or damaged, we recommend that the light be returned to DeepSea Power & Light for repair or replacement; DeepSea Power & Light cannot be responsible for any damage

incurred during emergency field repairs. Such repairs should be undertaken only as a last resort and by qualified personnel.

SEAARC 5000 EMERGENCY FIELD REPAIR PROCEDURE

Before any field replacement of a SeaArc 5000 component is initiated, the work area must be made as clean as possible. The surface used to work on should be dirt and lint free. Once a suitable work space has been established, use the following procedure:

1) Remove the plastic cowl, and die-cut retaining ring.
2) Once the cowl has been removed, the dome is readily accessed. Remove the existing dome from the SeaArc 5000 body.
3) Clean out any broken glass and debris from the body and cowl before installing the new dome. A very small piece of debris between the dome and body can cause the glass dome to crack when pressurized.
4) Inspect the O-ring under the dome. Check very closely for slices, tears, cracks, or rough spots. It is recommended to replace the O-ring with a new one, however the old O-ring may be reused if it is still in good condition.
5) Make sure the inside of the dome is clean before reassembling the cowl onto the body of the light.
6) With a fresh O-ring in place, carefully place the new dome into position on the front of the cowl.
7) When the dome is fully seated on the body, put the cowl and die-cut retaining ring in place and screw it onto the body.

LAMP CHANGING PROCEDURE: To change the lamp, first disconnect the cable by unscrewing the plastic locking sleeves and pulling the connector halves apart. Unscrew the socket/connector assembly from the light body and remove the old lamp by twisting counter-clockwise. When installing the new lamp, be sure not to get any fingerprints on the surface of the lamp. Use a piece of tissue or other clean paper to hold the lamp while installing it. Fingerprints can be cleaned from the surface of the lamp with isopropyl (rubbing) alcohol.

OPTIONS

Model Number	Part Number	Description
IL3FS	706-000-021	BH3MP mating connector with male locking sleeve on 18” (0.5m) whip
LPIL3FS	140-00094	LPBH3MP mating connector on 18” (0.5m) whip
RMG3FS	140-00112	XSG3BCL mating connector with female locking sleeve on 18” (0.5m) whip

Spare parts 1000 meter light

Model Number	Part Number	Description
SA5-LAMP	460-00134	70W HID lamp
SA5-HD	720-004-014-01	Alumium light head
SA5-WFL	710-030-102	Wide flood reflector
SA5-RSP	720-004-012	Reflector Spring
ML-GD	772-002-054	Glass dome
ML-DCR	710-04055	Die cut retaining ring
ML-CWL	710-04065	Ultem plastic cowl
SA5-BAL	720-004-007	70W potted ballast
SA5-BRKT	720-004-009	Mounting bracket

Spare parts 3000 and 6000 meter light

Model Number	Part Number	Description
SA5-LAMP	460-00134	70W HID lamp
SA5-HD3K	720-004-006-01	3K Aluminum light head
SA5-HD6K	720-004-006-02	6K Titanium light head
SA5-WFL	710-030-102	Wide flood reflector
SA5-RSP	720-004-012	Reflector Spring
ML-GD	772-002-054	Glass dome
ML-DCR	710-04055	Die cut retaining ring
DML-CWL	710-04103	Ultem plastic cowl
DML-SR	710-04106	Rubber sealing ring
DML-TS	710-04105	Titanium seat
DML-KW	710-04104	Kapton seat
SA5-BAL	720-004-007	70W potted ballast
SA5-BRKT	720-004-009	Mounting bracket