



## **Underwater TTL Housing for Panasonic Lumix LX100, Leica D-Lux (Typ 109)**

Product Number 6171.11

### **Product Registration**

Please register your product at [ikelite.com](http://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](http://ikelite.com) to register your product to receive information on any updates, notices, or recalls pertaining to your equipment.

## Included in the Box

- Housing
- O-ring # 0110
- Waterproof bulkhead cap # 9104.5
- Vinyl port cover # 0200.08
- Gear ring # 9299.11
- Control + push button tip assortment # 9249.3
- 1/8" hex key # 0945.18
- Silicone lubricant # 0184.1

## Important Notices

- » **To prevent salt build-up and sticking controls, submerge the empty 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.**

## Accessory Port

- » **Do not remove the Accessory Port Plug unless you are installing a compatible accessory.**

Your housing features one spare Accessory Port which may be used for attachment of factory optional or aftermarket housing accessories. The Accessory Port is 1/2-20 threaded.

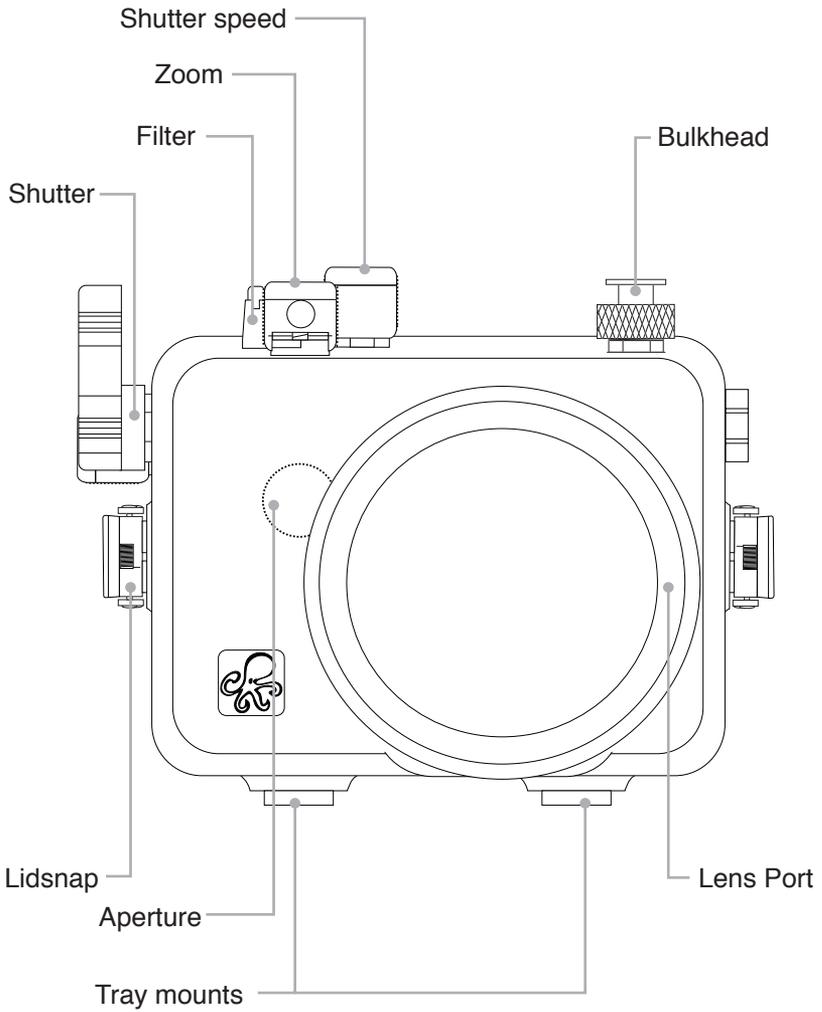
Visit [ikelite.com](http://ikelite.com) for information on optional accessories.

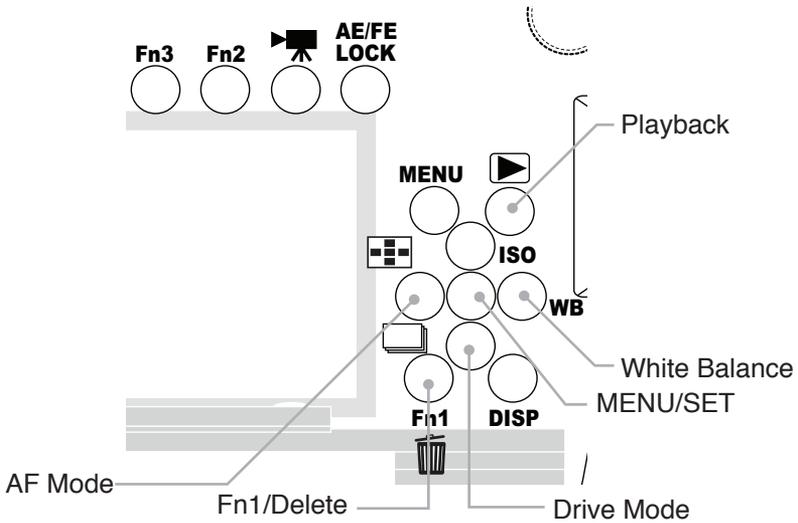
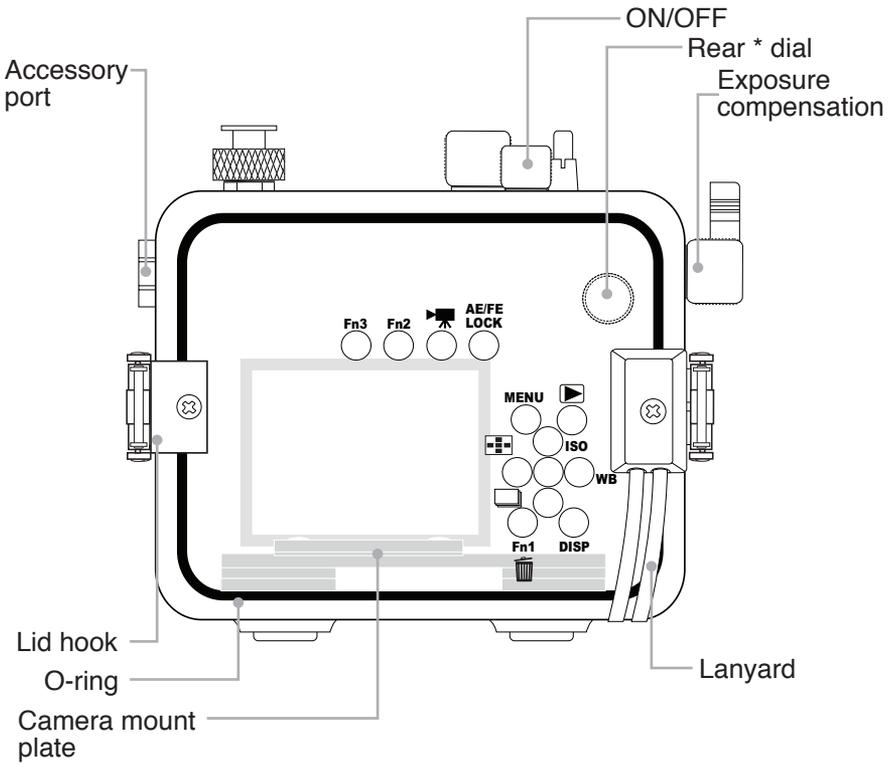
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# Getting to Know Your Housing





# Setting Up Your Camera

## Pre-Installation Checklist

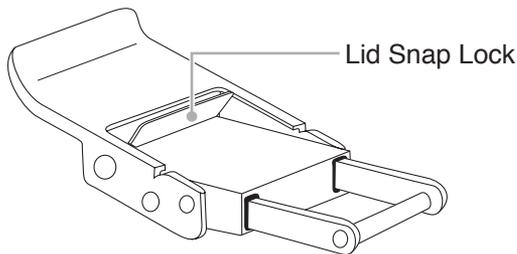
1. Insert a fully charged camera battery.
2. Insert a properly formatted memory card.
3. In the REC menu, set Red-Eye Removal to OFF.
4. In the C menu, set Shutter AF to ON.
5. In the C menu, set Half Press Release to OFF.
6. In the C menu, set Quick AF to ON.
7. In the C menu, set Eye Sensor AF to OFF.
8. In the C menu, set AF Assist Lamp to OFF.
9. In the C menu, set Focus/Release Priority to FOCUS.

# Setting Up Your Housing

## Opening the Housing

1. Push the lid snap lock forward and start to lift the curved end away from the housing.

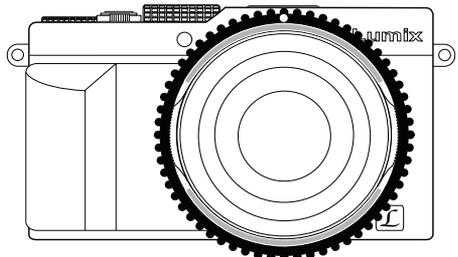
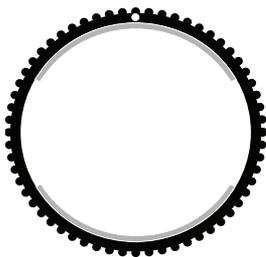
2. Lid snaps are designed to provide enough force to compress the o-ring for a proper seal. Keep firm pressure against the lid snap while lifting it away.



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

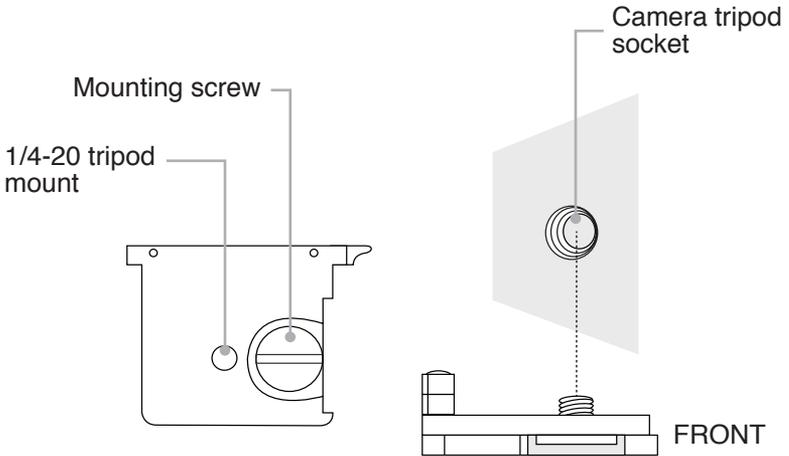
## Inserting the Camera

1. Remove any lanyard or neck strap which may be attached to the camera.
2. Orient the Gear Ring with the foam strips on top and bottom and the white dot at the top center. Attach the Gear Ring to the camera by gently pressing it onto the camera's Aperture Ring. The front of the Gear Ring should be flush with the front of the Aperture Ring.



3. Remove the Camera Mounting Plate from the housing.

4. Line up the mounting screw with the camera's tripod socket. Use a flat head screwdriver to tighten the mounting plate to the camera.



5. Pull out on the housing's ON/OFF, Shutter Speed, and Exposure Compensation knobs to move them out of the way.
  6. Insert the Mounting Plate into the corresponding slot on the inside bottom of the housing. Rotate the front aperture knob slightly to assist Gear Ring engagement with housing gear. Slowly push the camera all of the way forward until the back of the Mounting Plate is flush with the back of the housing mount.
  7. Check the Gear Ring. If it has slipped backwards slightly, gently push the top forward to engage with the gearing in the front of the housing.
  8. Orient the On/OFF control so that the legs of the "U" are on either side of the camera lever.
- » **The camera's Aperture Ring does not rotate 360°. Do not force the control to rotate past its natural stop. Forced over-rotation may damage the housing's gearing.**

## Attaching the Hotshoe

1. Make sure the contacts are clean.
2. Slide the hotshoe onto the camera with the “Front” arrow pointing towards the front of the camera.
3. Push the hotshoe forward until it is unable to go any farther. The hotshoe must be pushed all of the way forward to make proper contact with the camera and provide TTL operation.

## Closing the Housing

1. Make sure the o-ring is clean and in its proper location on the back of the housing. The main 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 towards the housing until they are flat against the housing and the lock has engaged. Close both 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.

# Setting Up An External Strobe

We recommend attaching an external strobe for the optimal color and clarity in a wide variety of shooting situations, including daylight photography. An external strobe must be triggered via electrical sync cord. The LX100 camera does not have built-in flash for the triggering of a fiber optic strobe.

## Strobe Compatibility

When a compatible Ikelite DS strobe is attached via sync cord, circuitry built into the housing allows the strobe to communicate directly with the camera to trigger the strobe and adjust its power for perfect exposure.

All Ikelite DS strobes are capable of providing TTL operation with this system except:

- DS125 strobes below serial number 5000
- DS51 strobes below serial number 70000
- DS200 strobes below serial number 7163

For TTL operation, the strobe must be set to TTL.

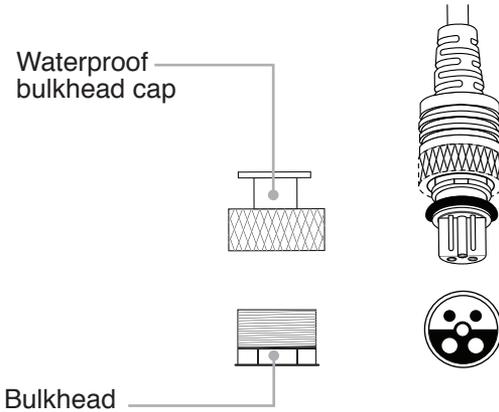
Strobes from SEA&SEA, INON, and Nikonos attached by electrical sync cord are not capable of powering the TTL circuitry built into this housing. These strobes must be used in manual power modes when connected via electrical sync cord.

## 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 bulkhead.



4. Rotate the knurled retaining ring until snug on the housing's bulkhead. Do not use pliers or tools to tighten the retaining ring.
5. Attach the other end(s) of the sync cord to the bulkhead(s) on your strobe(s).
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.

## Taking your Housing in the Water

### Final Check

1. Re-check the 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 take and record a photo.
4. Check battery life and open storage space on your memory card.
5. Check your external flash, if using.
6. 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 a leak is a steady stream of bubbles coming from one of the housing's seals.

## Entering the Water

1. If possible, we recommend entering the water without your housing to ensure that you are comfortable and your life-saving equipment is in working order. Once you are stable, have someone pass your camera housing to you.
2. 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's 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.
3. 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.

## In the Water

1. Be respectful of other people, creatures, and the ecosystem underwater. Do not crowd or bump into others underwater.
2. Regularly check your depth and air pressure while underwater.
3. Get as close as you can to your subject to take a photo, but do not touch it.

# Maintenance

## Post-Dive

1. Rinse the housing in fresh water. Rotate the housing's 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 the fresh water rinse tank. Collisions with other peoples' gear can cause scratches or damage to your equipment.
3. Stow 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 seal after opening the housing.

## Travel and Storage

1. Remove the camera from the housing for travel or storage.
2. Check the main housing o-ring.
3. Close the empty housing and submerge in lukewarm fresh water. While submerged, rotate each control and depress each button to flush out any salt or debris.
4. Remove the housing from water and rinse with running water.
5. If the inside of the housing needs to be cleaned, wipe with a clean, slightly damp cloth. Do not rinse the inside of the housing or submerge the open housing in water.
6. Dry the housing with a clean, lint-free cloth.
7. Store in a cool, dry place.

8. Like regulators and other pressure-sensitive equipment, we recommend careful care and cleaning along with annual replacement of the factory seals.

## Troubleshooting

### Water enters the housing

- Re-clean and re-install the main o-ring.
- 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) farther away from your subject.
- Adjust exposure compensation in the camera.
- Adjust lighting power.

### Strobe will not fire

- Turn on strobe.
- Make sure that the camera's flash is set to fire on every photo.
- Check that the sync cord is attached.

## **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.
- Check each housing control while underwater to ensure that they are disengaged. An inadvertently engaged control may limit functioning of the camera.

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

- Ensure that nothing is preventing the camera from going into the housing.
- Push the camera mounting plate forward until it is flush with the housing base plate.

## **Camera is not functioning normally underwater**

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

## **Backscatter or “snow” in images**

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

## **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

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.

## **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.

# 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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