



DS51 TTL Strobe

Product Number 4044.1

Product Registration

Please register your product at ikelite.com within 15 days of purchase. Our product registration database is the best way for us to contact you in the event of a product update.

About this Product

Thank you for your purchase of Ikelite equipment. Please read this instruction manual completely before attempting to operate or dive with this product. Please visit ikelite.com to register your product to receive information on any updates or notices pertaining to your equipment.

Included in the Box

- DS51 strobe
- Diffuser # 0561.2
- Bulkhead cap # 9104.5
- 1" Ball Mount # 4081.4 (Strobes produced after October 1, 2016)
- Silicone lubricant 1cc tube # 0184.1
- 2 year manufacturer warranty

Specifications

- Weight0.6kg (1.3 lbs.) with batteries
- Energy Rating50 watt-sec.
- Coverage Angle70° (80° with diffuser)
- Widest Angle Lens28mm SLR
- Guide Number (ISO 100) feet56 surface, 28 underwater
- Guide Number (ISO 100) meters17 surface, 9 underwater
- Firing ModesTTL/Auto, Full, 5 fractional powers
- Color Temperature 5700°K
- Power Source4 AA-cell alkaline, NiCad, or NiMH

- Flashes200 full power
- Recycle Time.....3.5 seconds (full power)
- Depth Rating90m (300 feet)
- CE - Compliant with applicable EU directives
- Complies with FCC part 15, subpart B, Section 15.109 for Class “B” Products

Overview of DS51 Features

- Mode switch features TTL/auto and manual exposure settings.
- Battery compartment accommodates four AA batteries: alkaline, NiCad, or NiMH.
- Ready light indicates when strobe has recycled.
- Diffuser provides softer lighting, wider coverage angle and reduces strobe output by one f-stop.

Important Notices

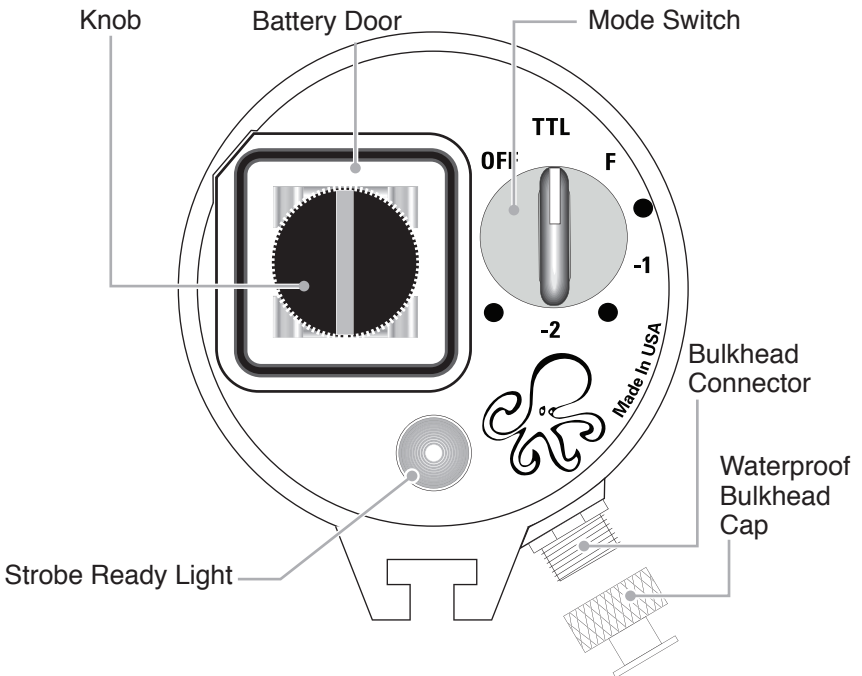
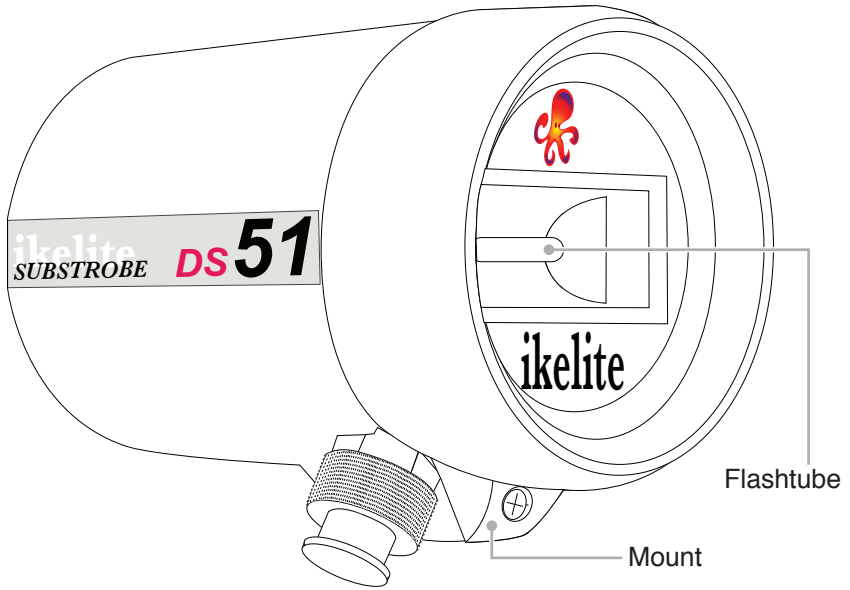
- » **To prevent salt build-up and sticking controls, submerge the strobe in clean, freshwater. Operate the knobs several times each while underwater to flush out any residue.**
- » **Do not use cleaning agents, spray lubricants, Rain-X, or other solvents on strobe. Use of an incompatible chemical compound can damage the plastic and o-rings, and may result in leaking.**
- » **The DS51 bulkhead connector is not waterproof and must be capped when not connected to a cord or sensor. Using a DS51 underwater with the bulkhead connector uncapped or unconnected will cause the strobe to flood.**
- » **The strobe is factory sealed; do not disassemble. Disassembly will void your Ikelite DS51 limited warranty.**
- » **Do not continuously fire the strobe more than 15 times above water in rapid succession. If this does happen, allow the strobe to cool down for at least 10 minutes.**
- » **Lithium-ion batteries are NOT recommended**

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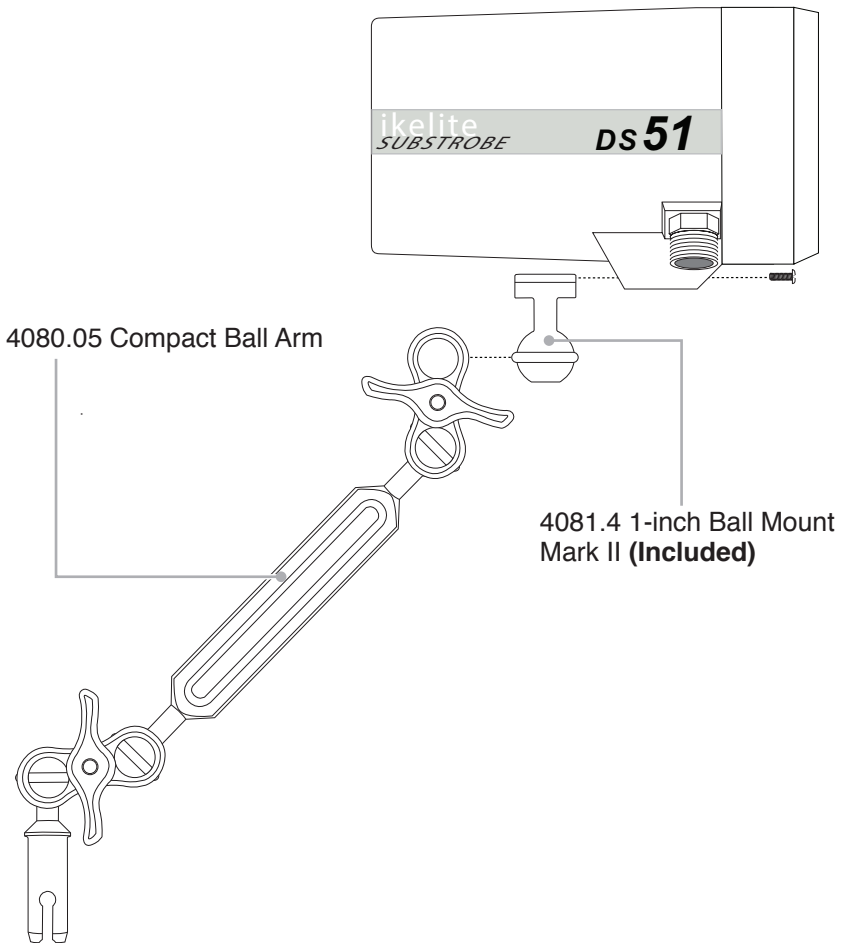
Getting to Know Your Strobe



Mounting the Strobe

Ikelite Arm/Mounting System

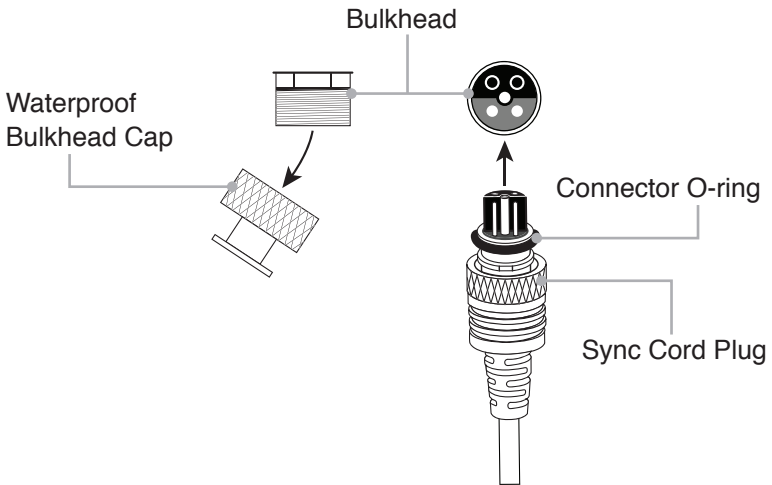
The DS51 will accept several Ikelite strobe arms and mounts on the underside of the strobe body. A 1-inch Ball Mount Mark II is included which will allow attachment to 1-inch diameter ball arms from Ikelite, TLC, Ultralight, Nauticam, and others. For further information, please visit ikelite.com.



Attaching a Sync Connector

» **A bulkhead cap or waterproof connector must be attached to the strobe for waterproof operation. Never submerge the strobe without either a bulkhead cap or compatible waterproof connector attached.**

1. Remove the bulkhead cap.
2. Lightly lubricate the connector O-ring. We recommend using only Ikelite silicone lubricant to eliminate the possibility of swelling due to incompatible compounds.
3. Line up the pins and receptacles and insert the Sync Cord Plug into the bulkhead. The plug should slide easily into the bulkhead. If you feel resistance, do not force it. Remove the plug and check alignment.



4. Rotate the knurled retaining ring until snug on the housing bulkhead. Do not use pliers or tools to tighten the retaining ring.

Battery Compartment

Opening the Compartment

Always turn the strobe to OFF before opening the battery door located at the back of the strobe. To access the battery compartment, rotate the knob counter-clockwise several times and gently pull the door off. Tilt the rear portion of the strobe down while removing the battery door to eliminate the possibility of water droplets falling into the battery compartment after a dive. Do not remove the knob from the battery door. The battery compartment is sealed separately from the main electronics. Do not disassemble the strobe. Disassembly will void your Ikelite limited warranty.

Opening the Compartment

Be aware of the position of the o-ring around the perimeter of the battery door. Keep the o-ring and sealing surfaces clean.

Lubricant is not necessary for proper sealing of the battery door o-ring. To extend its life, you can lightly lubricate the exposed part of the door's o-ring before storing.

Changing the Batteries

Install four AA-cell batteries: alkaline, NiCad, or NiMH. Refer to the “+” and “-” markings in the battery compartment to help properly install the batteries. If the batteries are installed incorrectly, it may damage the strobe's electronics. Always carry spare batteries; weak batteries cause many camera and strobe problems. It's time to replace the batteries when the ready light remains dark for 15 seconds or longer after a flash.

Note: It is possible to buy bad “new” batteries, so check the voltage output with a meter. Lithium-ion batteries are **not** recommended due to their effect on the strobe's recycle time and the batteries' thermal switch characteristics.

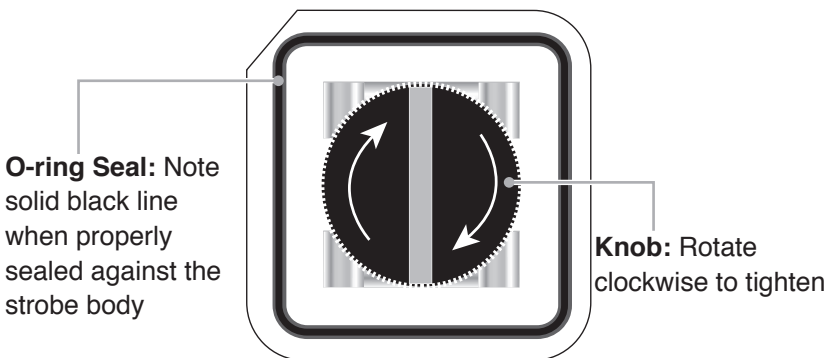
Battery Compartment - continued

Closing the Compartment

Check that the o-ring and sealing surfaces are clean. Make sure the o-ring is back in its original position and free of any debris.

Lubricating the o-ring will NOT result in a better “seal” to the strobe and is not necessary. Lubricant can be added before storage to help extend the life of the o-ring. The o-ring is seated in the battery door channel and does not need to be removed. Frequent removal of the o-ring can increase the risk of dirt or debris getting into the o-ring channel and causing a leak. If the o-ring needs to be removed, do not use a screwdriver or other sharp instrument that may damage the o-ring channel and result in a leak.

Replace the battery door. Make sure the door fits into the recess around the battery compartment. Rotate the knob clockwise several times and firmly hand-tighten to assure the proper o-ring seal; otherwise, the battery compartment may leak. **The o-ring seal is visible through the battery door. Visually confirm that there is a solid black line which indicates a seal all the way around the door.**



Compartment Flooding

The battery compartment is separate from the DS51 factory sealed electronics. Should the battery compartment flood, flush the compartment with fresh water and dry thoroughly. Determine the cause of the flooding to the best of your ability. Send the DS51 and other system components involved to Ikelite for inspection and testing as soon as possible.

Often, divers find themselves in remote locations for extended periods without access to multiple strobes. If the strobe with the flooded battery compartment is the only one available to you at the time and you're desperate to continue shooting, please follow these instructions for a temporary fix:

- 1.** Air out and thoroughly dry the battery compartment with air from a blow dryer or a SCUBA tank hose.
- 2.** Wash out the battery compartment with alcohol. Repeat Step 1.
- 3.** Replace all batteries after battery compartment flooding. Never re-use batteries that have been wet. The water could create an internal short circuit in the strobe at some later date, potentially causing an explosion.
- 4.** Reassemble with fresh batteries.
- 5.** After returning from your trip, send the DS51 and other system components to Ikelite for inspection and testing.

Strobe Ready Light

The Ikelite DS51 Strobe features a ready light at the rear of the strobe that glows red when the DS51 has recycled and is ready to fire its flash again. This recycling time should not exceed 15 seconds. If the glow disappears for longer than 15 seconds between flashes, it may be time for new batteries.

Ready Light with TTL Housing

When the DS51 is in TTL mode and connected to an Ikelite DSLR housing, the strobe ready light will glow green for approximately two seconds to indicate a correct exposure. If no green light appears, check the image for possible underexposure. When the strobe has recycled again, the ready light will again glow red indicating that the strobe is fully powered and ready to fire. If the strobe ready light does not glow red, the batteries may be expended.

Your camera's ready light "lightning bolt" in the camera viewfinder may blink while the DS51 is recycling and then glow solid when the DS51 is fully charged. Nikon DSLRs and older Canon DSLR models such as the 20D and Rebel XT will always display a solid glow "lightning bolt" regardless of the strobe cycle.

Ready Light with Remote Optical Slave Converter #4403

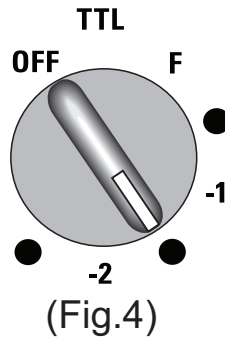
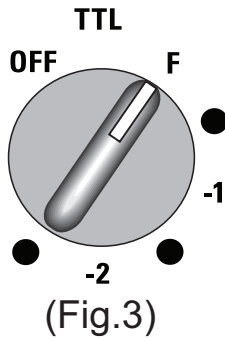
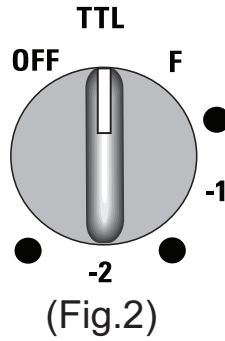
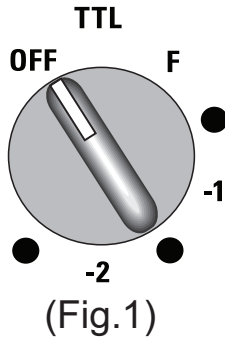
When using the DS51 strobe with the optional Optical Slave Converter, the strobe is not electronically connected to the camera. Therefore, the ready light in the viewfinder of the camera indicates when the on-camera flash has recycled. Examine both the camera and strobe ready lights to make sure both flashes have fully recycled before taking the next picture.

The Converter can be triggered off a camera flash or another strobe.

For more information about the Remote Optical Slave Converter #4403, go to ikelite.com.

Mode Switch

The DS51 Strobe mode switch has eight different positions: OFF, TTL/ auto exposure setting, and six manual exposure settings.



OFF position

(Fig.1) Shows the mode switch in the OFF position. The white indicator on the knob aligns with OFF. Always turn the strobe to OFF before connecting or disconnecting a sync cord or opening the battery compartment.

TTL/Auto Exposure Position

(Fig.2) Shows the mode switch in the TTL (Thru-the-Lens) / auto exposure position. From the OFF position, rotate the switch clockwise to access the TTL/auto exposure setting; the white indicator on the knob aligns with TTL. When taking pictures with the mode switch in this position, the camera automatically signals the strobe to turn off when the exposure is correct.

- When the DS51 is connected directly to the camera, the camera must feature compatible TTL/auto exposure to utilize this mode.

Manual Exposure Position

(Fig. 3) shows the mode switch in the manual exposure mode with the DS51 Strobe turned to the F (full power) position. Rotate the mode switch clockwise to access the different power settings. Each power setting clockwise from F reduces the light output of the DS51 Strobe in one-half f-stop increments. When shooting in the manual mode, it is suggested that you start the strobe at full power and adjust the camera's aperture based on the strobe-to-subject distance.

If the subject in the photo is underexposed (dark) you must move closer to the subject. If the subject is overexposed (light), then you can rotate the mode switch clockwise to reduce the light output of the strobe until the desired exposure is obtained. The DS51 provides five reductions in power in one-half f-stop increments from the full power setting. **(Fig.4)** for example, shows the mode switch set to -1 and 1/2 f-stops.

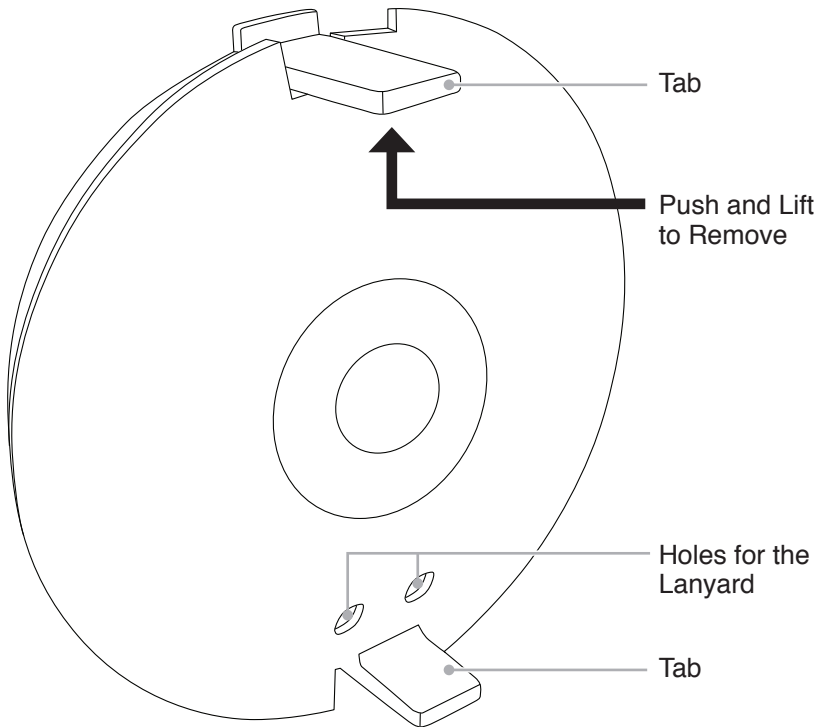
Do not use manual strobe settings with a camera that emits “pre-flash.” Leave the DS51 in the TTL position and adjust exposure using your camera settings or housing conversion circuitry (if applicable).

Strobe Diffuser

Using the Diffuser

The white diffuser can be secured to the front of the DS51 strobe when softer lighting or a coverage angle of up to 80° is desired. The diffuser reduces the DS51 light intensity by one full f-stop.

Diffuser Installation and Removal



1. The white diffuser features two protruding tabs for use in installation and removal. The tabs on the diffuser should be positioned away from the strobe.
2. Place the diffuser over the front of the strobe. Spread the two tabs apart, insert the diffuser into the recessed front, and then rotate the diffuser until it locks into position.

- 3.** To remove the diffuser, bend one tab out towards the edge while lifting simultaneously.

A lanyard or string can be attached to the diffuser by threading it through the two circular openings near its edge. Attach the other end to the strobe arm to prevent accidental loss.

Maintenance

Post-Dive

- 1.** Always re-check o-ring seal after removing the battery door from the strobe. Most importantly, make sure the o-ring is in place prior to re-attaching the battery door.
- 2.** Make sure the battery door is on and tightened down. Rinse your strobe in fresh water. Do not remove the sync cord prior to rinsing. Dry thoroughly.
- 3.** NEVER leave your system in a fresh water rinse tank. Collisions with other peoples' gear can cause scratches or damage to your equipment.
- 4.** Stow your system in a shaded place where it is protected from impact or overheating. If no shade is available, we recommend covering the system with a towel or cloth.

Cleaning, Travel and Storage

1. Always rinse the exterior of the DS51 with fresh water after use, especially after exposure to salt water. While rinsing, turn the mode switch to free salt or debris that might have accumulated in the DS51 recesses during the dive.
2. Dry the DS51 thoroughly with a clean, lint-free cloth.
3. Check the battery door o-ring and sealing surfaces for any debris and gently wipe it away with a soft, lint free cloth. Lightly lubricate the exposed part of the door's o-ring. Lubricant will help preserve the o-ring, but does not assist the o-ring seal.
4. Check the DS51 bulkhead connector threads for debris. Gently wipe away with a soft, lint free cloth or a cotton swab to clean the threads. Afterwards, lightly lubricate them.
5. Remove the batteries and store the DS51 with the battery door lightly screwed on (this will allow any hydrogen/air mixture to escape the battery compartment and avoid placing unnecessary pressure on the o-ring that could cause it to flatten).
6. Store in a cool, dry place.

In addition to these procedures, it is strongly recommended that this strobe be returned to Ikelite periodically for inspection and water pressure testing. Ideally your DS51 should undergo this process every two years or 100 dives, whichever comes first.

Troubleshooting

Photos are over-exposed (too light)

- Adjust strobe exposure setting.

- Adjust camera aperture (smaller), shutter speed (faster), or ISO (higher).
- Move strobe(s) further away from your subject.
- Adjust exposure compensation in the camera.

Photos are under-exposed (too dark)

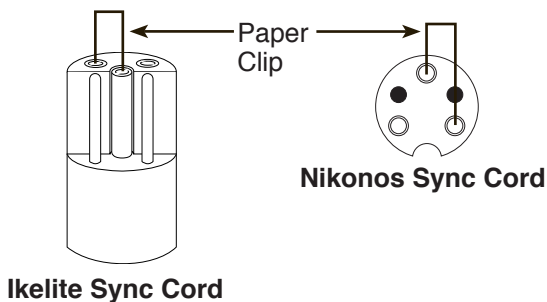
- Adjust strobe exposure setting.
- Adjust camera aperture (larger), shutter speed (slower), or ISO (lower).
- Move strobe(s) closer to your subject and check aiming.

Strobe will not fire

1. Turn on strobe.
2. Check the DS51 ready light. Turn the strobe's mode switch to OFF and then back to TTL. Make sure that the switch has actually clicked into position.
3. Check that the batteries are inserted according to the "+" and "-" markings. It is possible to buy bad "new" batteries, so check the voltage output with a meter if possible. If using NiCad or NiMH batteries, make sure the charger is operating properly and that the batteries are fully charged.
4. Check the mode switches and cord connections on the camera and strobe. Check that the fiber optic cord or sync cord properly is attached.

5. When using a sync cord between the camera and strobe, disconnect the cord from the camera but leave the cord connected to the strobe. Then use the two ends of a bent paper clip to connect different receptacles on the flash cord contacts, as detailed in the diagram below. This process, known also as “shorting,” creates a temporary circuit that can test-fire the strobe.

Caution: When creating a circuit via paper clip, or “shorting,” pay close attention to which two receptacles you connect. If you short across the wrong receptacles on a TTL sync cord, you may damage the DS51 electronics. The specific receptacles to connect with the paper clip vary based on the type of cord you own. Please refer to the diagram below.



Ikelite TTL Cord: Point the raised half-circle at the end of the cord encompassing the receptacles towards you, per the above diagram. Place one end of the paperclip on the center receptacle and one end on the lower right-hand receptacle. The DS51 should flash.

Nikonos TTL Cord: Point the indexing groove at the end of the cord towards you, per the above diagram. Place one end of the paper clip on the top-most, center receptacle and one end on the lower, right-hand receptacle. The DS51 should flash.

If the DS51 flashes, the source of the problem lies somewhere in the camera. If the DS51 does not flash, please send both the strobe and cord to Ikelite Service for evaluation.

Do not attempt to repair the strobe or cord yourself. This may cause further damage and void your Ikelite limited warranty.

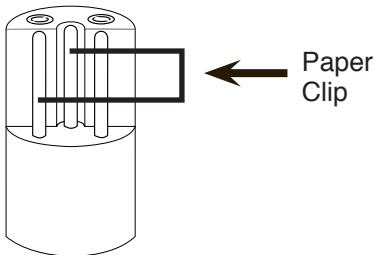
Strobe will not fire when using sync cord

- Make sure the strobe is turned on.
- Try a different sync cord.
- Restore camera to factory default settings and then re-configure according to the housing instructions.

Strobe will not fire when using an optical sensor

- Make sure the strobe is turned on.
- Test fire the strobe through the bulkhead. Use the two ends of a bent paper clip to connect different pins in the bulkhead contacts, as detailed in the diagram below. This process, known also as “shorting,” creates a temporary circuit that can test-fire the strobe. **Caution:** When creating a circuit via paper clip, or “shorting,” pay close attention to which two receptacles you connect. If you short across the wrong receptacles on a TTL sync cord, you may damage the DS51 electronics. If it does not fire through the bulkhead, then the strobe must be returned for repair.

Bulkhead Contacts



- Make sure the signal flash is firing.
- Make sure the strobe sensor is pointed directly towards the signal flash.

- Move the strobe sensor closer to the signal flash.

Ready light does not come on

- Charge or replace batteries.
- Make sure batteries are facing the correct direction when installed
- Make sure the strobe is turned on.

Backscatter or “snow” in images

- Position strobes or lights farther away from your lens and at a slight angle.
- Avoid using strobes in extremely turbid conditions.

Limited Warranty

This Ikelite product is warranted against any manufacturing defects for a period of one (1) year from the original date of purchase. Defective products should be returned to Ikelite postage paid. Ikelite will, at its sole discretion, repair or replace such products, and will return to customer postage paid. All other claims of any nature are not covered. Except as mentioned above, no other warranty expressed or implied applies to this Ikelite product.

Service and Repairs

Ikelite is most interested in performing any service to ensure that all products perform as intended. Evidence of purchase date must be provided to obtain warranty service. No prior authorization is required. You may return directly to us or through your dealer. Please include a brief description of the problem, any relevant email correspondence, and/or description of the service request. Always include name, shipping address, email address, and phone number inside of the package.

Send postage paid to:

Ikelite Underwater Systems
Attn: Service Department
50 West 33rd Street
Indianapolis, IN 46208 USA

For the separate international customs documentation form that you complete to accompany the shipment, please state or designate that the enclosed products were originally manufactured in the USA and are being returned to the manufacturer for repair service. Value of the equipment listed for customs purposes should be zero.

Contact Us

If you have any questions about your product or need advice on getting the images you want, please contact us and we'll do everything we can to help you capture your unique perspective.

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