



200DL Underwater Housing for Panasonic Lumix DC-G9, DC-G9L

Product Number 71307

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

- Underwater Housing with 200 ft (60m) Back
- Rear O-ring # 0132.61
- Front O-ring # 0132.45
- Base with Left-Hand Quick Release Handle # 4077.67
- Port Hole Cover # 0200.92
- Zoom Gear Retainer # 75900
- Tool for Zoom Gear Retainer # 0945.06
- Waterproof Bulkhead Cap # 9104.5
- Silicone Lubricant # 0184.2
- Control + Pushbutton Tip Assortment # 9249
- 1/16" Hex Key # 0945.16
- 1/8" Hex Key # 0945.18

Important Notices

- » **This housing requires a compatible Lens Port for waterproof operation. The housing is not waterproof without a Lens Port attached.**
- » **A bulkhead cap or sync cord must be attached to the housing for waterproof operation. Never submerge the housing without either a sync cord or waterproof bulkhead cap attached.**
- » **To prevent salt build-up and sticking controls, turn the camera off and submerge the sealed housing in clean, freshwater. Operate the controls several times each while underwater to flush out any residue.**
- » **Never leave a housing in a rinse tank, even if it is the only system in the tank. Most catastrophic floods happen when the user walks away from a housing while it is in the rinse tank.**
- » **Do not use alcohol, cleaning agents, spray lubricants, Rain-X, or other solvents on the housing or lens port. Use of an incompatible chemical compound can damage the plastic and o-rings, and may result in leaking.**
- » **DO NOT remove Vacuum Valve Plug unless you are plugging in a Vacuum Pump. DO NOT submerge the housing without the Vacuum Valve Plug installed. The housing will NOT be waterproof without the Vacuum Valve Plug installed.**
- » **This housing is only compatible with the Panasonic Lumix DC-G9 Mirrorless Camera as shipped by the manufacturer. Unless otherwise noted, this housing does not accommodate the use of add-on grips, battery grips, eyepieces, LCD covers, or other accessories.**

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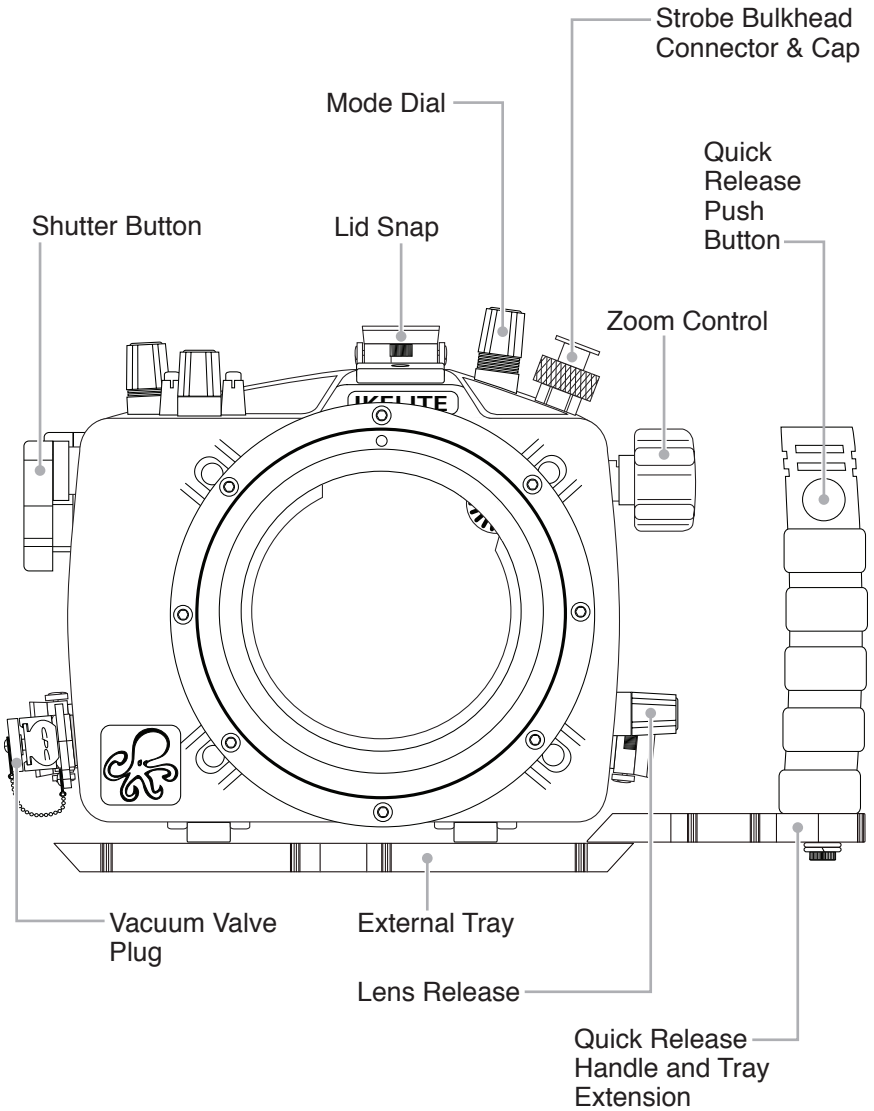
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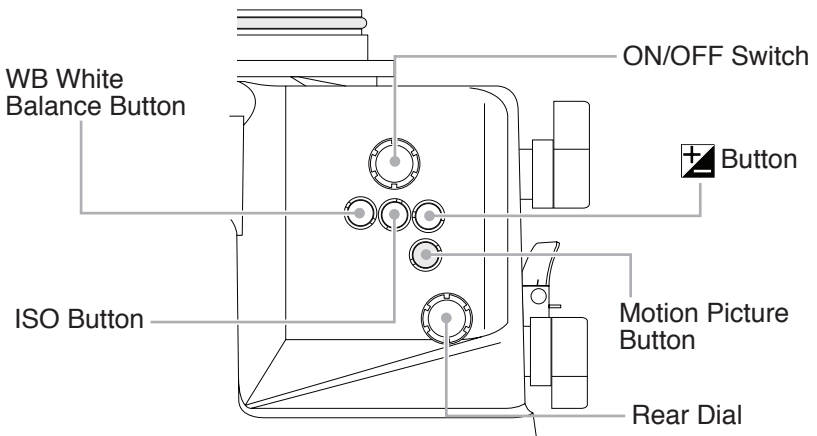
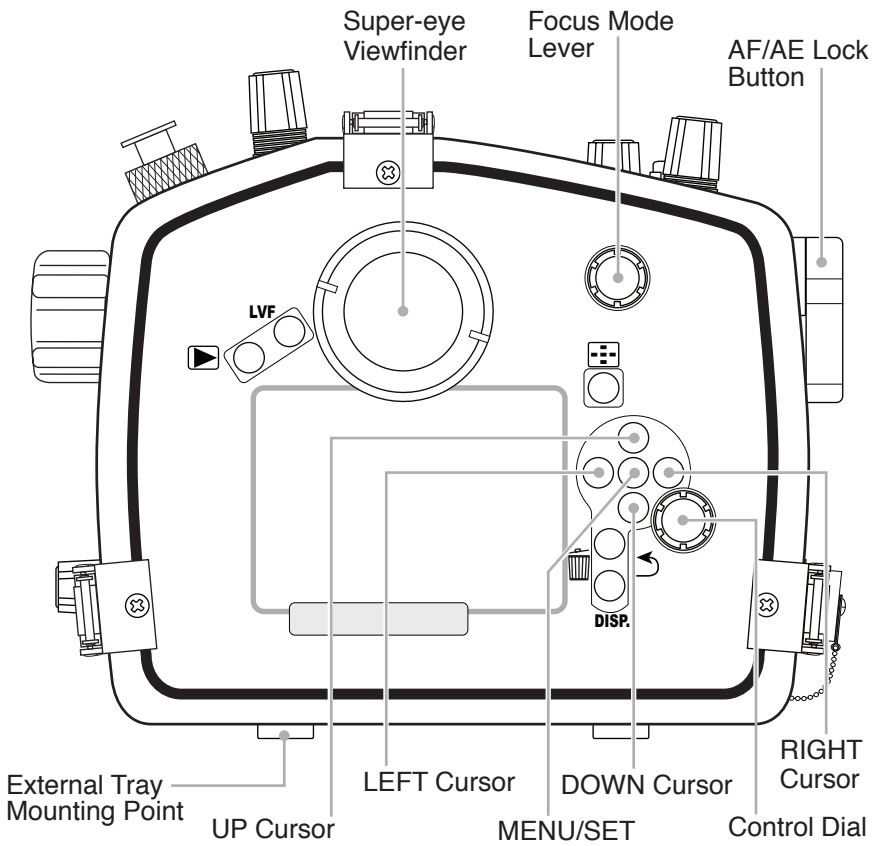
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Specifications

- 200' (60m) depth rating
- Controls are provided for all important camera functions. Controls are not provided for Drive mode dial, Diopter adjustment dial, Joystick, Front dial, F4 Function button, Preview button/F5 Function button, Function lever, V.MODE button.
- 1/4-20 thread base mounts with 3.5" spacing
- Near neutral buoyancy in fresh water
- Actual buoyancy varies depending on choice of lens and port
- Weight 4.8 lb (2.2 kg) not including tray + handles
- Dimensions 8.9 x 7.3 x 6.5" (226 x 185 x 165 mm) including projections

Getting to Know Your Housing

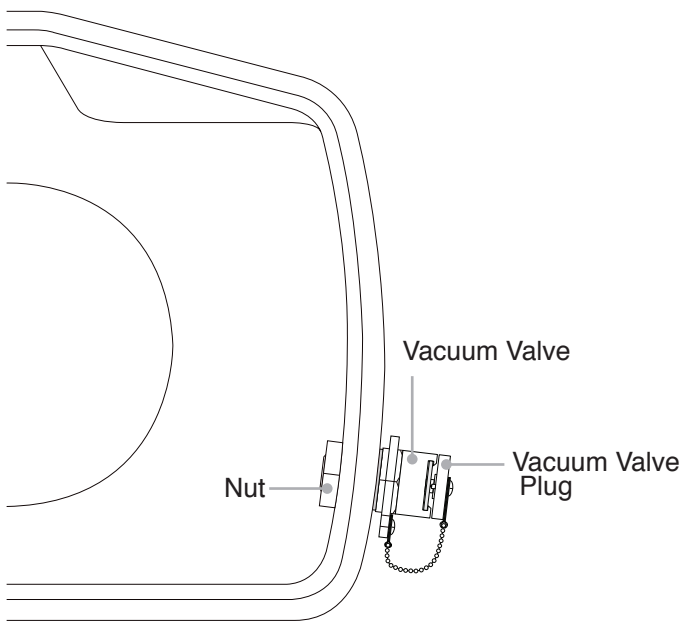




Vacuum Valve

Your housing features a Vacuum Valve to check watertightness before a dive. Use of the vacuum valve requires a pump, sold separately.

- » **DO NOT remove Vacuum Valve Plug unless you are plugging in a Vacuum Pump.**
- » **DO NOT submerge the housing without the vacuum valve plug installed. The housing will NOT be waterproof without the vacuum valve plug installed.**





Accessory Port

Your housing features one 1/2-20 threaded Accessory Port which may be used for attachment of factory optional or aftermarket housing accessories. Visit ikelite.com for an updated list of factory optional accessories.

»

Setting Up Your Camera

Pre-Installation Checklist and Initial Camera Settings

1. Insert a fully charged camera battery.
2. Insert a properly formatted memory card.
3. Press Mode Dial Lock Button to unlock Mode Dial. Set shooting Mode Dial to “A” aperture priority mode when a flash is connected to the housing. Set aperture to F8 for general photography or F22 for macro photography (close-ups). With the flash turned on and recognized by the camera, the default shutter speed will be 1/60th second.
If a faster shutter speed is required or no flash is used, set Mode Dial to “M.” Set shutter speed to 1/125th second for fast moving subjects. Adjust settings as needed for each shooting situation.
4. Set Metering to “Center-weighted” .
5. In Flash Menu, set Flash Mode to Forced Flash On  and Flash Synchro to “1st.”
6. Set Red-Eye Removal to “OFF.”
7. Set ISO Sensitivity to “200.”
8. Set Silent Mode to “OFF.”
9. Set Shutter Type to “MSHTR.” A connected flash may not fire if this setting is incorrect.
10. Set Eye Sensor to LVF/Monitor Switch “MON.”
11. In Operation Menu Touch Settings, set Touch Screen to “OFF.”
12. Set Auto Review to “5SEC.”
13. Set AF Assist Lamp to “OFF.”
14. Set Focus/Release Priority to AFS/AFF FOCUS.

15. In Touch Settings, set Touch Screen to “OFF.”

Manual Flash can be set on the camera if desired: M,S or A mode must be used to ensure that the flash will fire the red-eye reduction preflashes every time. When red-eye reduction mode is selected and the shutter release is pressed, 2 short bursts will be fired by the flash with a noticeable delay (about 1/3 of a second) before the main flash is fired. After that, you are now in manual flash mode and the lightning bolt flash ready indicator will disappear from the monitor, and there will be no more preflashes.

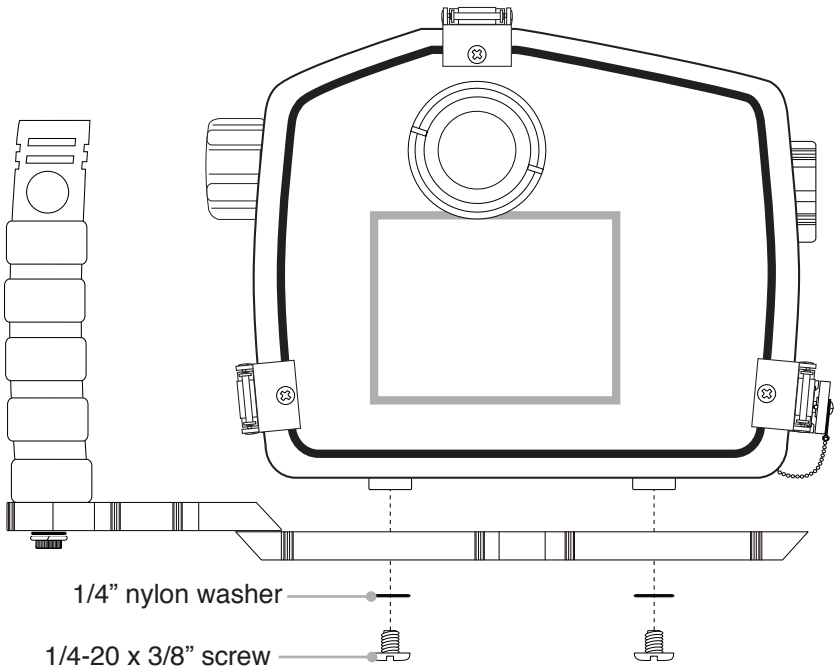
To go back to TTL mode, power the strobe off and then on again. Then, disable red-eye reduction and set to Forced Flash ON.

AF-ON Function: Instead of half-pressing the shutter button to focus, you can assign the AF-ON function to the AE-L/AF-L button in the camera’s menu system to obtain and hold focus. The AE-L/AF-L button is conveniently accessed by a thumb actuated lever on the side of the housing.

Setting Up Your Housing

Attaching the Base with Quick Release Handle

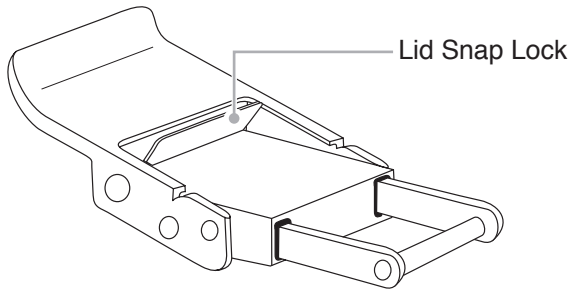
Using a flat head screwdriver, attach the Tray and Handle to your housing with the two 1/4" nylon washers and 1/4-20 x 3/8" screws.



Opening the Housing

1. Push lid snap lock toward back of housing and lift the curved end away from the housing.

2. Lid snaps are designed to provide enough force to compress the o-ring for a proper seal. Keep firm pressure against the lid snap while lifting it away.

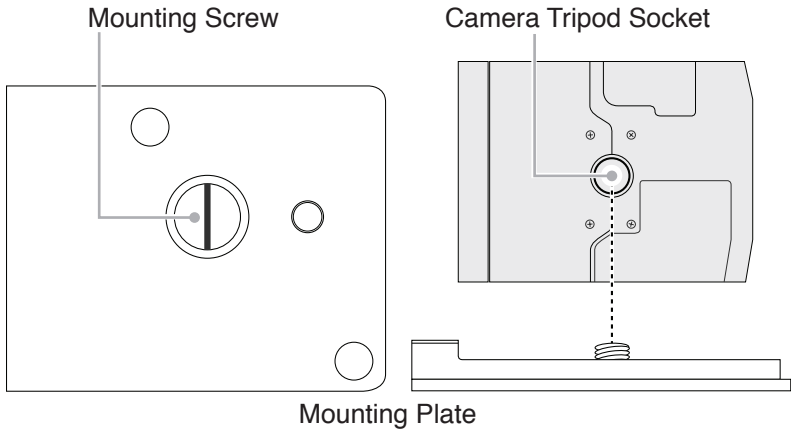


3. Repeat with remaining lid snaps.
4. Remove the housing back.

Inserting the Camera

1. Remove housing body cap.
2. Remove any lanyard or neck strap which may be attached to the camera.
3. Remove the camera Mounting Plate from the housing Mounting Base.
4. Check to see whether the camera's lens will fit through the port opening of the housing. If not, the lens will need to be removed from the camera body and re-attached AFTER the camera body is installed in the housing.

5. Line the Mounting Screw up with the Camera Tripod Socket. Use a coin or flat head screwdriver to tighten the mounting plate to the camera.



6. Pull out on the housing control knobs to move them out of the way.
7. Reinsert the mounting plate into the pocket on the inside bottom of the housing. Push the camera all the way forward into the mounting base pocket.

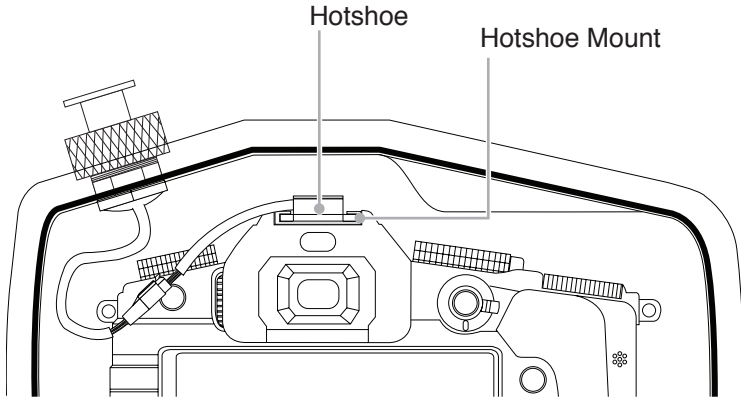
Attaching the Hotshoe

Your Ikelite housing features a factory installed Hotshoe connector which allows manual flash with Ikelite and non-Ikelite strobes which feature an electrical bulkhead connection for a sync cord.

The standard Hotshoe provides manual flash exposure, meaning you must set the power level of your external strobe manually. An “optional” TTL conversion circuit is available; see page 21.

1. Orient the Hotshoe with the arrow on top pointing towards the front of the camera.
2. Slide Hotshoe into camera Hotshoe Mount until it stops.

- » **Hotshoe must be all the way forward in the camera mount to ensure a good electrical connection.**

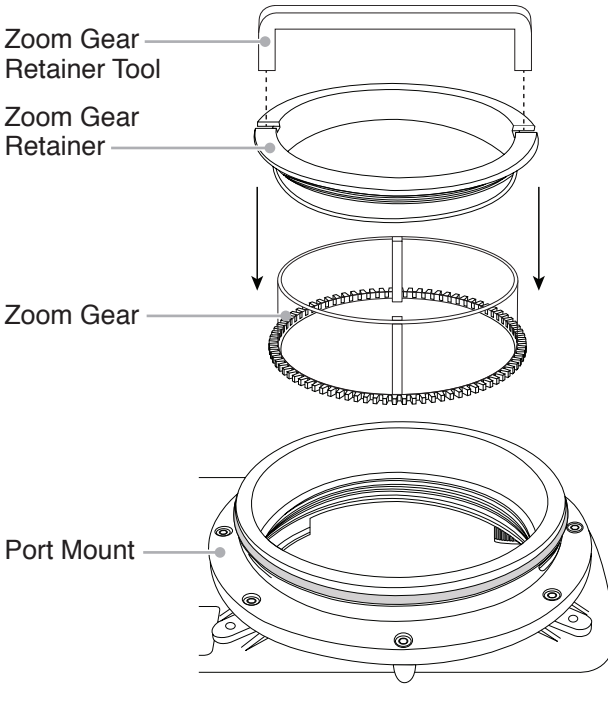


Closing the Housing

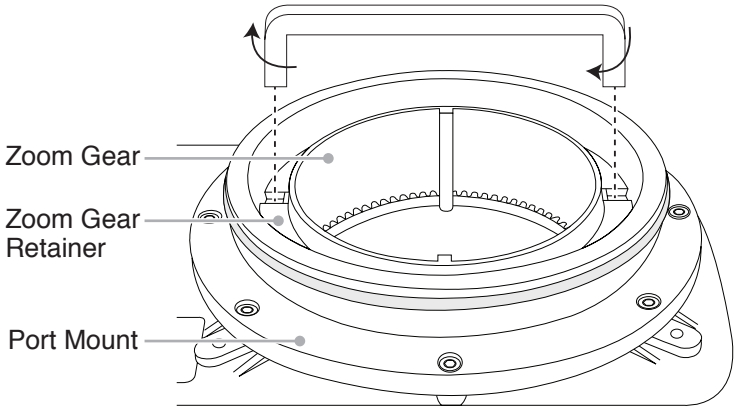
1. Make sure the o-ring is clean and in its proper location on the back of the housing. The main housing o-ring does not require lubricant to make a seal.
2. Place the back onto the housing front.
3. Make sure no controls or wires are interfering with the o-ring or the back of the housing.
4. Place each lid snap into the corresponding hook on the housing back.
5. Push the lid snaps toward the housing until they are flat against the housing and the lock has engaged. Close opposing lid snaps at the same time.
6. Check the o-ring seal. The o-ring should form a uniform, solid line around the back of the housing. There will be a small, even gap around the housing between the housing back and the housing front.
7. Check control functions.

Installing an Optional Zoom Gear (not included with housing)

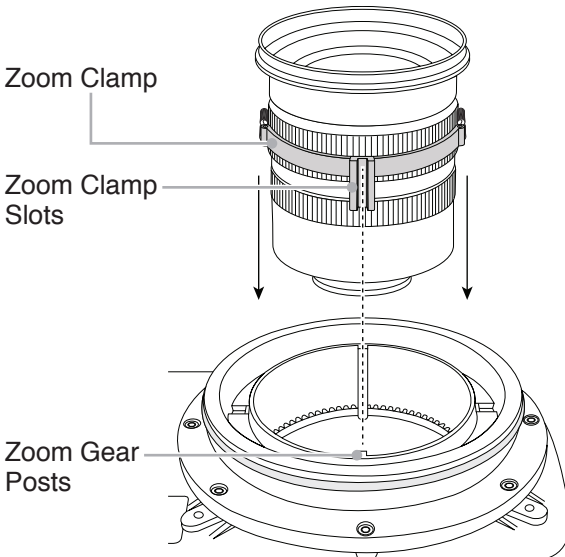
1. Lay housing on its back and remove camera lens by rotating the housing lens release control, see diagram, **page 6**.
2. Remove the Zoom Gear Retainer using the Zoom Gear Retainer Tool.
3. Place Zoom Gear into the Port Mount hole opening with the gear teeth facing the housing.



- 4.** Replace and tighten the Zoom Gear Retainer using the Zoom Gear Retainer Tool. Tighten clockwise so Retainer is snug. **DO NOT** overtighten.

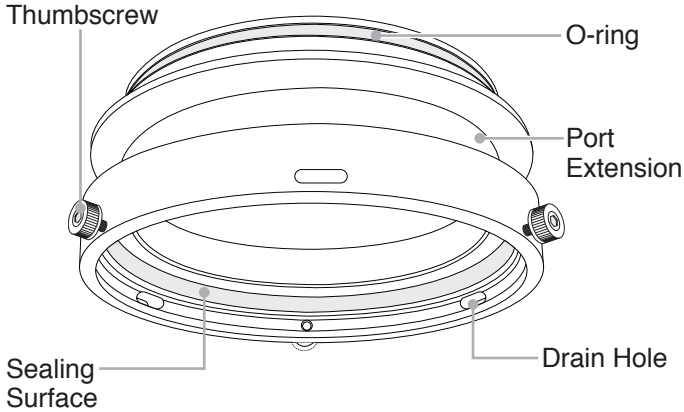


- 5.** Attach Zoom Clamp to Lens Zoom Ring. If necessary, add foam rubber strips to inside area of clamp so it properly connects to the Zoom Gear.
- 6.** Line up Zoom Clamp Slots with Zoom Gear Posts and slide lens into the housing opening.
- 7.** Bayonet lens into camera and test zoom function.

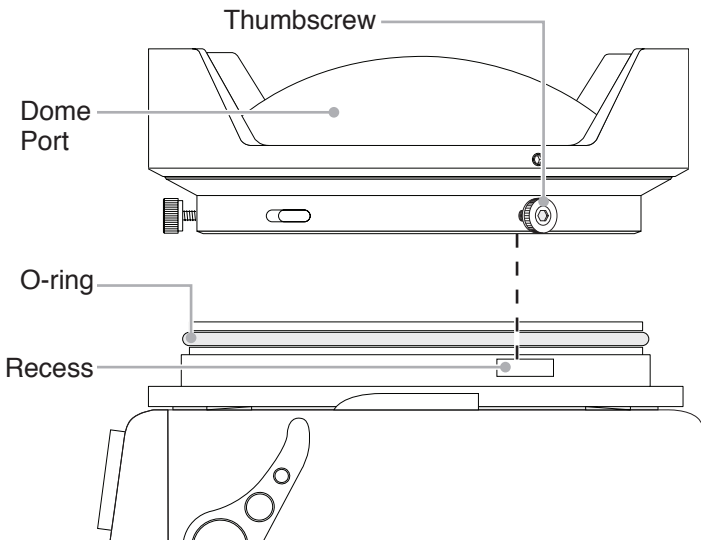


Attaching the Lens Port or Port Extension

1. Loosen each of the three Thumbscrews so at least 5 threads are visible. The Thumbscrew should not protrude into the inside of the port or extension.



2. Make sure the O-ring and Sealing Surface are clean and free of lint, dirt, or debris.
3. Lightly lubricate O-ring using ONLY Ikelite lubricant. Non-Ikelite lubricant can cause the o-ring to swell and not seal properly.



4. Line up Thumbscrews with Recesses and firmly press the Port or Extension onto the housing Port Mount.
5. Once Port or Extension is flush with the base of the Port Mount, tighten Thumbscrews until they are flush against the Port Body. DO NOT overtighten. If an Extension has been attached to the Port Mount, attach the Port to the Extension in the same manner.
6. Submerge the completely assembled housing in a bathtub or clean camera rinse tank and visually confirm there are no signs of water intrusion. If water does appear to be entering the housing, point the port downward and remove the housing from the water.

Final Check

1. Re-check the back o-ring seal. The seal should form an even, solid line around the back of the housing.
2. Turn on the camera and check all control functions.
3. Make sure that the camera can obtain focus and take a photo. This will not be possible when using a +4 diopter (close-up lens) until you are underwater.
Adding a +4 diopter to the end of your lens is not normally necessary unless your lens has a minimum focusing distance of 12" or LONGER and you are using a dome port. Go to ikelite.com for additional information about +4 diopter use.
4. Check battery life and available storage space on your memory card.
5. Submerge the housing in a fresh water tank dedicated to underwater photography equipment. Visually confirm that there are no signs of water intrusion. One sign of water intrusion is a steady stream of bubbles coming from one of the housing seals.

Entering the Water

1. Before entering the water, turn the camera on and operate each of the housing controls to get a feel for using the camera in the housing.
2. If possible, we recommend entering the water without your housing to ensure you are comfortable and your life saving equipment is in working order. Once you are stable, have someone pass your camera housing to you.
3. Submerge the housing at the surface of the water and visually confirm that there are no signs of water intrusion or a steady stream of bubbles coming from one of the housing seals. If water does appear to be entering the housing, point the lens port downward and return the housing to the surface as quickly as possible. Please observe all necessary safety precautions. NEVER ascend faster than accepted safety limits.
4. Use your hand to gently flush away any small bubbles that may be on the face of the lens port. Bubbles will produce soft focus spots in your photo or video.

Shooting Under Water

- » **It is important to respect all living creatures underwater, including people, marine life, and coral. While we encourage people to get close to their subjects when taking a photograph, we recommend they not touch, lie on, or in any way disturb the things they find underwater.**
1. Get as close as possible to your subject. For the best results, only photograph subjects that are less than 6' (1.8m) away.
 2. Be careful not to stir up sandy or silty environments.
 3. Photograph subjects straight on or up at a slight angle.

4. If you error in exposure, it is better to have the image slightly underexposed rather than overexposed. An overexposed image is missing color information which cannot be adjusted in a photo processing program. A slightly underexposed image has color information that can be adjusted.

Setting Up An External Strobe

We recommend attaching an external strobe for the optimal color and clarity in a wide variety of photographic situations, including daylight photography. This housing provides a direct electrical connection to the camera's external flash hotshoe. An external strobe may be triggered via electrical sync cord. Fiber optic only strobes are not compatible with this installation.

About Sync Cords

Attaching a strobe via electrical sync cord provides faster strobe recycle times as compared to a fiber optic connection, and prolongs camera battery life.

Strobes from IKELITE, SEA&SEA, INON, and Nikonos must be used in manual power modes when connected via electrical sync cord.

- » **To connect two strobes to the camera, you must use a dual sync cord.**
- » **Slave strobes may be triggered optically off of a primary strobe connected by sync cord.**

TTL Strobe Exposure

Automatic TTL exposure is available with compatible Ikelite DS strobes and optional TTL conversion circuitry. When a compatible Ikelite DS-series strobe is attached via sync cord with the optional TTL circuitry, the strobe communicates directly with the camera to trigger the strobe and adjust its power for perfect exposure. For TTL exposure you will need:

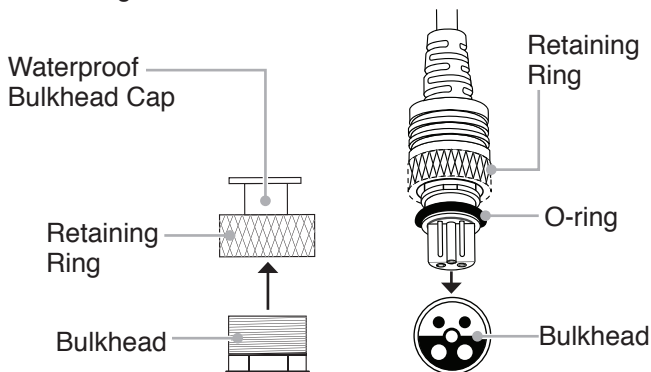
- PT1K Panasonic TTL Kit # 46031
 - Sync Cord # 4103.51 (single) or 4103.52 (dual)
 - Compatible Ikelite DS strobe(s)
- » **SEA&SEA, INON, Nikonos, and Ikelite non-DS strobes are not capable of powering or interacting with the Panasonic TTL Converter. These strobes may be attached via sync cord and used in manual strobe power settings.**

Attaching a Sync Cord

» **A bulkhead cap or sync cord must be attached to the housing for waterproof operation. Never submerge the housing without either a sync cord or waterproof bulkhead cap attached.**

1. Remove the bulkhead cap.
2. Lightly lubricate the sync cord o-rings. 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 housing bulkhead.



4. Rotate the knurled retaining ring until snug on the housing bulkhead. Do not use pliers or tools to tighten the retaining ring.
5. Attach the other end of the sync cord to the bulkhead on your strobe.
6. If using an Ikelite strobe, set the strobe to TTL. If using a non-Ikelite strobe, set the strobe to manual flash and select a manual power setting.
7. Turn on the strobe(s).
8. Turn on the camera.
9. Take a test photo to ensure that your strobe(s) are functioning properly.

Remote Triggering

Strobes with remote slave capabilities may be triggered off of a flash attached to the housing by electrical sync cord. Ikelite DS strobes support remote triggering using the Optical Slave Converter Product number 4403 or the Water Wizard system (manufactured and sold by Aquatica).

Constant-On Video Lighting

A bright constant-on video light can be used instead of or in addition to a flash. A constant-on light is not as bright as a strobe flash.

Constant-on lights do provide added versatility because they can be used for focus assist and for improved colors when shooting video.

Maintenance

Post-Dive

1. Rinse the housing in fresh water. Rotate the housing controls and press each button while submerged in fresh water to flush out any salt or debris to ensure smooth operation on future dives.
2. NEVER leave your housing in a fresh water rinse tank, even if it is the only system in the tank. Collisions with another person's gear can cause scratches or damage to your equipment. Accidental floods occur most often in the rinse tank.
3. Store the housing in a shaded place where it is protected from impact or overheating. If no shade is available, we recommend covering the housing with a towel or cloth.
4. Check the memory card capacity and battery life of your camera and strobe(s). Recharge as necessary.
5. Always re-check o-ring seals after opening the housing or removing the lens port.

Lens Port

Treat the surface of the lens port like a camera lens. After use, rinse and gently dry the outside lens port to avoid water spotting. To clean, use a mild soap solution or lens cleaner.

- » **Do not rinse the inside of the Port.**
- » **Never use alcohol or window cleaner on the Lens Port.**

Storage

Your Ikelite Digital Housing should be given the same care and attention as your other photographic equipment. In addition to normal maintenance, we recommend that the housing be returned to Ikelite periodically to be checked and pressure tested.

1. Clean the housing and controls thoroughly prior to storage.
 2. Remove the back and port o-rings. Lightly lubricate each o-ring until it appears shiny. Place in a small re-sealable plastic bag inside of the housing.
 3. Leave the lid snaps open to release pressure on the lid snap springs.
 4. Disassemble and thoroughly rinse the Base with Quick Release Handle(s) prior to storage.
 5. Store the housing in a cool, dry place away from direct sunlight and chemicals.
 6. Before using the housing, check the tightness of the set screw in each control knob. Check each control gland to make sure they are snug. There is a slight chance that either could vibrate loose during travel.
- » **Do not leave the camera and housing in direct sunlight for prolonged periods. Heat may damage the camera.**
 - » **Do not ship the camera in the housing.**

Lubricant

- » **Use ONLY Ikelite silicone lubricant. Other types of lubricant may cause swelling of o-rings or cracking of plastic components.**

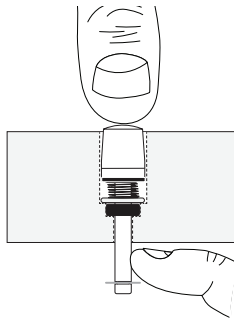
- » **Lubricant is not a sealant; it is used to reduce friction. Excessive lubricant can collect sand, hair or debris which may interfere with proper sealing.**
- » **Never use spray lubricants as the propellant ingredient can cause the plastic housing to crack or o-rings to swell.**

Push Buttons

To prevent build-up of salt, sand, or debris, the push buttons should be flushed with fresh, clean water after every use. Depress each push button while the housing is submerged in fresh water to eliminate any trapped saltwater.

Periodic lubrication of push buttons will assist in smooth operation. To lubricate each push button, follow these steps:

1. Press and hold the push button all the way in.
2. Use your finger or other small non-metal object to place a small amount of lubricant at the base of the push button shaft inside the housing.



3. Press and release the push button several times to work the lubricant into the o-ring.
4. If a push button control becomes difficult to push or if it sticks when depressed, soak the housing in warm, soapy fresh water. After a few minutes, operate the push button. If this does not correct the problem, return the housing to Ikelite for maintenance.

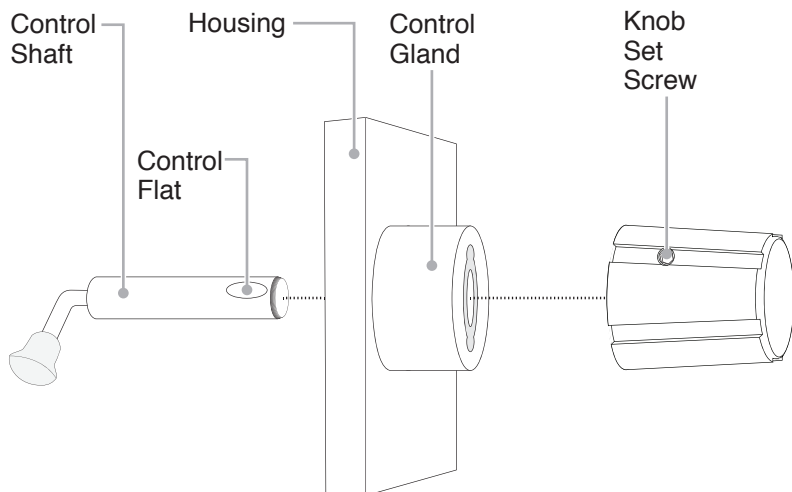
- » **If it is necessary to remove a housing push button, never re-use the e-clip. Push button o-ring kits include replacement e-clips.**
- » **Push buttons look similar but vary in length. Remove and re-install one push button at a time**

Control Shafts

In the unlikely event one of the control shafts sticks or becomes difficult to operate, you may remove the control from the housing and lubricate it, or return the housing to Ikelite for maintenance.

- 1.** Loosen the knob set screw using a hex key.
- 2.** Open the housing and gently slide the control shaft out of the control gland.
- 3.** If there is salt or dirt build-up on the exposed control shaft, clean the shaft.
- 4.** Clean and lightly lubricate the shaft, including the large outer end of the shaft.

5. Gently re-install the shaft from the inside of the housing. If there is a spring associated with the control, make sure it is in its proper position.



6. Rotate the control shaft gently for smooth installation into the gland. Push the control shaft all of the way through until the flat of the shaft is visible on the outside of the housing.
 7. Align the knob set screw with the control flat.
 8. Tighten the set screw firmly against the flat of the control shaft using a hex key.
 9. Check that the set screw is oriented properly by holding the control shaft in place on the inside of the housing while attempting to rotate the control knob on the outside of the housing. If there is rotation, loosen the set screw and realign with control flat; retighten and recheck.
- » **We do not recommend removing the control gland from the housing.**
 - » **Always take the housing under water without a camera after removing and re-installing controls.**
 - » **Remove and re-install one control at a time.**

- » **If your housing has a shutter spring, DO NOT rotate the shutter control more than 1/16th of a full rotation, otherwise, you may accidentally bend the shutter spring or cause the spring to “pop off” the control shaft.**

Troubleshooting

Water enters the housing

- Re-clean and re-install the back and port o-rings.
- Take the housing underwater without a camera installed to ensure that the leaking has been corrected.

Photos are over-exposed (too light)

- Adjust aperture (smaller), shutter speed (faster), or ISO (lower) setting.
- Move light(s) farther away from your subject.
- Adjust exposure compensation in the camera.
- Adjust lighting power.

Photos are under-exposed (too dark)

- Adjust aperture (larger), shutter speed (slower), or ISO (higher) setting.
- Move light(s) closer to your subject.
- Adjust exposure compensation in the camera.
- Adjust lighting power.

Strobe (flash) will not fire

- Turn on strobe.

- Make sure that the camera menu is set properly to fire an external flash.
- Check that the sync cord is properly attached.
- Check that the hotshoe is pushed all of the way forward.
- Set Shutter Type to “MSHTR.” Strobe may not fire if this setting is incorrect.

Buttons are stuck

- Soak the housing in lukewarm fresh water. Depress each button several times while the housing is submerged.
- Apply lubricant to the button. Press the button several times to distribute the lubricant.

Button(s) or control(s) do not line up

- Tighten the camera mounting plate with a coin or screwdriver.
- Ensure that nothing is preventing the camera from going into the housing.
- Push the camera mounting plate all the way forward into the mounting base pocket.
- Make sure a camera control is not pushing against the camera body.

Camera is not functioning normally underwater

- Ensure that the camera mounting plate is pushed all of the way into the mounting base pocket.
- Check each housing control while underwater to ensure that they are disengaged. An inadvertently engaged control may limit functioning of the camera.

Backscatter or “snow” in images

- Reposition strobe(s) or light(s) to light up the subject only and NOT the water in-between the camera and subject.
- Avoid using strobes in extremely low visibility conditions.

Spare Parts

- Main O-ring # 0132.61
 - Port O-ring # 0132.45
 - Waterproof Bulkhead Cap # 9104.5
 - Silicone Lubricant # 0184.2
 - Port Thumbscrews (set of 3) # 9249.7
 - Shutter Lever Extension # 4077.93
 - Control & Push button Tip Assortment # 9249
 - Push button O-ring Kit # 6201.03
 - PT1K Panasonic TTL Kit # 46031
- Go to **ikelite.com** for additional information.

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
Attention: Service Department
50 West 33rd Street
Indianapolis, IN 46208 USA
+1 (317) 923-4523
service@ikelite.com

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 get in touch with us and we'll do everything we can to help you capture your unique perspective.

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