

Sealife

ReefMaster®

Instruction Manual
DC250
Digital Underwater
Camera Set



D I G I T A L

FCC STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation

Note: This equipment has been tested and found to comply with the limits for Class B digital devices, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Use of shielded cable is required to comply with Class B limits in Subpart B of Part 15 of the FCC rules.

Do not make any changes or modifications to the equipment unless otherwise specified in the manual. If such changes or modifications should be made, you could be required to stop operation of the equipment.

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。

MUST DO

1. Read warnings in manual (pages 6-8).
2. If you have any questions after reading this manual or problems regarding the SeaLife digital camera, housing or accessories follow these instructions:
Do not contact dealer; do this:
 - Check trouble shooting guide in this manual or on the SeaLife website www.sealife-cameras.com
 - If this does not solve the problem contact SeaLife Customer Service: USA (856) 866-9192. For other countries, contact the Sealife national distributor. For a complete list, see the above website.
3. Use only the following AA batteries:
 - SeaLife Nickel Metal Hydride (Ni-MH) 1800mAh or higher rechargeable batteries. Carefully follow charging instructions.
 - Lithium non-rechargeable batteries. Lithium batteries last the longest of all batteries but they are expensive and they are not rechargeable.
 - We do not recommend using Alkaline batteries due to their short battery life, however new high-energy alkaline batteries, like Duracell Ultra, have a longer battery life and can be used with the SeaLife digital camera. Even high-energy alkaline batteries do not last as long as SeaLife Ni-MH batteries. Do not use standard alkaline batteries.
 - Replace batteries when battery power status indicator on camera is down one bar.
 - Turn camera power or LCD monitor OFF when not using camera to preserve battery power.
4. Always use freshly charged batteries. Batteries can discharge at room temperature up to 10% per day. Store batteries in plastic bag or container in refrigerator or cool, dry place.
4. Use only the following brands Compact Flash memory cards:
 - SanDisk, Kingston, Lexar, Panasonic, PYN, Ritek and Pretec (registered trademarks of respective companies).
5. Keep main O-Ring and housing perfectly clean.
 - Clean housing and main O-ring with fresh water after every use.
 - Do not remove O-ring. Do not grease.
 - Store camera and housing only after careful cleaning and when totally dry.
6. Never let any moisture or dirt get inside housing when opening.
 - Only open and load the housing in dry cool air, such as inside an air-conditioned room.
7. For good underwater pictures you need:
 - Clear water conditions.
 - Control your buoyancy before taking picture.
 - Get as close as possible to subject (ideal distance is 2' to 6').
 - Make it a habit to use the SeaLife Macro Lens/Filter for superb details and vibrant colors.
 - For best underwater pictures, use External Flashes and snap-on Macro or wide-angle lenses.

Limited Warranty

This product will be replaced or repaired free of charge within 1 year from the purchase date in the case of a manufacturing defect, if the complete defective product is sent freight prepaid at the sender's risk with prepayment for handling and shipping of US\$10.00 to: **Pioneer Research**, Attn: SeaLife Service Center, 97 Foster Road, Suite 5, Moorestown, NJ 08057, or to the SeaLife distributor in a different country. The shipment must include an original purchase receipt or proof of purchase with the purchase date. Excluded are any consequential damages, cosmetic damages, damages to products which show abuse, non-conformance with the instructions, *particularly water damage* due to damaged O-ring or removed O-ring or any particles wedged between the housing and the O-ring, or tampering and attempted repair of the product. Excluded are scratches on lenses or damaged lens coatings. Cameras used in rental operations are excluded from this warranty and have a special service support program (*Contact SeaLife/Pioneer Research*).

FCC Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in commercial installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, detectable by turning the equipment in question off and on, the user is encouraged to try to correct the interference by one or more of the following measures: Reorient or relocate the receiving antenna; Increase the distance between the equipment and the receiver; Connect the equipment to an outlet on a different circuit than that which the receiver is connected to; Or consult the dealer or an experienced radio/TV technician for help.

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NOTE

A shielded-type DC power cable incorporated with a ferrite core is required in order to meet the FCC emission limits and also to prevent interference to nearby radio and television reception. Use only shielded I/O cable incorporated with a ferrite core to connect this equipment to host computer or TV set. Shielded AC power cable and shielded I/O cables are required in order to meet the FCC emission limits. It is essential that only the supplied power cord and I/O cable(s) be used.

Service: **Do not contact your dealer for product questions or service.**

After going through the Trouble Shooting Guide in this manual, if you cannot find a solution for a problem: Contact the SeaLife Service Center or send the camera with the housing to an authorized SeaLife service facility or directly to SeaLife Headquarters in Moorestown, NJ USA or the SeaLife distributor in your country. (*A list of SeaLife distributors can be found on the website www.sealife-cameras.com*). Include: US\$10.00 for handling and domestic shipping; your day time phone number, proof of purchase and return address (No P.O. BOX); a clear written description of problem.

Ship prepaid to:

Pioneer Research, Attn: SeaLife Service Center, 97 Foster Road, Suite 5

Moorestown, NJ 08057 USA

Phone: (856) 866-9192 • Fax (856) 866-8615 • www.sealife-cameras.com

WARNING

-  *This camera is not waterproof or water resistant. Use the inner camera only inside the SeaLife waterproof housing when in or around water. Follow waterproof housing instructions carefully to prevent water damage to camera. Water damage to camera is not covered by warranty unless it has been determined that the waterproof housing leaked water as a result of a manufacturing defect.*

-  *Do not use this camera if it is emitting smoke, emitting any unusual odor or noise, or if it is in any other abnormal state. Operating the camera in any of these situations may cause a fire or an electrical shock. Stop using the camera immediately, turn the camera off, and then disconnect the power source (batteries or AC power adapter). (If you are using the AC power adapter, unplug the adapter from the AC power outlet after you have disconnected the camera.) After checking that smoke is no longer being emitted, contact your local authorized SeaLife service facility and request repairs. Never attempt to repair this camera yourself as this is dangerous.*

-  *Do not use the camera if any water has entered the camera, even after camera has dried. Turn the camera off, and then disconnect the power source (batteries or AC power adapter). (If you are using the AC power adapter, unplug the adapter from the AC power outlet after you have disconnected the camera.) Then contact your local SeaLife authorized service facility. Do not continue to use the camera as this may cause a fire or an electrical shock. Be careful when handling wet camera. Camera and batteries may become very hot.*

-  *Do not use the camera if any foreign objects have entered the camera. Turn the camera off, and then disconnect the power source (batteries or AC power adapter). (If you are using the AC power adapter, unplug the adapter from the AC power outlet after you have disconnected the camera.) Then contact your local SeaLife authorized service facility. Do not continue to use the camera as this may cause a fire or an electrical shock.*

-  *If the camera has been dropped or if the camera case has been damaged, turn the camera off, and then disconnect the power source (batteries or AC power adapter). (If you are using the AC power adapter, unplug the adapter from the AC power outlet after you have disconnected the camera.) Then contact your local SeaLife authorized service facility. Do not continue to use the camera as this may cause a fire or an electrical shock.*

-  *Do not expose the camera to moisture and make sure that there is no water getting into the camera. Take particular care when using the camera under extreme weather conditions such as rain or snow, or when operating the camera at the beach or near water. Water in the camera may cause a fire or an electrical shock.*

WARNING

-  Do not insert or drop metallic or flammable foreign objects into the camera through access points such as the Compact Flash card slot. This may cause a fire or an electrical shock.
-  Do not attempt to modify this camera. This may cause a fire or an electrical shock.
-  Do not remove the camera casing. This may cause an electrical shock. Internal inspection, maintenance and repairs should only be carried out by your local authorized SeaLife service facility.
-  Do not touch camera, charger or AC adapter during a thunderstorm if you are using the AC power adapter. This may cause an electrical shock.
-  Never operate this camera in any way while driving a vehicle. This may cause a traffic accident.
-  Do not place the camera in any unstable locations such as on a wobbly table or sloping surface where the camera may fall or tip over and cause injury.
-  Do not place camera, charger or batteries in damp or dusty locations. This may cause a fire or an electrical shock.
-  Do not place this camera in a location affected by oil fumes, steam, seaspray, rain, boat deck, damp clothes, cooking stove or humidifier. This may cause a fire or an electrical shock.
-  Do not leave this camera in a location subject to extremely high temperatures, such as in a sealed vehicle or in direct sunlight. Exposure to high temperatures may adversely affect the camera case and internal components and may cause a fire.
-  Do not cover or wrap the camera, battery charger or the AC power adapter with a cloth or quilt. This may cause heat to build up and distort the case and cause a fire. Always use the camera and its accessories in well-ventilated locations

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WARNING

-  *Handle the camera carefully and do not bump the camera into any hard object. Handling the camera roughly may cause a malfunction.*
-  *Do not move the camera while it is attached to AC adapter, USB or video cable. (If you are using the AC power adapter, unplug the adapter from the AC power outlet after you have switched off the camera.)*
-  *Ensure that any connector cords or cables to other devices are disconnected before moving the camera. Failure to do so may damage the cords or cables and cause a fire or an electrical shock.*
-  *When handling the camera ,always unplug it from the power source (AC power adapter) for safety. (If you are using the AC power adapter, unplug the adapter from the AC power outlet after you have disconnected the camera.) Failure to do may result in an electrical shock.*
-  *When leaving the camera unused for long periods, such as during a vacation, always remove the batteries or unplug the camera from the AC power adapter for safety. (If you are using the AC power adapter, unplug the adapter from the AC power outlet after you have disconnected the camera.) Failure to do so could result in a fire.*
-  *Do not use batteries other than those specified for use with your camera. The use of unsuitable batteries may result in the batteries splitting or leaking and causing a fire, injury, or damaging the battery compartment.*
-  *When inserting batteries into the camera, check the polarity markings on the battery (- and +) to ensure that you insert the battery correctly. Incorrect battery polarity may result in the batteries splitting or leaking and causing a fire, injury, or damaging of the battery compartment.*
-  *Remove the batteries if the camera will not be used for an extended period of time. The batteries may leak and cause a fire, injury or damage the battery compartment. If the batteries leak, clean and wipe the battery compartment carefully and install new batteries. Wash your hands carefully if you touch the battery fluid.*
-  *Do not leave battery charger plugged into AC outlet after charging is complete. Remove batteries from charger when charging is complete.*

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TRADEMARK INFORMATION

- Microsoft® and Windows® are U.S. registered trademarks of Microsoft Corporation.
- Pentium® is a registered trademark of Intel Corporation.
- Macintosh is a trademark of Apple Computer, Inc.
- SD™ is a trademark.
- PhotoSuite, PhotoVista and the MGI logo are trademarks or registered trademarks of MGI Software Corp.
- Adobe, the Adobe logo, and Acrobat are trademarks of Adobe Systems Incorporated.
- SeaLife®, Reefmaster®, Land & Sea® are registered trademarks of Pioneer Research..
- Other names and products may be trademarks or registered trademarks of their respective owners.

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NOTICE

Please start by reading the important messages below first.

1. The bundled driver, software, design, specifications and user's manual that packaged with the camera are subject to change without notice.
2. The accessories that come with the camera may vary between regions.
3. Driver updates are [posted on the SeaLife website;
www.SeaLife-Cameras.com.
4. We are not liable whatsoever for any compensation arising from errors in descriptions in this user's manual.

CAUTIONS

- Do not place the camera in damp or dusty locations. This may cause a fire or an electrical shock.
- Do not place the camera in a location affected by oil fumes or steam, such as near a cooking stove or humidifier. This may cause a fire or an electrical shock.
- Exposure to high temperatures may adversely affect the camera case and internal components and may cause a fire.
- Do not cover or wrap the camera or the AC power adapter with a cloth or quilt. This may cause heat to build up and distort the case and cause a fire. Always use the camera and its accessories in well-ventilated locations
- Handle the camera carefully and do not bump the camera into any hard object. Handling the camera roughly may cause a malfunction.
- Do not move the camera while it is switched on. (If you are using the AC power adapter, unplug the adapter from the AC power outlet after you have switched off the camera.) Ensure that any connector cords or cables to other devices are disconnected before moving the camera. Failure to do so may damage the cords or cables and cause a fire or an electrical shock.
- When leaving the camera unused for long periods, such as during a vacation, always unplug the camera from the power source (batteries or AC power adapter) for safety. (if you are using the AC power adapter, unplug the adapter from the AC power outlet after you have disconnected the camera.) Failure to do so could result in a fire.
- Do not use batteries other than those specified for use with the camera. The use of unsuitable batteries may result in the batteries splitting or leaking and causing a fire, injury, or soiling of the battery compartment.
- When fitting batteries into the camera, check the polarity markings on the battery (- and +) to ensure that you insert the battery correctly. Incorrect battery polarity may result in the batteries splitting or leaking and causing a fire, injury, or soiling of the battery compartment.
- Remove the batteries if the camera will not be used for an extended period of time. The batteries may leak and cause a fire, injury or soiling of the battery compartment. If the batteries leak, clean and wipe the battery compartment carefully and install new batteries. Wash your hands carefully if you touch the battery fluid.

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INTRODUCTION

How It Works - A Very Unique Camera

Land & Sea®

The SeaLife Reefmaster Digital Land & Sea camera allows you to choose between Land Mode for taking land pictures and Sea Mode for taking underwater pictures. This is essential for taking great pictures and achieving the perfect picture exposure.

Sea Mode: If the camera is set to Sea Mode and used inside the Underwater Camera Housing, the camera is programmed to automatically find the best exposure control combination in an underwater environment. The internal sensor reads the light conditions through the lens (TTL). It evaluates the whole picture in 64 segments with higher priority in the center. Then it automatically sets the correct exposure time, lens opening, and sensitivity. You may hear a slight clicking noise when you move the camera to different light conditions. SeaLife Research has tested several thousand combinations to achieve the optimal exposure controls. In the Sea mode, the slowest exposure time underwater is 1/30 seconds. If the surrounding light is too dark, the flash will fire automatically. While in the Sea mode, the camera flash will actually fire two, three or four times depending on the distance to the subject. The weaker flashes, called a pre-flash, is used to determine the brightness and reflection of whatever you're taking a picture of. The primary flash will fire 0.2 seconds after the pre-flash (hardly noticeable). Only the primary flash is used by the camera for properly exposing the final picture. The combination of the pre-flashes and main flash ensures the optimal exposure setting for the camera.

In order to avoid underwater "backscatter" (spots that show up in pictures caused by tiny particles in the water) and get more vivid colors, we recommend that you use the SeaLife External Flash, which is sold separately. You can even use two external flashes, like the pros do, in order to eliminate shadows in your pictures. When using the SeaLife External Flash, you must set the camera to the External Flash Mode. The External Flash Mode does not use a pre-flash, since this would cause the external flash to fire during the pre-flash and not during the primary flash.

If you are taking close-up pictures in very low light or even total darkness with the SeaLife Macro lenses and you experience overflashing from a reflective fish or object, you have the choice of immediately deleting the image by pressing the shutter button again within 3 seconds (the monitor will show you the picture and display "DELETE THIS?"). You can then redirect the flash by moving the flexible flash arm or attaching the flash diffuser. The Flash Diffuser is an accessory that can be clipped on to the external flash head. The system gives you many options to create great photos under many different conditions and using the various flashes or lens accessories.

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continued on following page

Land Mode: If you are taking land pictures, set the camera to Land Mode. Now the camera is automatically programmed to take great land pictures. The camera evaluates light conditions through the lens. If it's too dark, the camera uses the built-in flash to fire a pre-flash (to test the picture quality) and a primary flash for taking a properly exposed picture. If you like, you can override the camera's fully automatic functions. In many cases you might actually take a better picture without flash, such as in longer shooting distances in low light or indoor, and you can select "no flash." In other cases, even in bright light, you might select "fill-flash" to brighten up shadows and avoid dark areas. Sometimes pictures can be "grainy" if you do not have enough light and do not use the flash. No matter how dark it is, even if it becomes impossible for any camera to take a sharp picture, the camera will still try to take a picture. If that happens, get closer to the subject and use a flash or another good light source. In general, the closer you are to your subject and the brighter the light conditions are, the better the picture results will be. With a little experimenting you will quickly be on your way towards great digital pictures to share with your friends and family.

Your computer

It's easy to connect the camera to your computer, to download pictures, edit pictures and print or email pictures.

Download – The USB connection will quickly transfer pictures from your camera to your computer. Please refer to the detailed instructions on page 29 on how to connect your camera to the computer.

Editing – You will enjoy picture editing with MGI Photo Suite®, but you can also use your own picture-publishing program that you are familiar with. First take pictures in the highest quality setting. Then you can make adjustments to the image on your computer, like cropping, adjusting the picture size or some really creative special effects.

Printing – For photo-like 5" x 7" prints, set the printer on the highest resolution and use high-quality glossy photo paper. You will discover that creating a vacation trip report on Word® with your best pictures is an impressive way to save and share your memories.

There are many great books and websites dedicated to the world of digital photography. Please visit our website: www.sealife-cameras.com for links to the best website and other suggestions on how to learn more about digital photography.

Package contents

Carefully unpack your package and make sure that you have the following items.

Common Product Components:

- Digital camera
- Video cable
- Quick Guide
- USB cable
- Software CD-ROM
- Camera strap
- Camera Carry Case
- Underwater Housing
- Deflector for External Flash

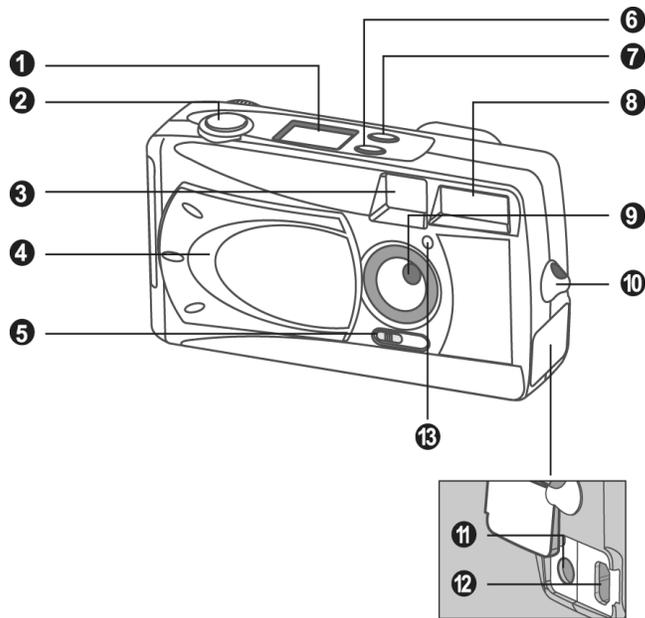
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Common (Optional) Accessories:

- SD memory card (up to 128MB capacity)
- AC power adapter
- 4 rechargeable NI-MH
- External Flash
- Wide angle lens
- Macro lenses
- 4 – Pack Rechargeable batteries with charger and foreign plug adapters (SL 190)
- Carry Case and more accessories are available. See www.sealife-cameras.com

GETTING TO KNOW THE CAMERA

Front view



- 1. Status LCD
- 2. Shutter button
- 3. Viewfinder window
- 4. Lens cover
- 5. Focus switch
- 6. Flash button
- 7. Quality/Resolution button

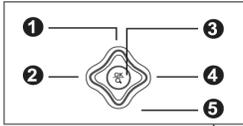
- 8. Flash
- 9. Lens
- 10. Strap eyelet
- 11. DC IN jack
- 12. USB connector
- 13. Self-timer light

Rear view

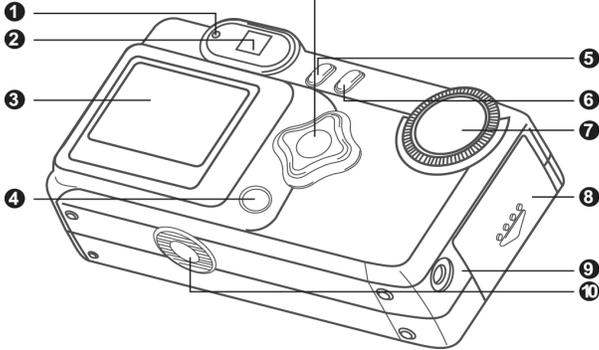
Menu Navigation button:

1. ▲ Menu navigation button (up)
2. ◀ Menu navigation button (left)
- ⌚ Self-timer button
3. **OK** OK button
- 🔍 Digital zoom button
4. ▶ Menu navigation button (right)
5. ▼ Menu navigation button (down)
- 🗑️ Delete button

Menu navigation button



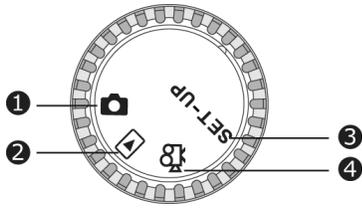
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Camera buttons:

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. LED "camera ready" indicator 2. Viewfinder (option) 3. LCD monitor 4. LCD On/Off, Quick Review button | <ol style="list-style-type: none"> 5. Menu button 6. Power button 7. Mode dial 8. Battery/SD card cover 9. VIDEO OUT jack 10. Tripod socket |
|---|---|

Mode dial



1. Record mode
2. Playback mode (Review)
3. Setup mode
4. Movie mode

Mode	Description
 Record Mode	Use this mode to capture still images.
 Playback mode (Review)	Use this mode to view images & videos, delete images & video clips, view a slide show, view thumbnail displays.
SET-UP Setup mode	Use this mode to adjust camera settings and Land & Sea exposure modes.
 Movie mode	Use this mode to record video (movie) clips.

LED indicators

Indicator	Status	Description/Activity	Sound
LED Indicator	Blinking red	Camera system error	Yes *(3)
LED Indicator	Solid orange	Charging the flash	No
LED Indicator	Blinking green	Image is being recorded to the memory card.	No
LED Indicator	Solid green	The camera is ready to record images (or movies).	Yes *(1)
Self-timer	Blinking red	The self-timer function is activated.	Yes *(1)
Indicator			
None	None	Error message	Yes *(3)
None	None	Valid button event	Yes *(1)

*(3) The camera sounds three beeps.

*(1) The camera sounds one beep.

Status LCD



Flash mode

- Auto flash
- Red-eye reduction
- Fill flash (on)
- Flash off
- Slow synchro

Image resolution

- 1600 x 1200 pixels
- 800 x 600 pixels

Self-timer mode

- Card indicator**

Image quality

- Fine
- Normal
- Basic
- Macro mode

Battery check

- Full battery power
- Medium battery power
- Low battery power (replace batteries)
- Virtually No battery power

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00:00

This display varies according to the camera mode setting:

Displays the estimated shots that you can take in Record mode .

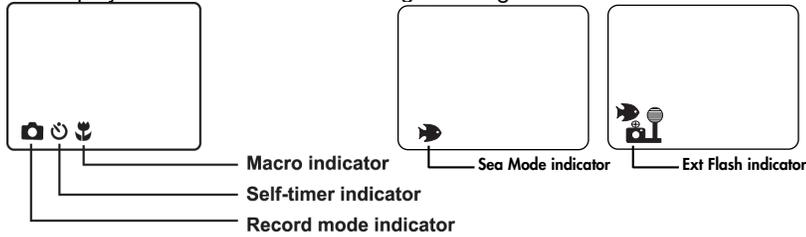
Displays the estimated seconds that you can record for the video clip in Movie mode .

Displays the current number of the recorded image in Playback mode .

Displays "PC" when connecting the camera to your computer by using the USB cable.

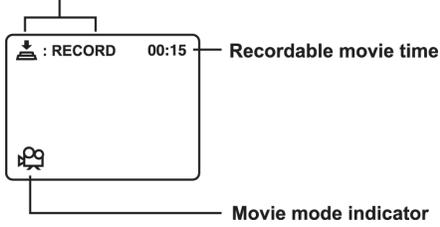
LCD monitor information

The displayed indicators when recording still images:

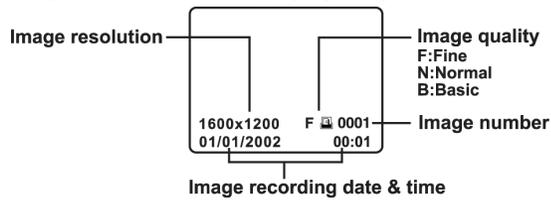


The displayed indicators when recording video clips:

Press the shutter button to record

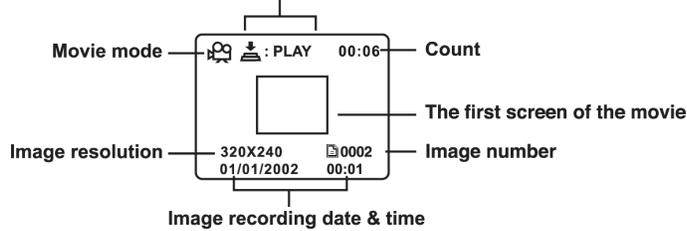


The displayed indicators when playing images back:



The displayed indicators when playing video clips back:

Press the shutter button to play

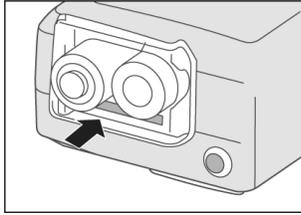


GETTING STARTED

You can use either 2 AA size batteries (High-Energy Alkaline, Ni-MH) or an AC power adapter (optional accessory) to power the camera. Battery power is convenient for recording images or video clips while AC adapter power is recommended for transferring images to your computer.

Installing the batteries

1. Make sure the camera is off.
2. Slide the battery/SD card cover in the direction of the OPEN arrow.
3. Insert the batteries according to the correct polarity marks (+ or -).
4. Close the battery/SD card cover firmly.



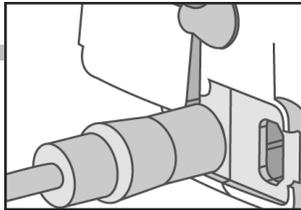
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NOTE

- We recommend Sealife Ni-MH batteries for long lasting operation.
- If you won't be using the batteries for an extended period of time, remove them from the camera to prevent leaks or corrosion.
- Never use manganese batteries.
- Never use different types of batteries (together) or mix old and new batteries.

Using the AC power adapter (optional accessory)

1. Make sure the camera is off.
2. Open the DC IN jack cover and connect one end of the AC power adapter to the DC IN jack on the camera.
3. Connect the other end to an electrical outlet.

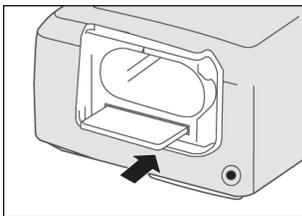


NOTE

- Make sure to use only the specified AC power adapter (3.3 DC volt) for the camera. Otherwise, it may cause damages to the camera, which is not covered under the warranty. Sealife item #SL13132.
- To prevent unexpected auto power off resulting from no battery power left during the process of transferring your images to the computer, use the AC power adapter as a power supply.

Loading a SD memory card (optional accessory)

The camera comes with 8MB of internal memory, allowing you to store images and video clips in the camera. However, you can expand the memory capacity by using an optional SD memory card so that you can store additional images and video clips.

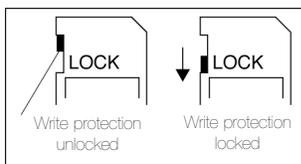


1. Make sure the camera is off.
2. Slide the battery/SD card cover in the direction of the OPEN arrow.
3. Insert the SD memory card.
 - The front side of the memory card (printed arrow) should face towards the front side of the camera.
 - If the card cannot be inserted, check the orientation.
4. Close the battery/SD card cover.
 - To remove the SD memory card, make sure the camera is off. Open the battery/SD card cover. Press lightly on the edge of the memory card and it will eject.



NOTE

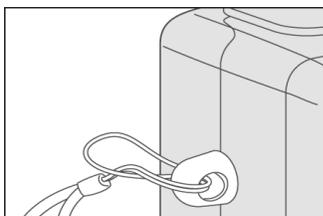
- To prevent valuable data from being accidentally erased from an SD card you can slide the write protect tab (on the side of the SD memory card) to "LOCK."
- To save, edit, or erase data on an SD memory card, you must unlock the card.



Attaching the strap

To prevent accidental dropping of the camera, always use the strap.

1. First thread the small loop of the wrist strap through the strap eyelet on the camera and then pull the large loop through the small loop until the strap is firmly secured.



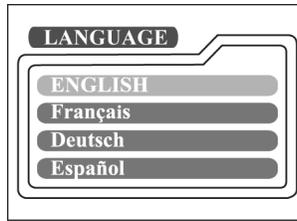
NOTE

- Remove wrist strap from camera before inserting into underwater housing.

Choosing the language

When you first turn the camera on, the language setting screen appears, prompting you to choose a language for displayed information on the LCD monitor. Follow the steps below to set the OSD (On-Screen Display) language.

1. Select a language that you prefer by using the ▲ / ▼ button.
2. Press the OK button to confirm.



NOTE

- The language setting will be retained even if the camera is turned off.
- The language setting screen is located in the set-up menu. Turn mode dial to “set-up.”



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Setting the date and time

The Date/Time screen will be presented if/when:

- Camera is turned on for the first time (after setting the language)
- Camera is turned on after removing or replacing the batteries.

When the date and time setting screen appears, follow these steps to set the correct date and time. You may skip this procedure by pressing the OK button repeatedly.

1. Enter the values of the year, month, day and time fields by using the ▲ / ▼ / ◀ / ▶ button. Press the OK button after each field is set.
 - To increase a value, press the ▲ / ▶ button.
 - To decrease a value, press the ▼ / ◀ button.

NOTE

- The date/time screen is located in the set-up menu.
- Turn mode dial to “set-up.”

Setting the image resolution and quality

Resolution and quality settings determine the pixel size (dimension), image file size, and compression ratio for your images. These settings affect the number of images that can be stored in memory, or on an SD memory card. As you get to know the camera, it is recommended that you try each quality and resolution setting to better understand the effects that these settings will have on your images.

Higher resolution and higher quality images offer the best photographic results but produce large file sizes. Therefore, fewer images will take up more memory space.

High resolution and quality settings are recommended for printed output and situations requiring the finest detail. Lower resolution/quality images take up less memory space and may be quite suitable for sharing images via e-mail, in a report, or on a web page. To change image resolution and quality settings, press the  button on top of the camera repeatedly to select the settings that you prefer. As you press this button watch the Status LCD.

Resolution & Quality:

The camera provides 2 resolution modes and 3 quality modes, which can be changed cyclically by pressing the  button. The cyclical order is                           

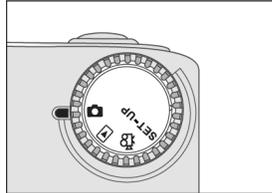
RECORD MODE

Taking pictures

Your camera is equipped with both an optical viewfinder and a 1.6" LCD monitor to compose images. Taking images using the optical viewfinder will conserve battery power. If your batteries are low, it is recommended that you only compose images by using the viewfinder. Using the LCD monitor you can compose images more accurately, but at the cost of battery consumption. Always use the image LCD for macro shots, to avoid parallax error. The LCD image display must be turned on when Digital Zoom is used.

Using the viewfinder

1. Open the lens cover.
2. Turn the mode dial to the  mode.
3. Turn the camera on by pressing the  button.
4. Compose your shot in the viewfinder.
5. Check "camera-ready" light is green.
6. Press and hold the shutter button until camera takes picture.



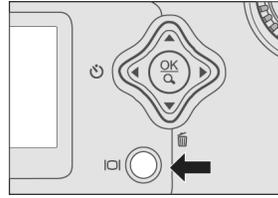
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NOTE

- Replace batteries if camera-ready light takes more than 15 seconds to recycle (after taking a picture).
- The camera-ready light blinks green while camera is processing a captured image

Using the LCD monitor

1. Open the lens cover.
2. Turn the mode dial to the  mode.
3. Turn the camera on by pressing the  button.
4. Turn the LCD monitor on and off by pressing the  button.
5. Compose the picture.
6. Press the shutter button.



- The LED indicator blinks green while the camera is processing a captured image.



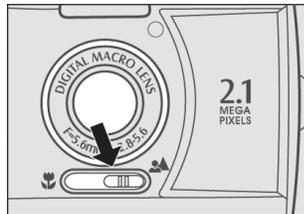
NOTE

- The image on the LCD monitor darkens when in strong sunlight or bright light. This is not a malfunction.
- Using the LCD monitor for an extended period of time will decrease the battery life and the number of images you can take. To increase battery life, turn the LCD monitor off and use the optical viewfinder instead.
- Always use the image LCD for macro shots.
- The LCD monitor must be on when Digital Zoom is to be used.

Set Focus to Normal Distance

The normal focus setting is used to take images where the distance to the subject is 3 ft. (75 cm) or more. Select this setting for general shooting, including portraits and scenery.

1. Open the lens cover, turn the mode dial to the  mode, and power on the camera.
2. Move the focus switch located on the front side of the camera to the  position.
3. Compose the picture.
4. Press the shutter button.



Camera's focus is set to normal distance.



NOTE

- The shooting distance for underwater pictures are different than land pictures. Underwater pictures are in focus from 2 ft. (50cm) to infinity.

Using the macro focus setting

Use the macro focus setting to shoot a close-up of the subject, such as flowers or insects.

The effective range is between 1 to 3ft (25 to 75 cm).

1. Open the lens cover, turn the mode dial to the  mode, and power on the camera.

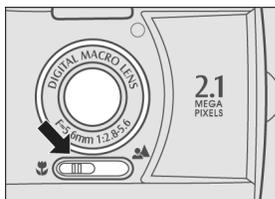
2. Move the focus switch located on the front side of the camera to the  position.

■ The  icon appears on the LCD monitor and status LCD.

3. Compose the picture.

4. Press the shutter button.

■ To disable macro photography, slide the focus switch back to normal.



Camera's focus is now set to macro distance.

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NOTE

- When shooting a close-up in macro mode, use the image LCD monitor to compose your shot.
- Using optical viewfinder may result in parallax error.
- For land pictures taken at 3ft. shooting distance take pictures in normal and macro focus setting and compare the results.
- After a macro shot is taken DO NOT FORGET to reset the lens to the normal position.

Using the digital zoom

Using digital zoom, images appear closer. Whereas digital zoom is a compelling feature, the more an image is enlarged (zoomed), the more pixelated (grainier) the image will appear. The digital zoom function is only available when you set the LCD monitor and the digital zoom to ON. To enable the digital zoom, refer to DIGITAL ZOOM in Record menu.



1. Open the lens cover, turn the mode dial to the  mode, and power on the camera.
2. Turn the LCD monitor on by pressing the  button.
3. Press the OK button to activate 2X digital zoom function.
 - The 2X icon appears on the LCD monitor.
 - To cancel the digital zoom function, press the OK button.
4. Press the shutter button to capture a "zoomed" image.

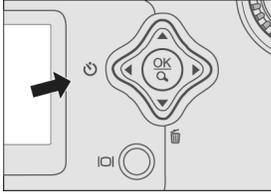
NOTE

- You can only set the digital zoom at the resolution of 1600x1200 pixels; digital zoom is not available at the resolution of 800x600 pixels. When you play back a "digitally zoomed" image, the image size is 800x600 pixels.
- The more the image is enlarged, the more pixelated (grainier) the image.
- Digital zoom cannot be used in the movie mode.

Using the self-timer

The self-timer duration is 10 seconds. After the activation of the self-timer by pressing the shutter button, the self-timer lamp starts blinking slowly for 7 seconds and then blinking faster for the rest of 3 seconds. This allows you to get into the scene when taking group images.

1. Secure the camera to a tripod or place it on a stable surface.
2. Open the lens cover, turn mode dial to the  mode, and power on the camera.
3. Press the  button.
 - The  icon appears on the LCD monitor and status LCD.
4. Compose the picture.
5. Press the shutter button.
 - The self-timer function is activated.
6. After ten seconds, the camera takes an image.
 - To cancel self-timer photography at any time, press the shutter button to disrupt the sequence.



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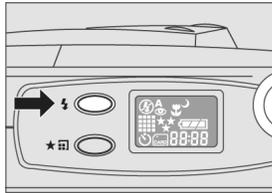


NOTE

- After one shot is taken, the self-timer mode is turned to off.

Using the flash

The flash is designed to function automatically when lighting conditions warrant the use of flash. You can take an image using a flash mode suitable to your circumstances. If you change the flash mode, the camera will retain that setting even if the camera is turned off.



1. Open the lens cover, turn the mode dial to the  mode, and power on the camera.
2. Press the  button located on top of the camera repeatedly until your desired flash mode appears.
3. Compose the picture and press the shutter button.

Flash Modes

The camera has five flash modes: Automatic Flash (default), Red-Eye Reduction, Fill flash (on), Flash Off and Slow Synchro. The modes appear, cyclically, when you press the flash button on top of the camera. The table below will help choose the appropriate flash mode:

Flash Mode	Description
[] Auto Flash	The flash fires automatically according to the ambient conditions. Select this mode for general photography.
[] Red-eye Reduction	The flash emits a precursor-flash before the main flash fires. This causes the pupil in the human eye to constrict, reducing the red-eye. Select this mode when taking pictures of people and animals in low-light conditions.
[] Fill Flash (on)	The flash will always fire regardless of the surrounding brightness. Select this mode for recording images with high contrast (backlighting) and deep shadows. Also known as forced flash.
[] Flash Off	The flash will not fire. Select this mode when taking images in a place where flash photography is prohibited, or when the distance to the subject is beyond the effective range of the flash.
[] Slow Synch	The flash fires and the shutter speed is reduced so that the subject will be exposed correctly while taking a image with dark (night) background.



NOTE

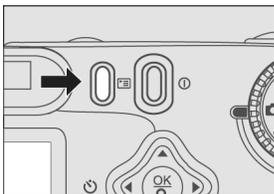
- You can also change the flash mode setting in the record menu screen.

Taking pictures manually

You can manually adjust conditions such as white balance, EV compensation and sharpness when taking pictures. For white balance, EV compensation and sharpness information, refer to WHITE BALANCE, EV COMPENSATION or SHARPNESS in Record menu.

To take pictures manually:

1. Turn the camera on.
2. Turn the mode dial to the  mode.
3. Press the  button.
4. Move to WHITE BALANCE, EV COMPENSATION or SHARPNESS with the  button.
5. Change the settings by using the  button and then press the **OK** button.
6. Compose the picture.
7. Press the shutter button.



Press menu button to manually adjust exposure settings.

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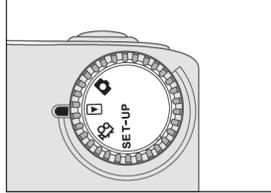
PLAYBACK MODE (Review images)

In the  mode, you can view, magnify, delete images, play video clips, or run a slide show. Playback mode also provides a thumbnail image display, allowing you to quickly search for the image you want.

Viewing images

You may view your images without opening the lens cover since the lens is not used for playback. The camera lens is protected during playback.

1. Turn the mode dial to the  mode and power on the camera.
2. Select the image that you want to view by using the  /  button.
 - To view the previous image, press the  button.
 - To view the next image, press the  button.



NOTE

- If there is no image stored in the internal memory or on the memory card, “ NO IMAGES” message will appear on the LCD monitor.
- You can also view your images on the TV screen. Connect one end of the video cable to the video out jack of the camera and connect the other end to the video input of your TV. Turn the mode dial to the  mode and then turn on both TV and camera.
- When lens cover is closed and the mode dial is set to record image  mode, you will also be able to playback images.

Zoom Playback

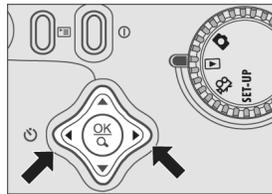
While reviewing your images, you may enlarge a selected portion of an image. This magnification allows you to view fine details.

1. Turn the mode dial to the  mode with the camera power on.
2. Select the image that you want to view by using the  /  button.

3. Enlarge the image by pressing the OK button.

- Pressing the OK button once magnifies the image to 2X. Pressing it again magnifies the image to 4X. When enlarging the recorded image, you will see a red frame with a red box inside. The red frame indicates the entire image, while the red box shows the enlarged area.

4. To view the different portion of the enlarged image, press the  /  /  /  button.
5. To return to the regular display from 4X-enlarged status, press the **OK** button twice.



Current position of enlargement
Entire image



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NOTE

- Pressing the OK button magnifies the image from 1X → 2X → 4X.

Displaying thumbnail images

This function allows you to view nine thumbnail images on the LCD monitor simultaneously so you may search for a particular image.

1. Turn the mode dial to the  mode and power on the camera.

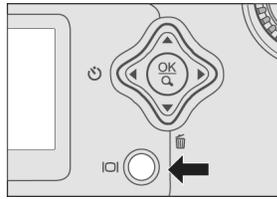
2. Press the  button once.

■ The image information appears on the LCD monitor.

3. Press the  button again.

■ Nine thumbnail images appear on the LCD monitor (assuming there are nine or more images in memory).

■ To view a full-size image, press the **OK** button after selecting it by using the  /  button.



NOTE

• By pressing the  button repeatedly, the image will show as follows.

Image only → Image and OSD (on-screen display) → Thumbnail image display



Slideshow display

The slideshow function enables you to playback your images back automatically in sequential order as a slide show. This is a very useful and entertaining feature for reviewing recorded images and for presentations.

1. Turn the mode dial to the  mode and power on the camera.

2. Press the  button and move to SLIDE SHOW by using the  /  button.

3. Set the playback interval by using the  /  button and then press the **OK** button.

■ The slideshow starts, displaying your images on the LCD monitor, one by one, at the set interval.

■ To stop the slideshow display, press the **OK** /  /  /  button.



NOTE

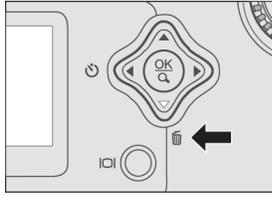
• You can adjust the slideshow display interval within the range of 2 sec. to 10 sec. For interval setting, refer to SLIDE SHOW in the Playback menu.

Deleting images from memory

You can delete one image/video clip by pressing the  button.

To delete one image at a time:

1. Turn the mode dial to .
2. Select the image/video clip you want to delete by using the /  button. And then press the  button. ( button.)
3. Select [YES], and then press the **OK** button. The next image/video clip appears.
 - If you want to cancel the deletion, select [NO].
4. Continue the deletion if necessary. If all images are deleted, [ NO IMAGES] pops up. To exit this function, turn the mode dial to any other mode.



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NOTE

- To delete the images or video clips stored in the internal memory, remember not to insert the memory card in the camera. Otherwise, you will delete the images or video clips stored in the memory card.

How to use the instant delete feature:

You can instantly delete a picture immediately after taking the picture

To instantly delete a picture:

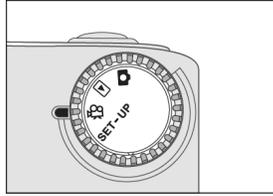
1. After taking a picture, the LCD will display a “DELETE THIS?” message with the last picture taken.
2. If you want to delete the image displayed, press the shutter button while the “DELETE THIS?” message is displayed.
3. The LCD will display a “DELETE IMAGE” message and the image is now deleted.
4. If you do not want to delete the image, do not press the shutter button when “DELETE THIS?” is displayed.

MOVIE MODE

Recording video clips

The movie mode allows you to record video clips at the resolution of 320 x 240 pixels.

1. Open the lens cover, turn the mode dial to the  mode, and power on the camera.
 - The recordable movie time displays on the status LCD and the LCD monitor.
2. You can start recording a video clip by pressing the shutter button.
 - The elapsed time displays on the LCD monitor while recording a video clip.
 - To stop recording, press the shutter button again.



NOTE

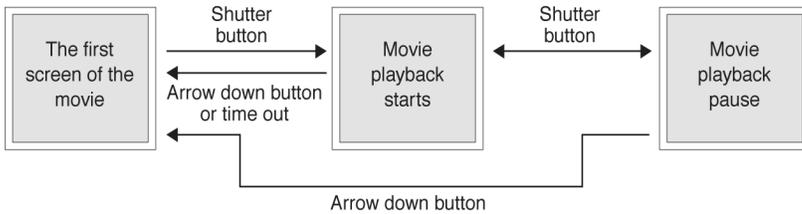
- In movie mode, resolution/quality, macro, self-timer cannot be set or activated.
- In movie mode, the flash mode is automatically set to [OFF].

Viewing video clips

To view the recorded video clips, follow the steps below.

1. Turn the mode dial to the  mode and power on the camera.
2. Select the video clip that you want to view by using the  /  button.
3. Press the shutter button to start.
 - To pause playback at any time, press the shutter button again.
 - To stop playback, press the  button.

Pressing the shutter button or the  button while playing back the video clip will change the status as follows:



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NOTE

- The zoom function cannot be activated while playing the video clip back.
- To play the video clip back on the computer, we recommend that you use the “Quick Time Player.” This software is free of charge, compatible for Mac and Windows-based computers and can be downloaded from the Web site at www.apple.com. For Quick Time Player usage, please refer to its on-line help for more information.

TRANSFERRING RECORDED IMAGES TO YOUR COMPUTER

You can share recorded images/video clips with your family or friends via e-mail or post them on the Web. First, you need to connect the camera to your computer by using the USB cable and then transfer the images/video clips.

To transfer images/video clips from the camera to your computer, follow the steps below.

Step 1: Installing the USB driver (see page 39)

Step 2: Connecting the camera to your computer (see page 39)

Step 3: Downloading images/video clips (see page 40)

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	System requirements (Windows)	System requirements (Macintosh)
CPU	Pentium 166 MHz processor or higher	PowerPC G3/G4
OS	Windows 98/98SE/Me/2000/XP	OS 8.6 or later
Memory	32MB RAM (64MB recommended)	32MB RAM (64MB recommended)
Free Space on Hard Disk	128 MB hard disk space	128 MB hard disk space
Required Devices	A CD-ROM drive An available USB port	An available USB port A CD-ROM drive
Color Monitor	Color monitor (800x600, 24-bit or higher recommended)	Color monitor (800x600, 24-bit or higher recommended)

Step 1: Installing the USB driver on Windows computers

The USB driver on the supplied CD-ROM is exclusively for Windows 98. Installing the USB driver on computers running Windows 2000/ME/XP is not necessary.

1. Insert the CD-ROM packaged with the camera into the CD-ROM drive. The welcome screen appears.
2. Click "Install USB Driver". Follow the on-screen instructions to complete the installation. After the USB driver installation is complete, restart your computer.



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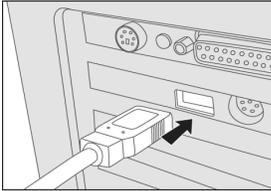
Installing the USB driver on Macintosh computers

Mac OS 8.6 users must install a USB driver. For Mac OS 9.0 or higher, the computer will automatically recognize the camera and load its own USB drivers.

1. Insert the CD-ROM packaged with the camera into the CD-ROM drive.
2. Select and double-click "Digital Camera Driver Installer".
3. Select "Install Location" and click "Install".
4. Follow the on-screen instructions to complete the installation and restart your computer.

Step 2: Connecting the camera to your computer

1. Connect one end of the USB cable to an available USB port on your computer.
2. Connect the other end of the USB cable to the USB connector on the camera.
3. Turn the camera on.
 - "PC" appears on the camera's status LCD.
4. Look for a new "removable disk" appearing in the "My Computer" window. Your recorded images/video clips will be in a folder on this "removable disk". (For Mac users, double-click the "untitled" disk drive on the desktop.)



Step 3: Downloading images/video clips

When the camera is turned on and connected to your computer, it is considered to be one disk drive. You can download images/video clips by copying them from the "removable disk" ("untitled" disk on a Macintosh) to your hard drive or to another kind of disk.

For computers running Windows

Open the "removable disk" by double clicking on it. Double click on the folder. Your images are inside the folder(s). Select the images that you want, then choose copy from the Edit menu. Open the destination location and choose Paste from the Edit menu. You may also drag and drop image files from the camera to a desired location.

For computers running Mac OS

Open the "untitled" disk window and the hard disk or the destination location. Drag and drop from the camera disk to the desired destination.



NOTE

- It is recommended that you use the AC power adapter as a power supply for the camera while transferring images/video clips from the camera to your computer since camera power may be cut off unexpectedly if the batteries run out.

INSTALLING MGI PHOTOSUITE

MGI PhotoSuite is a very user-friendly image-editing program. With PhotoSuite, you can easily retouch, compose and organize your images. It contains a variety of templates, such as photo frames, birthday cards, calendars and more. Get your images ready and go explore this amazing program.

To install MGI PhotoSuite:

1. Insert the CD-ROM packaged with the camera into the CD-ROM drive. The welcome screen appears.
2. Click "Install MGI PhotoSuite." Follow the on-screen instructions to complete the installation.



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NOTE

- To use MGI PhotoSuite to edit and retouch your recorded images, please refer to the on-line help of this software as a guide.
- For Windows 2000/XP users, make sure to install and use the MGI PhotoSuite in the "Administrator" mode.
- PhotoSuite is not supported on the Mac.

INSTALLING MGI PHOTOVISTA

MGI PhotoVista is an easy-to-use program that lets you create spectacular 3600 panoramic images in a snap. When you view these panoramas, you get the experience of being totally immersed in a realistic environment. PhotoVista's powerful engine quickly and automatically stitches images together, and its intuitive interface will let even a novice get great results in minutes.

To install MGI PhotoVista:

1. Insert the CD-ROM packaged with the camera into the CD-ROM drive. The welcome screen appears.
2. Click "Install MGI PhotoVista." Follow the on-screen instructions to complete the installation.



NOTE

- To use MGI PhotoVista to create spectacular 3600 panoramic images, please refer to the on-line help of this software as a guide.
- For Windows 2000/XP users, make sure to install and use the MGI PhotoVista in the "Administrator" mode.
- PhotoVista is not supported on the Mac.

INSTALLING THE USER'S MANUAL

In an effort to conserve energy and preserve our world's forests and wildlife, this manual is only provided on the CD-Rom in PDF format. We suggest you read through the instruction manual and print only those pages you need for future reference. The only requirement for viewing the User Manual on the CD ROM is that you have Acrobat Reader installed on your computer.



For Windows users:

1. Insert the CD-ROM that came with the camera into your CD-ROM drive. The welcome screen appears.
2. Click "Install User's Manual". Follow the on-screen instructions to complete the installation.

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For Mac users:

1. Insert the CD-ROM packaged with the camera into your CD-ROM drive.
2. Select and double-click "Manual".
3. Select and double-click the language you prefer.
4. Drag and drop the PDF file from the current location to the destination location. View the user's manual by opening it.

INSTALLING ACROBAT READER

For Windows users:

1. Insert the CD-ROM that came with the camera into your CD-ROM drive. The welcome screen appears.
2. Click “Install Acrobat Reader.” Follow the on-screen instructions to complete the installation.



For Mac users:

1. Insert the CD-ROM that came with the camera into your CD-ROM drive.
2. Select and double-click “Acrobat Reader”.
3. Select and double-click the language you prefer.
4. Double-click “Reader Installer”.
5. Follow the on-screen instructions to complete the installation.

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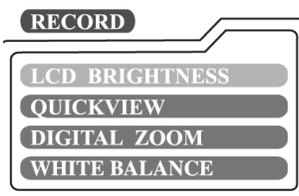
MENU OPTIONS

Record menu

You can use the record menu to change LCD brightness, white balance EV compensation, Quickview, digital zoom, flash on/off and sharpness settings. To do this, press the  button in the  mode. And then scroll through the options by using the  /  button.

LCD BRIGHTNESS

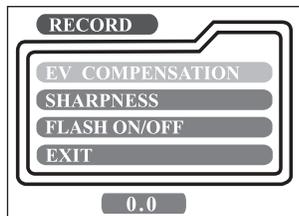
This option adjusts the brightness of the LCD monitor. Press the OK button, the LCD brightness control will appear. Press the  /  button to brighten the LCD monitor while press the  /  button to darken the LCD monitor. And then press the OK button.



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QUICK VIEW

You can view each captured image on the LCD display immediately after capture by enabling Quick View. Each captured image will be displayed briefly, after which the camera returns to the  mode automatically. Set [ON] or [OFF] to enable or disable the instant review by pressing  /  button. And then press the OK button.



DIGITAL ZOOM

You can take digital zoom shots by activating the digital zoom function. Use the  /  button to enable this option if necessary. And then press the OK button.

WHITE BALANCE

Your camera adjusts the white balance of each scene automatically. However, the images that your camera captures will appear different under different lighting conditions (sun, shade, fluorescent, tungsten lights). Unlike your eyes, which can easily adjust to different lighting conditions (lighting temperatures), a digital camera cannot always differentiate between lighting types. Under some lighting conditions the image may appear in strange shades. If that occurs you may change the white balance setting by specifying a lighting condition (temperature) most appropriate for your scene. Use the ◀/ ▶ button to select the appropriate white balance and then press the OK button.

[AUTO]: automatically adjusting the white balance	[SHADE]: for cloudy and shady sky
[SUN]: for outdoors on a bright day	[FLUORESCENT]: for under fluorescent lighting

EV COMPENSATION

Your camera adjusts the exposure of each scene automatically. However, when if the subject is very dark, or very bright, you may override the camera automatic exposure determination to make the subject brighter or darker. This is called EV compensation. The EV compensation of the camera can be adjusted from -1.8EV to +1.8EV. Use the ◀/ ▶ button to select the EV compensation that you want and then press the **OK** button. To increase image exposure (or brightness), increase the EV compensation. For example, if you want to take a picture of a dark subject against a bright background, you may want to increase the EV compensation so the subject is properly exposed. For lighter objects against a dark background, you may want to reduce the EV compensation. We recommend taking some test pictures and comparing the results using different EV compensation settings

SHARPNESS

This option sets the level of image sharpness. Use the ◀/▶ button to select the sharpness mode that you want and then press the OK button.

[NORMAL]: leave the image detail as captured

[SOFT]: soften the edge of the image detail for special effect

[HARD]: sharpen the edge of the image detail

FLASH ON/OFF

This option allows you to turn the camera's flash on or off. This is the only way to turn the flash on or off when inside the underwater housing.

EXIT

This option exits the record menu and then returns to the (i) mode. Press the OK button to exit. You can also press the  button again to exit.

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NOTE

- EV Compensation adjustments can only be made before taking a picture, not after.

Playback menu

Use the playback menu to create an on-camera slide show, configure DPOF settings, transfer images from internal memory to a memory card, adjust LCD brightness, or “delete all” images. To access the playback menu, press the  button in the  mode and navigate through the options by using the  /  button.

LCD BRIGHTNESS

Refer to LCD BRIGHTNESS in Record menu.
(See page 50)

SLIDE SHOW

Your camera can display your images sequentially as a slide show at a selected interval. Use the  /  button to select the slide interval time you desire and then press the **OK** button.

[2 sec], [4 sec], [6 sec], [8 sec], [10 sec]

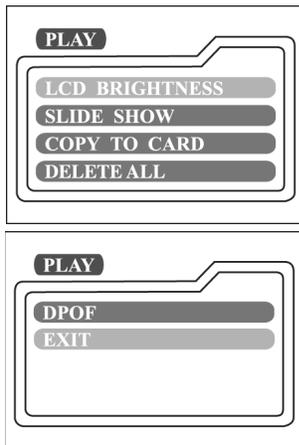
COPY TO CARD

This feature allows you to copy your images from the camera's internal memory to an SD memory card. Of course, you can only do this if you have an SD memory card installed and some images in internal memory. Use the  /  button to select [YES] if necessary and then press the OK button.

DELETE ALL

This option allows you to delete all images/video clips the memory. If you wish to delete the images or video clips in the internal memory, ensure that the memory card is not inserted in the camera. Otherwise, you will delete the images or video clips stored in the SD memory card.

Use the  /  button to select [YES] if necessary and then press the **OK** button.



DPOF

DPOF allows you to embed printing information on your memory card. Using DPOF you can select an image to be printed and then specify how many prints to you would like. Take your memory card to a DPOF enabled printer that accepts SD memory cards. The DPOF/card-compatible printer will read the embedded information on the memory card and print your images as specified. To use DPOF, first press the OK button to enter the DPOF sub-menu. Use the ◀/▶ button to set the values for each field and then press the **OK** button.

[PRINT QUANTITY]: Select image quantity from 1~9

[PRINT SIZE]: Select your preferred image size
(standard, 3x5, 4x6, 5x7, 8x10)

[PRINT INDEX]: allows you to print the images in index format

[PRINT ENABLE]: If you select ENABLE, the camera will save the DPOF settings. If DISABLE is selected, all the settings will be erased.

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DPOF shortcut

You can use the shutter button to quickly establish DPOF settings, as follows:

1. Turn the mode dial to the  mode.
2. Press the shutter button to toggle the DPOF print tag setting for the specified image. A DPOF icon will appear to the right of the image #, which means the DPOF print tag is set for the specified image.

NOTE

- When using the shutter button to enable the DPOF setting, the default setting is size=standard, and quantity=1.

EXIT

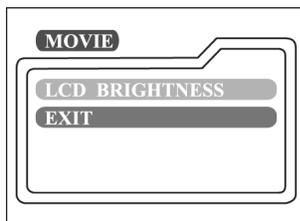
This option exits the record menu and then returns to the  mode. Press the **OK** button to exit. You can also press the  button again to exit.

Movie menu

To adjust movie menu setting, press the  button in the  mode and navigate to the option you wish to set by using the  /  button.

LCD BRIGHTNESS

This option adjusts the brightness of the LCD monitor. Refer to LCD BRIGHTNESS in Record menu for detailed information.



EXIT

This option exits the movie menu and then returns to the  mode. Press the OK button to exit. You can also press the  button again to exit.

Setup menu

Select between Land & Sea exposure programs and other general camera preferences in the SET-UP mode. Switch the mode dial to the SET-UP mode and navigate to the option you wish to configure by using the ▲ / ▼ button.

LAND & SEA® EXPOSURE PROGRAM SETTING

This unique camera offers the option to set the exposure program for land or sea (underwater use)

-  **Land:** select LAND mode when using camera on land (above water)
-  **Sea:** select SEA mode when using camera (inside underwater housing) underwater
-  **Flash:** select FLASH mode when using camera (inside underwater housing) with one or two external flash (es)

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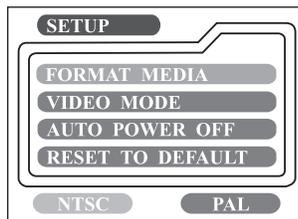
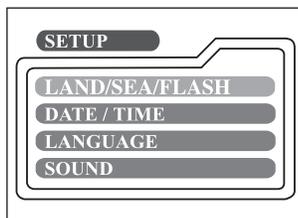
NOTE

- Camera is not waterproof and requires the use of the underwater housing when in or around water
- To confirm Land & Sea Exposure program is set correctly, switch the mode dial to  mode
- The bottom left of LCD will display one of the above 3 icons

DATE/TIME

Press the **OK** button to enter the DATE/TIME sub-menu. Refer to section in this manual titled SETTING THE DATE AND TIME for further detail. After removing the batteries from the camera, the date and time will return to the default setting. If this happens, reset the date and time when using the camera.

[YEAR], [MONTH], [DAY], [TIME]



LANGUAGE

This option allows you to select the language for the menus and the text displayed on the LCD monitor. Press the **OK** button to enter the LANGUAGE sub-menu. And then select the preferred language using the ▲ / ▼ button and press the **OK** button.

[**ENGLISH**], [**Français**], [**Deutsch**], [**Español**], [**Italiano**], [日本語], [中國語(繁體)], [中國語(簡體)]

SOUND

The camera produces a sound (beep) each time you press the camera button if this function is enabled. Select [ON] or [OFF] by using the ◀ / ▶ button and then press the **OK** button.

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FORMAT MEDIA

This utility formats the internal memory (or memory card) and erases all stored images and data. If you select [YES] with the ◀ / ▶ button and press the **OK** button, the FORMAT MEDIA message appears on the LCD monitor. When you select [YES] and press the **OK** button again, a progress bar displays, showing the progress of the format. This utility formats the internal memory (or memory card) and erases all stored images and data.

VIDEO MODE

This option allows you to view your images on a TV. Connect the camera to your TV using the video cable. Then select the video output format by using the ◀ / ▶ button and press the **OK** button.

[**NTSC**] : select this format when located in the U.S.A., Canada, Japan, Korea, Taiwan, Central America, Mexico, etc.

[**PAL**] : select this format when located in Australia, Austria, Belgium, China, Denmark, Finland, Germany, Great Britain, Holland, Italy, Kuwait, Malaysia, New Zealand, Singapore, Spain, Sweden, Switzerland, Thailand, Norway, etc.

AUTO POWER OFF

If there is no camera activity (no buttons are pressed) for a defined period of time while the camera is powered on, the camera will switch to an idle mode, and eventually turn itself off to conserve power.

Inactivity period (batteries)	Inactivity period (AC power adapter)	Camera status
90 seconds	90 seconds	stay idle
3 minutes	30 minutes	shut off

If the camera is idle, re-activate the camera by pressing any button or switch the mode dial. If the camera has powered-off you must to turn the camera on again by pressing the **ⓘ** button. The table (above) shows the default time settings for idle, and power-off. You can change the power saving interval by using the **◀/▶** button and then press the **OK** button.

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[3 min], [5 min], [10 min], [30 min]

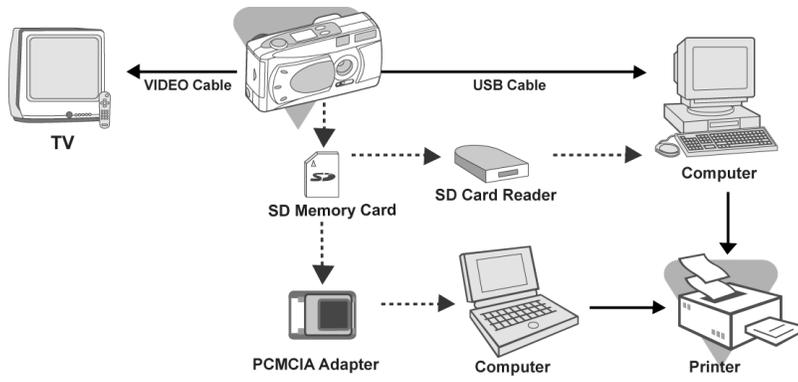
RESET TO DEFAULT

If you wish to restore all camera settings to their original status, select [YES] by using the **◀/▶** button and then press the OK button.

The following table shows the default setting for each item.

Item	Description
Image resolution	1600x1200 pixels
Image quality	★★ Fine
Flash	Auto
Quick view	On
White balance	Auto
EV compensation	0.0
Slide show delay	4 seconds
Auto power off	Battery: 3 minutes AC power adapter: 30 minutes
Sound	On
Digital Zoom	Off
LCD monitor	On

CONNECTING THE CAMERA TO OTHER DEVICES



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CAMERA SPECIFICATIONS

Item	Description
Sensor	2.1megapixels 1/3.2" CCD
Color depth	24 bits (8 bits x 3 colors)
Resolution	1600x1200 pixels / 800x600 pixels
LCD	1.6" color TFT LCD
Self-timer	10 seconds delay
Shutter speed	1/10 sec.~1/1000 sec. (Will vary depending on Land & Sea exposure program setting)
Zoom	2 x digital zoom
Capture modes	Still photographs or video recording
Memory type	8 MB internal memory / SD memory card (optional) (up to 256MB capacity)
Memory capacity	Storage for an 8MB SD memory card at 1600x1200 pixels: Fine: 10 images; Normal: 15 images; Basic: 20 images
Flash effective range	0.5m~2.5m
Lens	Fixed focal length: 5.6mm Focal range: Standard—0.7m~infinity; Macro—0.3m~0.8m / F-number: 2.8/5.6
Focus	Focus range: 30cm to infinity
Exposure compensation	Auto; Manual: -1.8 ~ +1.8EV (0.3EV step)
Exposure programs	Land, Sea or External Flash
White balance	Auto, Sun, Shade, Fluorescent, Tungsten
Compressed format	JPEG, Motion JPEG for video clip
Standards	JPEG, EXIF 2.1, DPOF, DCF, Motion JPEG
Interface	DC IN jack, USB connector, VIDEO OUT jack (NTSC or PAL)
Operating environment	Operation: 0°C~40°C, 15~90% humidity Storage: -20°C~80°C, 10~95% humidity
Power	2 AA Alkaline (1.5V) or Ni-MH (1.5V) batteries, or AC power adapter(2.5A/3.3V)
Tripod socket	Yes
Dimensions	112 x 41 x 56 mm (W x H x D) (4.4" x 1.6" x 2.2")
Weight	Approx. 150g (without batteries and the SD memory card) 5.2 ounces, (7.3 ounces with battery and SD card)

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**Design and specifications are subject to change without notice.*

Underwater Housing Instructions

Important: Please carefully read and understand these instructions **before** using camera and housing underwater.



Front view of
DC250 housing



Back view of
DC250 housing

SeaLife Reefmaster Dive Easy Housing (SL113)

- Depth rated and tested to 200ft. (60M)
- Fully rubbered armored for water and shock protection
- Includes Sportsfinder.
- Soft rubber grips.
- Optical glass lens port.
- Stainless steel hardware - corrosion proof.
- 3-button controls (power, shutter and LCD on/off).
- Accessory mount for adding one or two external flash (es)
- Snap-on lens port to quickly attach macro or wide angle lens.
- Leak check window let's you see if housing leaks while underwater.

MUST DO for underwater housing:

1. Read these instructions before using the underwater housing.
2. Do not exceed the depth rating printed on the lens port of the housing.
3. Keep main O-Ring perfectly clean.
 - Clean main O-ring with cleaning brush provided before every use. Do not remove O-ring. Do not grease O-Ring.
 - Store camera and housing only after careful cleaning and when totally dry.
 - Housing uses one large O-ring at housing sealing lid. Never use housing without O-ring in place.
 - If O-ring is damaged, contact the SeaLife Service Center. (See page 58). Do not continue using housing
 - O-ring must be perfectly clean (no sand, dirt or debris) before sealing housing.
 - Soak or rinse sealed housing with fresh water after use in salt water.
4. Carefully close lid to seal housing.
 - Make sure O-ring do not slip out of the groove when sealing.
 - Press lid firmly and tightly down into housing to ensure a waterproof seal.
5. Never let any moisture or dirt get inside housing when opening.
 - Only open and load the housing in dry cool air, such as inside an air-conditioned room.
6. For great underwater pictures you need:
 - Clear water conditions, control your buoyancy before taking picture, get as close as possible to subject (ideal distance is 2' to 6'). Use the SeaLife Macro Lens/Filter for close-up pictures with super details and vibrant colors.
7. Store housing at room temperature in a clean and dry place
 - Do not expose housing to direct sunlight for prolonged periods of time.
 - Do not store housing in hot locations, like the trunk of your car.

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Open view of housing

The housing uses one O-ring to form a waterproof seal

Contact SeaLife Service Center if O-ring is damaged and requires replacement.



Important: Carefully inspect o-ring for salt, sand, hair, cuts, tears or other damage. Clean o-ring before every use. Replace o-ring if damaged.

If O-ring needs to be replaced, contact the SeaLife Service Center at (856) 866-9192

Main O-ring and keeping a waterproof seal

The SeaLife housing uses one O-ring to form a waterproof seal. Every housing is tested for quality and a waterproof seal. It is your responsibility to maintain the housing and ensure it remains waterproof. Our research and testing shows that 99% of leaks are the result of not cleaning or caring for the O-ring.

 *Warranty does not cover a water-damaged camera unless it is clearly determined that a manufacturing defect caused the leak.*

- The O-ring must always be kept clean and checked for damage before every use.
- Carefully clean the housing surface that makes contact with the O-ring and inspect for scrapes and cuts. If the housing sealing area is damaged, contact the SeaLife Service Center.
- Never use the housing without the O-ring in place.
- If O-ring need replacement contact the SeaLife Service Center.
- Do not remove or lubricate the O-ring.
- The O-ring located in the housing lid groove is not glued in place. O-ring should not be removed unless sand, hair or other objects become trapped under O-ring. If O-ring must be removed use the other end of the cleaning brush to lift up O-ring and remove. Carefully inspect O-ring for cuts and damage. If this O-ring is removed, make sure it is carefully replaced. Do not twist or stretch O-ring. O-ring must be pushed into it's groove. Be careful not to pinch O-ring when closing housing.

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The underwater housing uses 3 buttons – Power, Camera, LCD Power button and Shutter button. Each button assembly has an O-ring to keep a waterproof seal. It is normal to feel some resistance when pressing these buttons. If the button does not return to it's original position or if the button does not have a smooth action, contact the SeaLife Service Center. Do not attempt to disassemble or service the shutter or power buttons.

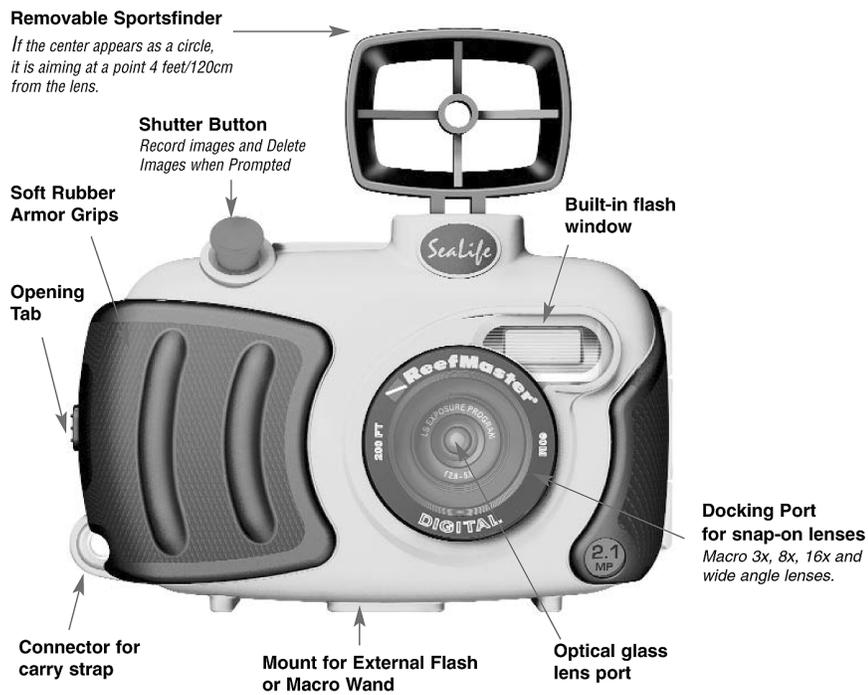
Quick waterproof test

Wrap a small dive weight in a blue paper towel, place inside housing and close the lid to seal the housing. The blue paper towel makes it easier to see a leak. Make sure not to pinch the paper towel in the O-ring. Place the sealed housing in a tub of cold water for about one hour. No leaks should be present. If the housing shows sign of leaking, do not use the housing and contact the SeaLife Service Center for repairs.

SeaLife Service Center, 97 Foster Road, Moorestown, NJ 08057
(856) 866-9192 - www.sealife-cameras.com/service.

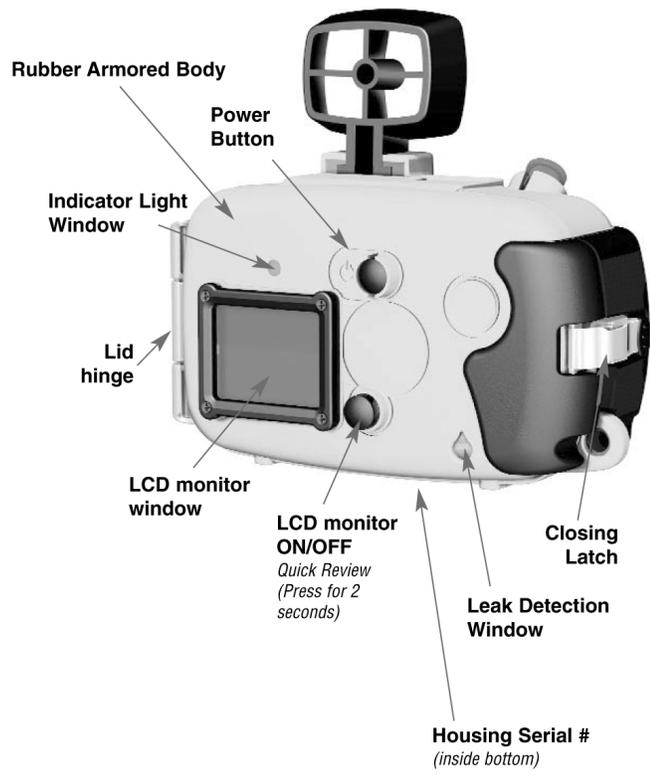
SeaLife ReefMaster Underwater Camera Housing

Front View



SeaLife ReefMaster Underwater Camera Housing

Rear View



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How to set-up the Underwater Housing

Set up camera

1. Insert 2 fully charged Ni-MH batteries (size AA, capacity at least 1800 mAh).
See page 67 for more battery information. Make sure you insert the batteries with the correct + and – polarity.
2. Clean camera lens with dry, clean cotton cloth.
3. Make sure camera focus lens is set to normal distance. DO NOT SET TO MACRO.
4. Remove camera strap since this may prevent the camera from correctly seating itself inside the housing.
5. Set camera to Sea mode. If you are using an External Flash, set camera to External Flash mode. See page 51 for detailed instructions on how to set camera to Land, Sea or External Flash modes.

Set up housing

 *Opening and loading of the housing should be done only in dry cool air, such as in an air-conditioned room to prevent fogging.*

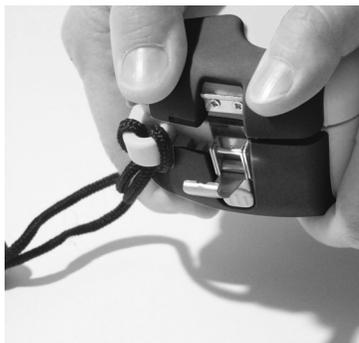
1. Open the housing by pulling up latch on side of housing. Do not extend housing lid beyond its stop point or damage may occur to the hinge area.



2. Carefully inspect O-ring for damage and make sure O-ring is firmly pushed in its groove.
If O-ring is damaged and requires replacement, contact SeaLife Service Center (For service details, see page 58).
3. Clean the housing glass lens port using clean, dry cotton cloth. It is recommended to apply anti-fog solution to the inside surface of the housing lens.

4. Carefully insert camera into housing. Make sure camera is clean and dry.
5. Insert two Anti-Fog desiccant capsules into special slots inside housing.
Note: New desiccant capsules will be blue in color. As the desiccant absorbs moist air, it turns from blue to light pink. Replace desiccant capsules when color changes to light pink.
6. Carefully clean O-ring and inside of housing area where O-ring makes contact. Use cleaning brush provided in Care Kit. O-ring must not be wet when sealing housing, allow these areas to dry.

 *O-Ring must be absolutely clean of all lint, sand or other small particles.
Do not grease O-ring.*



Close housing lid tightly, then close latch.

12. Do not allow any water droplets to get inside housing. This will cause the inside of the housing to fog.
13. Close housing lid tightly. Make sure there are no obstructions that prevent the housing from closing. Make sure lid is tightly pressed into housing, (see picture).
14. Close housing latch. Make sure the lid is pressed flat and evenly against the housing body. The housing may leak if the lid is not flat against the housing when closed.

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Test camera and housing

1. Press the external power button on the top of the housing to turn camera power on.
2. Press the shutter button on the outside of the housing to take a test picture.
3. The power or shutter button should have a smooth action and return to its original resting position after pressing. It is normal to feel some resistance when pressing the power and shutter button.
4. Press and hold power button to turn camera power off. It is recommended to leave camera power off until you're ready to use camera to preserve battery power.
5. After 3 minutes the LCD and monitor will turn off, and the camera will in power save mode. To re-activate power, push the SHUTTER BUTTON.
6. After 15 minutes the camera power will shut down. To operate the camera, push the POWER BUTTON to turn on the camera.

Using and cleaning the underwater housing and camera

Entering the water with housing

1. Do not enter water with camera in your hand. Have someone hand you the camera after you have entered the water.
2. See “Great Pictures Made Easy” on page 65.

After using housing underwater

1. Before entering dive boat, hand housing to someone on the boat.
2. Make sure the sealed housing is placed in a fresh water tank available on most dive boats. This will clean the salt water from the camera housing and prevents the salt water from drying on the camera housing and O-ring. Never let water dry on the camera housing. Salt crystals can damage the O-ring, lens and attract moisture. Dry housing with clean soft towel after removing from fresh water tank.
3. Do not expose camera and housing to direct sunlight – keep in a shaded area or under a dry towel.
4. It is not recommended to remove camera from housing while on the dive boat. Allowing humid air to enter the housing may cause fogging.
5. If you must open the housing while on the dive boat, make sure you and the housing are perfectly dry before opening the housing. Do not allow the inside of the housing or the camera to get wet.

Cleaning housing after use

1. The sealed housing must be thoroughly cleaned with fresh water before opening. Never let salt water dry on housing. Salt crystals may damage the O-ring, lens and attract moisture.
2. Never let water drops dry on lens. Wipe lens dry with clean cotton cloth.
3. Before opening housing, everything, including your hands, head and surrounding area must be totally dry. Have a dry towel handy.
4. After opening the housing, clean the camera, O-ring area and all inside and outside parts with a clean, dry cotton cloth.
5. Before storing the housing and camera, remove batteries, SD card and keep in a clean dry area. Make sure the housing and any accessories are clean and dry before storage.
6. Never store camera or housing in direct sunlight or in a dark damp area. The airtight, unbreakable SeaLife ReefMaster Dry Case (Item # SL930) is highly recommended along with 1-oz bags of SeaLife Moisture Muncher Desiccant (Item # M101) for travel and storage.

Great Pictures Made Easy

Taking underwater pictures is much different than taking land pictures. Here are the most important tips to taking great pictures underwater:

1. Crystal Clear water.

Crystal Clear water is essential for good underwater pictures. Remember the human eye can see more detail than a camera. In other words, your eyes see the water as being clearer than it actually is. Floating particles like algae, and silt cause low visibility. Avoid stirring up the sandy bottom with your fins. These floating particles cause small spots to appear in your picture, known as "backscatter."

Always remember to limit your shooting distance to 1/10 of the water visibility. For example, if the visibility is 60 feet (18 m), you should keep your shooting distance to within 6 feet (1.8m); in 30 feet (10 m) visibility you should be no further than 3 feet (90 cm) away from your subject.

2. Stay within the ideal shooting distance of 2 to 6 feet.

The ideal shooting distance is between 2 to 6 feet (0.6 to 1.8 meters). This distance will result in detailed, colorful pictures. The closer, the better. Use your stretched out arm as a measuring tool to keep your minimum shooting distance of 2 feet (0.6 meters). Remember that light does not travel very far underwater. For best pictures, use a 3X Macro Lens at distances from 12 to 36 inches (30 to 90 cm).

3. Move calmly and control your buoyancy before taking a picture.

It is very hard to take good pictures when you are moving. Look around for great picture opportunities. First position yourself at the best angle, and neutralize your buoyancy. Second, use the LCD monitor to perfectly frame your subject, check your shooting distance and keep the camera steady. Third, be calm and patient: Sometimes you have to wait a little bit so the fish that were frightened away, come back. Don't chase the fish, let the fish come to you.

 *Always be in control of your buoyancy before taking pictures and observe all safe-diving rules.*

4. Shoot and review - If you don't like it, delete it.

One of the key advantages of the SeaLife digital camera is that the monitor displays the picture you've just taken. The monitor will display a message "DELETE THIS?" for 3 seconds. If you don't like it, delete it by pushing the shutter button again. One of the best ways to learn underwater photography is from your good pictures and mistakes.

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5. Take several pictures of the same subject.

Use different distances and angles. (Allow about 10 seconds between shots for the flash to re-charge). Study and compare the good and bad pictures and you will soon be a master.



Never touch any sea creatures. Consult your dive master about approaching dangerous creatures or structures.

6. Use SeaLife Macro and Wide Angle Lenses for dramatic close-ups.

The SeaLife Macro and Wide Angle lenses allow you to get super close to your subject for images full of colors and razor-sharp details. Each SeaLife macro lens has optical coatings for color correction (reduces the underwater bluish effect) and a neutral density coating to prevent over flashing.

With the 24mm wide-angle lens you fit a close group of 4 dive buddies or a 6-foot (180 cm) shark at a shooting distance of 6 feet (180 cm). Normally you would have to be 10 feet away, too far for a sharp picture. The following lenses are available at your local scuba dive dealer:

Lens description	Item #	Effective range
No Lens	N/A	2' (60 cm) to infinity
Macro 3X lens/filter	SL951	22" to 36" (56 to 90 cm)
Macro 8X lens/filter	SL959 (set)	16" to 22" (40 to 56 cm)
Macro 16X lens/filter	SL959 (set)	8" to 11" (20 to 28 cm)
24 mm Wide angle lens	SL970	1' (30 cm) to infinity Field of view about 50% larger.

The above distance only apply to digital camera. SeaLife film cameras will have different shooting distances.

The 8X and 16X Macro lenses are sold in a set that also includes the extendable and collapsible distance-measuring device "Macro Wand" (Set item # SL959)

7. Use the SeaLife External Flash to enhance color and brightness.

Water filters out light and red/yellow colors resulting in darker, bluer images. The only way to prevent this from occurring is by taking pictures at shallow depths (within 5' depth on a sunny day) or by using artificial light, like the SeaLife External Flash.

The External Flash easily mounts to the bottom of the housing. The flexible arm allows you to direct the flash at the subject. Even two flashes can be mounted onto the housing for an evenly illuminated and shadow-free image. This system blocks the built-in flash and prevents backscatter. The flexible flash arms allow quick adjustments of the flash. An optional Flash Diffuser can be snapped onto the flash head and is highly recommended for close-up shots of bright, reflective subjects.

8. The quick review feature allows you to playback pictures without removing the camera from the housing.

Press and hold the LCD button for 2 seconds. The last image will appear. Press the LCD button to scroll to the next picture. Press and hold the LCD button for 2 seconds to exit.

Battery Selection Guide:

It is important to use only AA batteries designed for high drain electronic devices.

Nickel Metal Hydride (Ni-MH)

We suggest using SeaLife 1800 mAh Ni-MH rechargeable batteries or higher mAh rated Ni-MH battery. With Ni-MH batteries, you can expect about 2 hours of normal operating usage. Ni-MH batteries can be recharged about 1000 times without the “memory” problems that you get with Ni-CAD batteries

With proper power management you can get through a dive day and recharge your batteries at night.

Do not expose Ni-MH batteries to water or moisture. Properly dispose of any Ni-MH battery exposed to water or moisture.

See specific warning on battery.

Lithium

Lithium AA batteries are suitable for the SeaLife digital camera. AA Lithium batteries typically will last the longest, cost the most and are not rechargeable.

Standard and High Energy Alkaline

Do not use alkaline batteries, like Duracell Coppertop, since they may only last about 10 minutes in the SeaLife Digital Camera.

If you cannot use Ni-MH rechargeable batteries, you may use new “high energy” alkaline batteries that last a longer than standard alkaline batteries, but not as long as SeaLife Ni-MH rechargeable batteries. The following are examples of “high energy” alkaline batteries:

1. Duracell Ultra
2. Panasonic (high energy)
3. Energizer Titanium or E3 (High Energy)

Do not attempt to recharge alkaline batteries.

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Battery Life

We have tested the following batteries under normal and extreme operating conditions. The following operating times are averages and can vary depending on age of battery, temperature and other factors.

Normal conditions (*designed to simulate operating conditions when scuba diving*):

1. Turn camera on, take a test picture. Set to Sea Mode. Put in housing, close housing.
2. 90 minutes later: Turn power on. Take three pictures on land. 10 Minutes later: Take pictures underwater for 45 Minutes, not continuously, but every 2 Minutes, =23 pictures.
3. Wait for 1 hour, then take 20 underwater pictures in 40 Minutes.
4. Wait for 2 hours, then repeat step 2 and step 3.
5. Then repeat 3.

Extreme conditions (*designed to test the power consumption in the most extreme operating conditions.*)

1. Turn camera on, Set to External FLASH mode. Put in housing, close housing.
2. Take picture intervals as quickly as possible (display always ON, FLASH always fires)

Battery Type	Life during NORMAL use	Life during EXTREME usage
SeaLife Ni-MH rechargeable (1800mAh)	200 minutes	100 minutes
Energizer Lithium 1 (non-rechargeable)	400 minutes	130 minutes
Duracell Ultra (high-energy alkaline)	200 minutes	60 minutes
Duracell Coppertop (Standard alkaline)	20 minutes	10 minutes

Note: The above times may vary depending on other factors like temperature, humidity, age of batteries and other factors.

Trouble shooting guide

Problem	Possible cause	Corrective Action
No Power	Battery power low.	Replace or recharge batteries.
	Wrong type of batteries.	Use only AA designed for high drainage electronics. (see <i>battery selection guide</i>)
	Battery + and - not inserted correctly.	Check that batteries are inserted correctly.
Camera gets hot	Power save function activated.	Turn camera back on.
	Camera damaged.	Contact service center.
	Constant use of camera.	This is normal.
No PC connection	Using incorrect battery type.	Use only AA designed for high drainage electronics. (see <i>battery selection guide</i>)
	USB cable not connected to USB port.	Inspect connection ports.
	Slow PC connection time.	Give at least 5 minutes for some PC's to establish connection.
No Video Connection	Camera driver not installed.	Install camera driver CD (page 39).
	Improper connection to TV	Connect video cable to video IN jack of TV or VCR and change TV/VCR to video in channel.
Poor Video connection	Video cable not fully inserted into camera or TV	Make sure video cable is completely inserted into video jack of camera until it clicks. Also check that connection to TV/VCR is correct.
"Memory full" message	Memory storage is full.	Delete images or download to PC. Insert empty CF card.
Pictures out of focus	Dirty lens.	Clean lens with clean cotton cloth.
	Incorrect focus setting.	Check lens for correct focus (macro or standard).
	Fogged housing lens.	Insert camera in dry, air-conditioned room. Use anti-fog desiccant inside housing. Do not let water drops get inside housing.
	Too close to subject.	Shooting distance must be 2'+ (macro = 1' to 2').
	Low water visibility	Shooting distance not to exceed 1/10 of visibility.

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Problem	Possible cause	Corrective Action
Grainy picture	Dark light conditions.	Move closer to subject (2' to 6'). Use SeaLife External Flash to illuminate subject and improve color and brightness.
Overexposed image	To close to reflective object.	Move farther away from subject (4' to 6'). Turn External Flash away from subject. Use External Flash Diffuser (SL968).
Flash not firing	Flash on Auto and is not needed. Finger over flash window Improper operating mode	Turn fill-flash ON (see page 30) Grip camera correctly, not blocking flash. Check for proper operating mode (Land or Sea).
Lost images	Defective SD card. Defective internal memory. Using camera with low battery power.	Use only approved quality SD cards. Reformat SD card (will delete pictures). Reformat memory (this will delete pictures in memory). Replace with freshly charged batteries.
Image number indicator does not count down	This may occur depending on actual memory available.	N/A
Housing leaks water	O-ring not clean or is damaged.	Perfectly clean main O-ring. Inspect for damage or dents to housing and O-ring. Replace damaged O-ring. Camera not seated in housing. Remove strap or any accessory from camera. Check that camera is completely seated in housing.
No image on TV set	Improper connection. Wrong video mode.	Check cable connections. Change video mode in camera set-up menu (page 52).

For updated trouble shooting guide refer to website: www.sealife-cameras.com

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