

SeaLife® **micro 3.0**™



Instruction Manual:

Micro 3.0 Underwater Camera (*Item SL550*)



For Español, Deutsch, Français, Italiano,
Nederlands and other languages, visit
sealife-cameras.com/manuals

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I. Package Contents



Micro 3.0 Camera (SL550)



USB cable (SL51004)
(2ft/60cm USB 2-A to Micro-B)



Wrist strap (SL50102)



Camera pouch (SL50107)



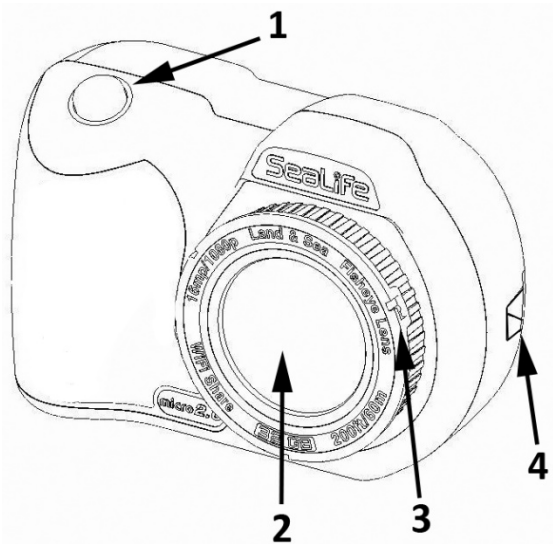
USB adapter (SL50103)



Instruction Manual (SL55008)

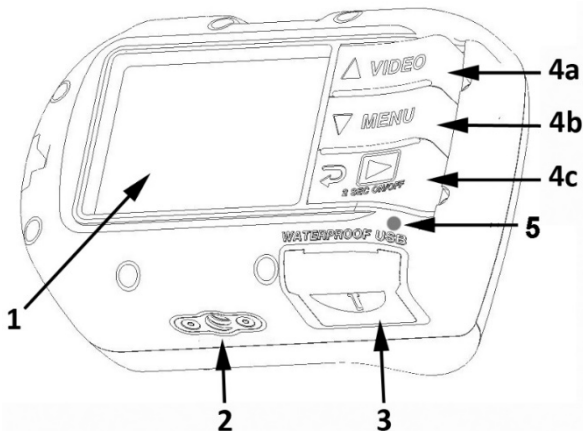
II. Getting to Know Your Camera

Front view



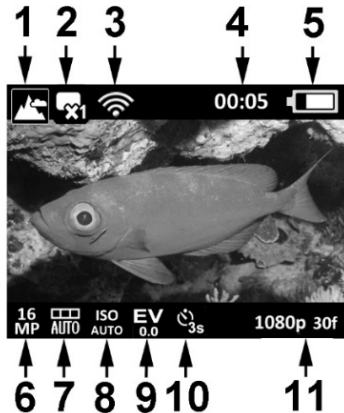
1. Shutter button
2. Optical glass lens port
3. Lens adapter ring (for attaching lens accessories)
4. Wrist strap connection point

Rear view:



1. 2.4" TFT color display
2. 1/4-20 tripod accessory mount
3. Waterproof USB contacts (Serial# under USB cover)
4. "Piano Key" control buttons:
 - a. Video (up)
 - b. Menu (down)
 - c. Playback / Power / Back 1-step [in menu]
5. LED Charging / Data connection Status Indicator

LCD Display - Capture Mode:

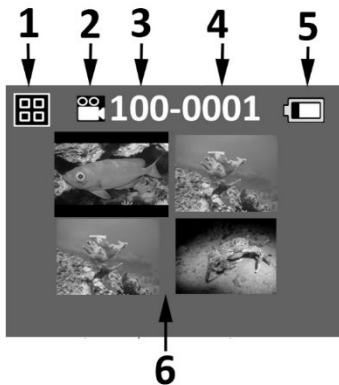


1. Scene modes
2. Capture Mode
3. WiFi On
4. Elapse Timer (H:MM:SS)
5. Battery condition
6. Picture Resolution
7. White Balance
8. ISO value
9. Exposure Value (EV)
10. Self-timer or Time Lapse time interval
11. Video resolution size (with frames per second)

Note: When shooting Video Time Lapse, the video frame rate is replaced by the time lapse time interval.

LCD Display - Playback Mode:

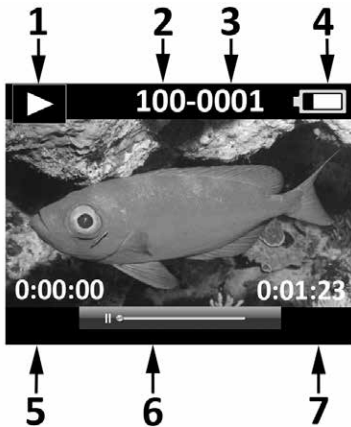
Thumbnail view



1. Playback icon - Thumbnail view
2. File type: Photo or Video
3. Folder # (100 to 999)
4. File # (0001 to 9999)
5. Battery condition
6. Thumbnails (4 per page)

LCD Display - Playback Mode:

Single Image view

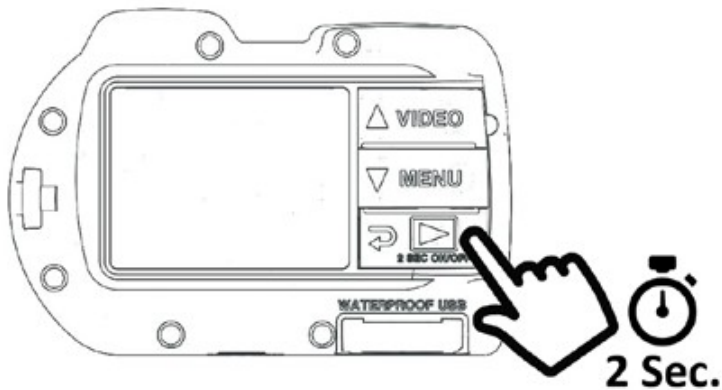


1. Playback icon - Single image view
2. Folder # (100 to 999)
3. File # (0001 to 9999)
4. Battery condition
5. Elapse time H:MM:SS (video files only)
6. Video status bar (video files only)
7. Total recorded time H:MM:SS (video files only)

III. Basic Camera Operation

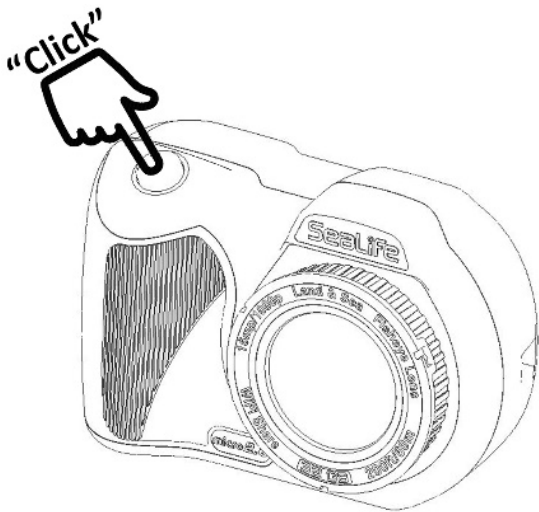
Power On/Off:

Push Power [bottom] button for 2 sec. to power camera ON or OFF.



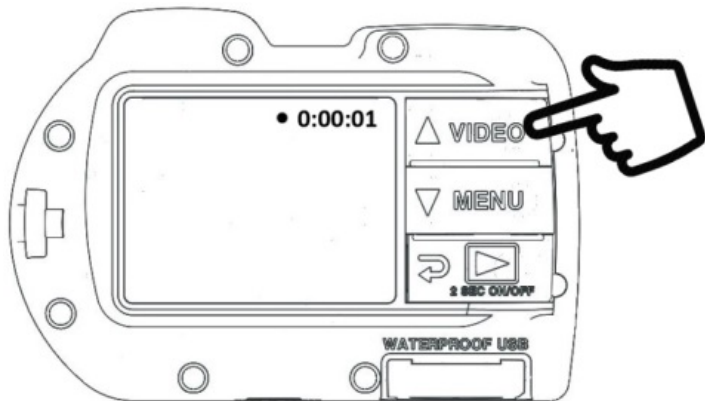
Take a Picture:

Aim, hold camera steady and push shutter button.



Record a Video:

Push video button to start and stop video recording.



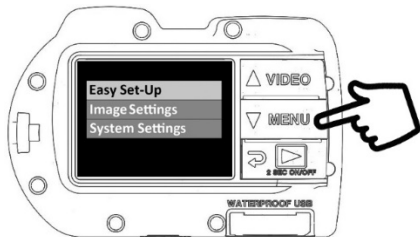
Note:

- During video recording, an elapse record timer will be on the top of the LCD display.
- Pushing the shutter button during video record will capture an 8MP picture for 4K video and 2MP for 1080p video.
- Maximum record time per video clip is 29 minutes.

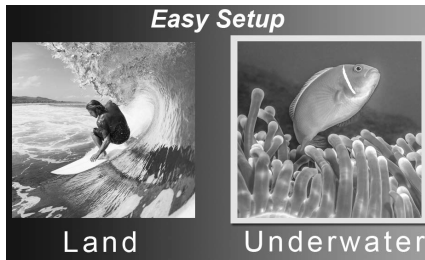
Easy Setup:

Follow the on-screen guide to set the camera correctly.

1. Push MENU button



2. Push shutter button to select "Easy Setup." Follow the on-screen guide using the Up (Video) or Down (Menu) buttons to select desired option and Shutter button to confirm setting.



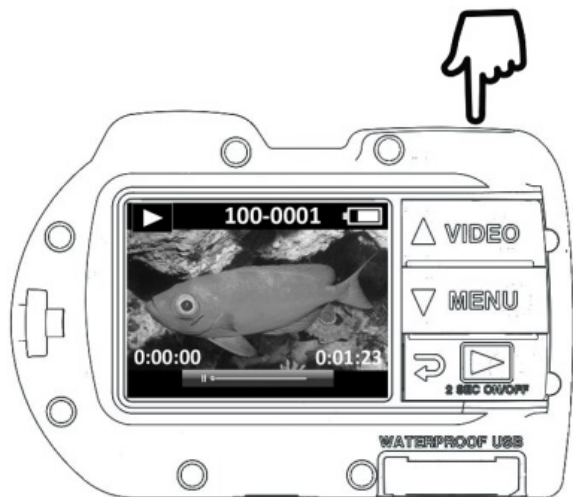
Playback Pictures and Videos:

1. Push Playback button to display thumbnail images.



2. Use the Up or Down buttons to scroll through thumbnails.

3. Push Shutter button to display single images/videos.

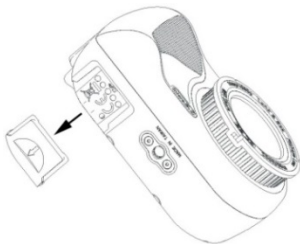


Note:

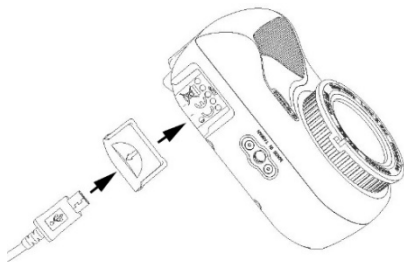
- Push Shutter button to start or pause video playback.
- Use Up/Down buttons to increase/decrease video playback speed
- To delete ONE or ALL files, select a file in thumbnail view, and push and hold the shutter button. Then follow the on-screen instructions.

Charge Battery:

1. Remove USB cover.

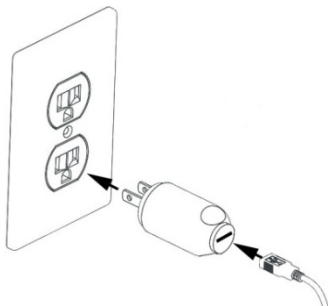


2. Make sure camera and USB contacts are completely dry. Insert USB cable into USB adapter, and insert into waterproof USB port.

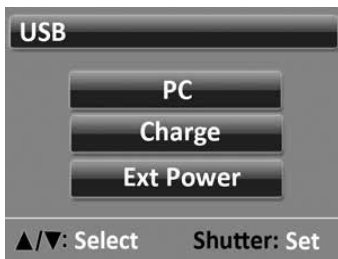


Important: Camera MUST be completely dry before inserting USB adapter. USB adapter is not waterproof.

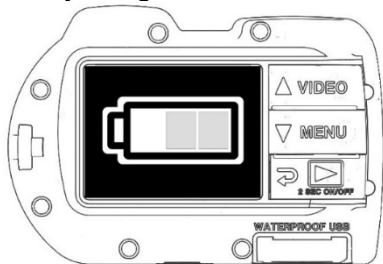
3. Connect other end of the USB cable into any 5V (0.5, 1.0 or 2.0 amp) wall charger, and insert wall charger into outlet.



4. The camera will display PC, Charge and Ext Power. Use the Up or Down buttons to select Charge and push Shutter button to confirm selection.



5. A battery icon on the display will blink from 1 to 3 bars repeatedly when battery is charging, and 3 solid bars when fully charged. The LED status indicator above the USB will blink red during charge and solid red when fully charged.



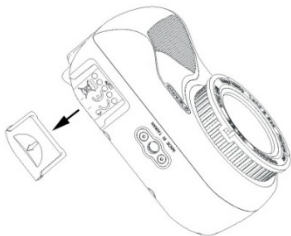
6. After 1 minute of charging, the display will turn off to save power and charge faster. Push any button to turn on display.

Note:

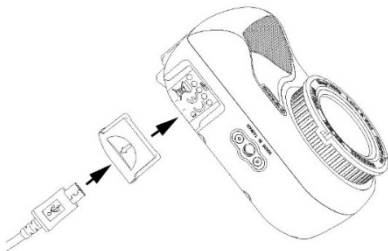
- Allow about 3 hours to fully charge the camera when using a 5 volt /1 or 2 amp wall charger. Using a PC or 5V/0.5A wall charger takes about 6 hours to fully charge.
- Pushing the MENU button while the camera is charging will stop charging and show USB option screen.
- Select Ext Power to operate the camera while it is connected to any 5V USB wall charger or power bank.
- See troubleshooting tips on page 65 if camera is not charging.

Download pictures to PC:

1. Remove USB cover.

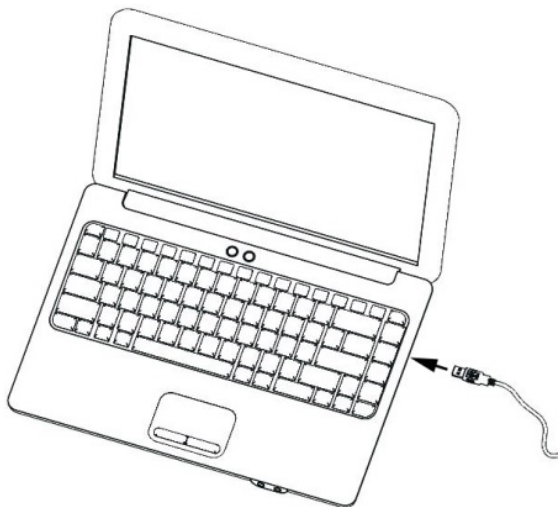


2. Make sure camera and USB contacts are completely dry. Insert USB cable into USB adapter, and insert into the waterproof USB port.

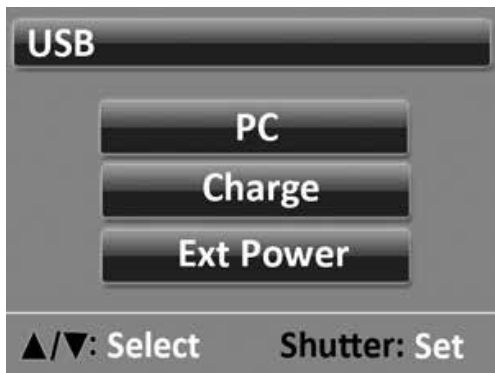


Important: Camera MUST be completely dry before inserting USB adapter. USB adapter is not waterproof.

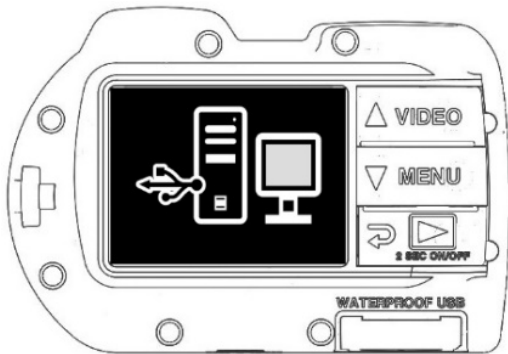
3. Connect other end of the USB cable into the computer's USB port.



4. The camera will display PC, Charge or Ext Power. Use the Up or Down buttons to select PC and push the Shutter button to confirm selection.



5. The PC connection icon will appear on the display and the LED status indicator above the USB will be solid green. A flashing green LED indicates a connection failure. In that case, thoroughly clean the USB contacts.



6. For Windows, right-click the Windows logo on bottom left of computer and select “File Explorer”. Locate and double-click the drive titled “MICRO3.0”. For MAC, double-click on “untitled” or “unlabeled” disk drive icon or your desktop. The DCIM folder contains all pictures and videos.

Note:

- After 1 minute, the display will turn off to save power. Push any button to turn on display.
- Pushing the MENU button will interrupt PC connection and show USB option screen.
- The battery will keep its charge (not charge or discharge) during PC Connection.
- You may also make direct wired connection between the camera and smart phone or tablet. You will need a USB adapter specific to the make / model of your smart phone or tablet. For iPhones or iPads, a special Y-cable is needed to provide power + data to the smartphone/tablet. For details, please refer to Tech Support section of the SeaLife-Cameras.com website.
- See troubleshooting tips on page 65 if the camera does not connect to PC.

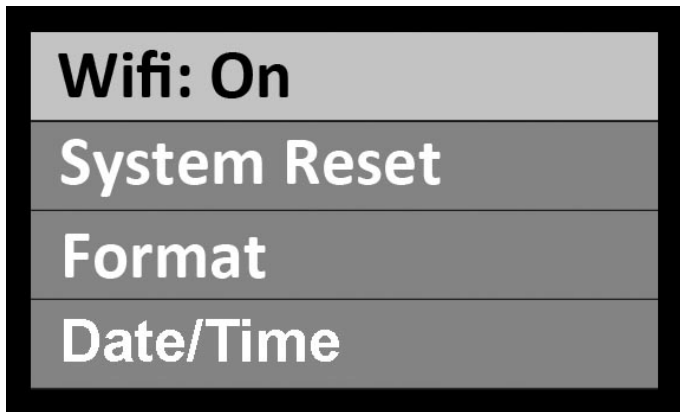
IV. WiFi Connection with SeaLife Micro 3+ App

WiFi Connection to Smartphone or tablet

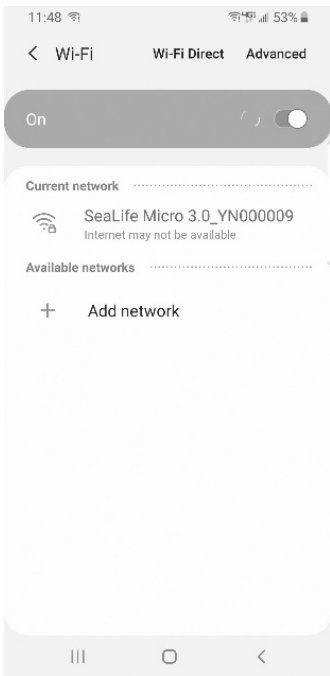
1. On your iOS or Android device, go to the Apple App Store or Google Play Store and download and install the free "SeaLife Micro 3+" app. For iPads, select "iPhone Only" when searching for the app..



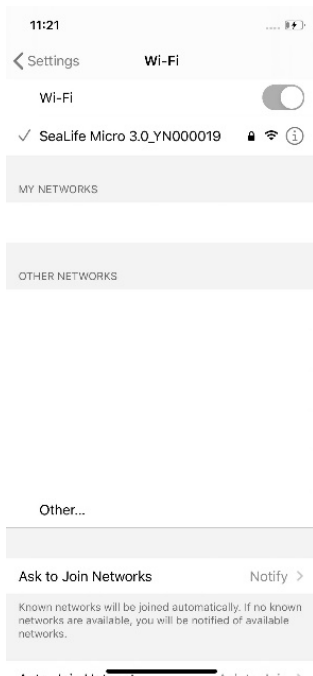
2. Go to the camera's System Setting menu and turn WiFi On. Allow about 15-30 seconds for the WiFi transmitter to start-up.



3. Go to the WiFi setting on your iOS or Android device and select "SeaLife Micro 3 camera [serial #]" from the list of available hotspots. When prompted, enter password 1234567890.



Android



iOS iPhone/iPad

4. Open the SeaLife Micro 3+ app. The app should show a live-stream view from the camera lens and the camera should show "Connected". If not, repeat above steps.

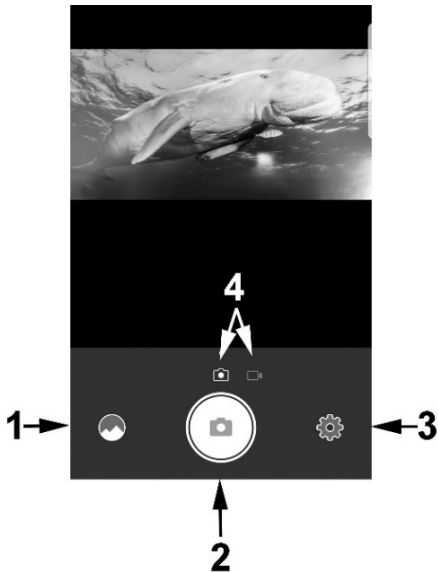


5. To disconnect WiFi, push the camera's power (Playback) button.



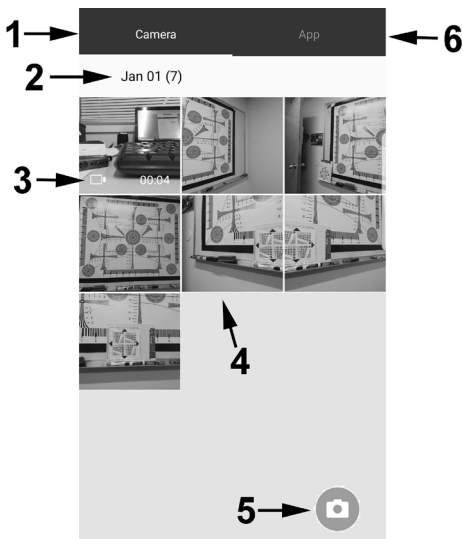
Note: The camera password may be changed. Go to the app's Settings icon (gear icon on bottom right) and select "Change Password". Follow the on-screen instructions.

Home Screen:



1. Playback Gallery
2. Take picture or start/stop video
3. Camera settings menu (gear icon)
4. Picture / Video mode

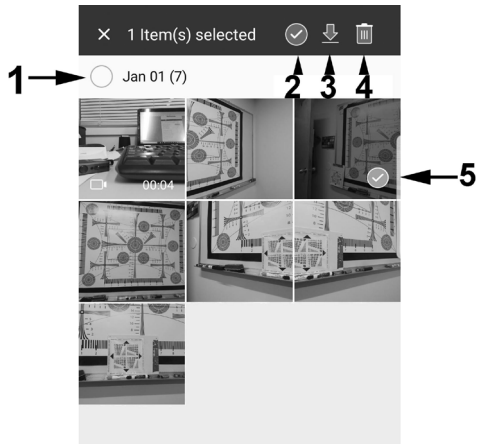
Playback Screen:



1. Camera Gallery (files saved on camera)
2. Date pictures/videos were taken (# of files for that day)
3. Video icon indicates files is a video
4. Thumbnails (touch for larger single view)
5. Return to home screen (live view)
6. App Gallery (Files downloaded to app)

Downloading files:

Push and hold any thumbnail to open download screen.



1. Select files for a specific date
2. Select ALL files
3. Download selected files
4. Delete selected files
5. Check mark icon indicates files is selected

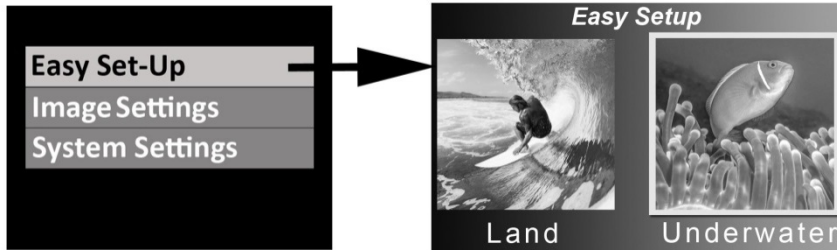
Note:

Photos/videos downloaded from the camera to your smartphone/tablet will automatically be saved to the device's photo gallery.

V. Menu Settings

Easy Setup:

A step-by-step guide that helps you set the camera correctly. Simply follow the on-screen guide and select land or underwater, and choose among the available options.

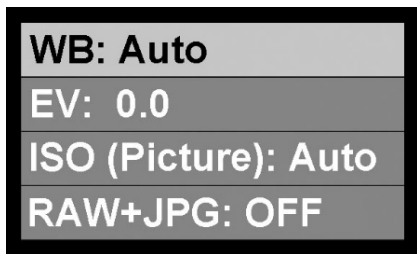
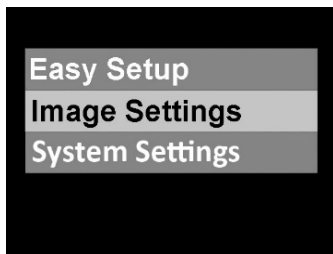


Easy Setup options include:

1. Land
 - a. Land (Auto) - For most land photos/videos
 - b. Sports/Action - Uses Burst capture for fast moving subjects
2. Underwater
 - a. Dive - Camera only below 25ft/8m
 - b. Snorkel - Camera only above 25ft/8m
 - c. Ext Light - When using a photo-video light(s).

Image Settings:

The Image Settings menu contains all the photo and video exposure, color and quality settings. To open Image Settings, push the Menu button, scroll down to Image Settings and push the shutter button to confirm selection. The following describes each of the settings in the order as they appear in the camera menu.



White Balance (WB) - Applies to photos and videos

White balance is a digital color filter that adjusts the color of photos/video under specific lighting environments. If set properly, the photo/video colors should appear natural. For example, a white object should appear white.

One of the following icons is shown on the LCD display. Select from 7 white balance filters:



A.



B.



C.



D.



E.



F.



G.

- A. Auto - Automatically selects the best white balance for land (not for underwater).
- B. Underwater Deep - Ideal for shooting underwater at depths greater than 25ft/8m.
- C. Underwater Shallow - Ideal for shooting underwater at depths less than 25ft/8m.
- D. Underwater Green - Ideal for shooting underwater in green (algae) water.

- E. Manual – Manually adjust the white balance color for a specific lighting environment using a white or gray card.

After selecting Manual, hold a white (or gray) card about 12"/30cm in front of the camera lens, so the card fills up all or most of the image frame. Push the shutter button to confirm and the camera will adjust the color according to the card. The card should appear white or gray if Manual white balance was set properly. The camera will save the Manual WB color until it's set again.

- F. Daylight - Ideal for shooting on land in sunny conditions.

- G. Cloudy - Ideal for shooting on land in cloudy conditions.

Exposure Value (EV) - Applies to photos and videos

This setting adjusts the camera's auto exposure program and is useful to force the camera to capture slightly over-exposed or under-exposed photos/video. Increasing the EV value results in a brighter image exposure. Decreasing the value results in a darker image exposure.



The above icon is shown on the LCD display with the corresponding EV value. The EV setting can be adjusted from +2.0 to -2.0 in 0.3 step increments, and 0.0 EV is the factory default setting.

ISO - Applies to Photos only

ISO adjusts the image sensor's light sensitivity. Select from Auto, 100, 200, 400, 800, 1600 and 3200. The following icon is shown on the LCD display with the corresponding ISO value.



The higher the ISO value, the more sensitive the camera will be to light, and is ideal for low light shooting conditions. The lower the ISO value, the less sensitive the camera will be to light, and is ideal for brighter light shooting conditions. A lower ISO value results in sharper, less grainy image quality compared to higher ISO value. Selecting AUTO ISO automatically selects the optimal setting.

RAW+JPG - Applies to Photos only

When RAW+JPG is turned On, the camera will save one uncompressed RAW (.dng) file and one compressed JPG file. Shooting in RAW allows for the greatest degree of photo editing because the file is unprocessed and uncompressed. This setting is recommended for advanced photographers familiar with the art of RAW photo editing.

The .dng RAW file format was created by Adobe. Use Adobe Photoshop Lightroom or Elements photo editing software to open and edit .dng RAW files.



The above icon is shown on the LCD display when RAW+JPG is turned on. Please allow approximately 2 seconds for the camera to write the two larger files to memory.

Capture mode - Applies to Photos only

The capture mode sets the quantity of photos captured when pushing the shutter button. One of the following icons is shown on the LCD display. Select from 5 options:



A.

B.

C.

D.

E.

- A. Single – Push and release the shutter button to capture one photo.
- B. Continuous – Push and hold the shutter button to capture multiple photos at a rate of 10 frames for the first second and 2 photos per second, thereafter.
- C. Time Lapse – Push and release the shutter button to record a series photos at pre-set time intervals of 2 sec, 5 sec, 10 sec, 30 sec, 1 min, 5 min and 30 min. Useful for shooting a sequence of pictures without holding the camera or disturbing the subject. Later, you can select the best image or combine all the images into a time lapse video using video editing software. After setting the capture mode to Time Lapse, go to the Photo Time Lapse setting to select the desired shooting interval. See Photo Time Lapse setting below for more details.

- D. Burst – Push and hold the shutter button to capture 10 frames in one second.
- E. AEB (Auto Exposure Bracketing) - Push and release the shutter button to capture three photos at slightly different exposures. One optimal exposure, one slightly brighter exposure and one slightly darker exposure.

Scene Mode - Applies to photos and videos

Scene mode automatically adjusts one or more image settings for the best possible image and video under specific types of shooting environments (scenes). One of the following icons is shown on the LCD display. Select from 5 different scene modes:



A.



B.



C.



D.



E.

- A. Land - For above water. Uses auto white balance and single image capture mode suitable for most land photos/videos.
- B. Sports/Action - For above water. Uses auto white balance and Burst capture mode suitable for fast moving subjects.

- C. Dive - Uses underwater Deep white balance and single image capture mode suitable for underwater photos/video at depths greater than 25ft/8m.
- D. Snorkel - : Uses underwater Shallow white balance and single image capture mode suitable for underwater photos/video at depths less than 25ft/8m.
- E. Ext Light - For underwater at any depth with one or two photo-video lights. Uses Auto white balance. For optimized colors, use Manual white balance to set the specific color temperature of the photo-video light being used.

Quality - Applies to Photos only

Quality adjusts how much the photo image file is compressed. The Quality icon is not shown on the LCD display. Select between 3 options:

Super Fine - Lowest degree of compression, resulting in best quality and largest file size.

Fine - Moderate degree of compression, resulting in good quality and smaller file size.

Standard - Highest degree of compression, resulting in fair quality and lowest file size.

Picture Resolution – Applies to photos only

Select from 8 different resolutions and aspect ratios depending on how you want to compose the picture. 4:3 and 3:2 are the most common picture aspect ratios. 3:2 aspect ratio was used by original 35mm film cameras and most DSLR's, and is useful for composing landscapes or slightly wider scenes. 4:3 aspect ratio is used by micro four-thirds and compact digital cameras, and is utilizing the full frame size of the image sensor. 16:9 is a wide-screen format commonly used to view pictures on an HD TV, smartphone or other wide screen devices. The following icon is shown on the LCD display with the corresponding picture resolution.

Picture Resolution	Comment
16MP (4:3)	Highest full frame resolution. Recommended
14MP (3:2)	Highest 3:2 aspect ratio resolution.
12MP (16:9)	Highest wide-screen resolution.
9MP (4:3)	Medium resolution with 4:3 aspect ratio.
7MP (16:9)	Medium resolution with 16:9 aspect ratio.
4mp (4:3)	Lowest resolution with 4:3 aspect ratio.
3mp (16:9)	Lower resolution useful for time lapse
2MP (16:9)	Lowest resolution useful for time lapse

Video Resolution – Applies to videos only

Select from 10 different video recording resolutions and frame rate speeds (fps). The following icon is shown on the LCD display with the corresponding video resolution and frame rate.



Shooting in 4K-30 produces the highest quality video but will use the most memory space, which is about 450MB per minute. 1080p-30fps is also considered high quality HD video resolution and is recommended for most video recordings. Recording at 120fps or 60fps is useful for

video recording of faster moving subjects. Recording at 120fps uses a high amount of memory space (See below). 120fps will playback in slow motion at 30fps but playback speed can be increased with most computer video players.

Video resolution setting and corresponding file size

Video resolution – Frame Rate	File Size per minute
4K – 30fps	480 MB
1080p – 120fps	460 MB
1080p – 60fps	320 MB
1080p – 30fps	120 MB
720p – 120fps	310 MB
720p – 60fps	165 MB
720p – 30fps	85 MB
480p – 120fps	185 MB
480p – 60fps	95 MB
480p – 30fps	50 MB

Metering - Applies to photos and videos

This determines the metering area used by the camera to calculate the exposure. No icon is shown on the LCD display for this setting.

Average - The entire area of the screen is measured, and the exposure is calculated.

Center - Averages the light from the entire image frame, but gives greater weight to the subject matter at the center. This is the recommended setting for most pictures.

Spot - A very small portion of the center of the screen is measured to calculate the correct exposure. Results in good exposure of brighter objects located in the center of the image frame, especially when using an external photo-video light.

Sharpness - Applies to photos only

Choose from 3 sharpness levels – hard, standard and soft. Hard uses sharper edges and lines but may not appear natural. Soft has smoother lines. The Standard setting is recommended for most applications. No icon is shown on the LCD display for this setting.

Photo Time Lapse - Applies to photos only

Record a series of still images at pre-set time intervals of 2 sec, 5 sec, 10 sec, 30 sec, 1 min, 5 min and 30 min. The following icon is shown on the LCD display with the corresponding time lapse interval.



Photo Time Lapse is used to shoot a sequence of pictures without holding the camera or disturbing the subject. Later, you can select the best image or combine all the images into a time lapse video using video editing software. This menu setting will only appear when Capture Mode is set to Time Lapse.

Self Timer - Applies to photos and videos

Useful for capturing self-portraits or videos. Delays image photo capture or video start time by 3 sec. or 10 sec. after pushing shutter button. The following icon is shown on the LCD display with the corresponding delay time.



Video Time Lapse - Applies to videos only

Records video at a slow frame rate of 1, 2, 5, 10, 15, 20 and 30 seconds and plays back at standard 30 frames per second. Useful for recording very slow moving subjects, like sunset, starfish walking, plant growing, etc. Push video button to start / stop time lapse video. Turn Video Time Lapse OFF to disable this feature. The following chart shows the resulting video playback length in seconds based on the Video Resolution setting, Video Time Lapse setting and record time.

Video Resolution Setting Frame Rate	Video Time Lapse Setting (seconds)	Record time (minutes)	Video Playback Length (seconds)
30	1	30	60.0
30	2	30	30.0
30	5	30	12.0
30	10	30	6.0
30	15	30	4.0
30	20	30	3.0
30	30	30	2.0

Note: Video Time Lapse is not available for Video resolution setting with 120fps. Only 60fps and 30fps Video Resolution setting may be used to record Video Time Lapse. "Video Time Lapse In Progress" message appears on the LCD display when recording video time lapse. The LCD display will turn off after 1 minute to save battery power, but video will continue recording. Push any button to turn on the display.

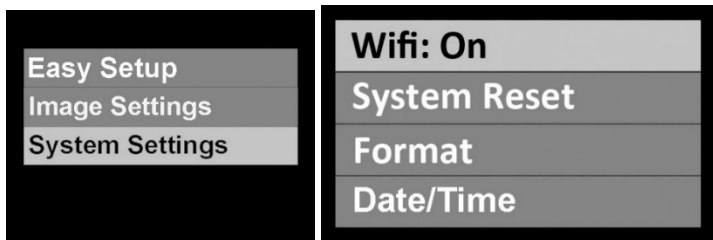
Video Stabilization - Applies to videos only

When turned On, the camera will electronically stabilize video recording to reduce minor shakes and hand movements. It is recommended to keep Video Stabilization turned On.

Turning stabilization Off will slightly increase the video field of view and slightly improve battery life.

System Settings:

The System Settings menu contains all other camera settings, like WiFi On/Off, Date/Time, Language, etc. To open System Settings, push the Menu button, scroll down to System Settings and push the shutter button to confirm selection. The following describes each of the settings in the order as they appear in the camera menu.



WiFi

Turn WiFi ON to enable the wireless transmitter needed to connect the camera to your smartphone or tablet. Please allow about 15 seconds for the device to boot-up. A green WiFi indicator will appear on the top of the display when WiFi is turned on. See page 25 for information on how to connect the camera to your smartphone/tablet.

System Reset

This will restore all camera settings to the original factory default settings and reboot the camera. System Reset will not change the Date/Time or Language settings.

Format

This will delete all files in the internal memory. It is useful to format memory if internal memory is corrupted by other files saved on the camera. It is recommended to format the memory occasionally to refresh the memory's folder structure.

Performing System Reset after Formatting, will reset the file name to MICR0001.

Date / Time

Set camera date and time. Format is YYYY/MM/DD HH:MM. The Date/Time may also be synchronized with the date/time of your smartphone using the Micro 3+ app. When the camera is WiFi connected to your smartphone, select Camera Settings in the app and scroll down to Date/Time Setup.

Memory Available

Shows available memory space in GB. The camera uses about 5GB internal memory for operating system files, so 59 GB is available for storing photos and videos.

Microphone

The camera's microphone (mic) is located inside the waterproof enclosure. The mic may be set to OFF, Low, Mid or High. Even when set to High, the audio volume when recording video on land is minimal because of the waterproof design. The microphone is more effective underwater. You may consider turning the mic Off and use YouTube or some other video editing software to add music or narrations to your video production.

Sound

The camera includes a speaker located inside the waterproof enclosure, which may be set to OFF, Low or High. Even at High, the speaker may be difficult to hear because of the waterproof design.

Quick View

When Quick View is turned On, the camera will display the captured image for 2 seconds after it has been captured.

Language

Select among English, German, French, Spanish, Italian, Dutch, Russian, Turkish, Simplified Chinese and Traditional Chinese.

System

This refers to the color encoding system used by televisions. PAL is used mostly in Europe and Asia, while NTSC is used in North America. Selecting PAL will use slower frame rate of 25fps, 50fps or 100fps, while NTSC uses 30fps, 60fps and 100fps.

Light Frequency

To avoid flicker effect when taking pictures indoors under fluorescent lighting, select 60Hz for USA and other countries using 110-120V electrical system. Select 50Hz for Europe and other countries using 220-240V electrical system.

Date Stamp

Turning Date Stamp ON will imprint the data and time on the bottom right corner of each picture. Not available for videos.

Auto Off

Camera will automatically turn off after 3 minutes of not pushing any buttons. The Auto Off function can be disabled by selecting “Auto off: Off” or extended to 5 minutes by selecting “Auto off: 5 min.”

Upside-Down - Applies to photos and videos

Allows the camera to be oriented upside-down, while pictures and video are saved right-side-up.

Shortcut

Creates shortcut to one menu setting when pushing menu button for 2 seconds. Select between Off, WB, ISO, EV, Capture Mode, Scene Mode, Metering, Color, Self-Timer, RAW+JPG, Upside-Down and WiFi.

SSID

This is the username used for making wireless connection to a smartphone or tablet. The default name is “SeaLife Micro 3.0” but it can be changed using the SeaLife Micro 3+ app.

Conformity Marking

Contains the FCC symbol and FCC ID number.

Firmware Version

Displays what firmware (software) version is installed on the camera. SeaLife may occasionally release firmware updates if any operation and performance enhancements are discovered. Check the SeaLife Micro 3+ app for any available firmware updates.

VI. Great Pictures Made Easy

Taking underwater images is much different than taking land photos or video. Water absorbs light and color, and tiny particles suspended in the water can reduce visibility. Here are the most important tips to taking great pictures underwater:

Crystal clear water

Crystal clear water is essential for good underwater pictures. Tiny particles floating in the water cause low visibility and poor picture quality. Avoid stirring up the sandy bottom with your fins. These floating particles cause small spots to appear in your picture, known as “backscatter.” Try to limit your shooting distance to 1/10 of the water visibility. For example, if the visibility is 60 feet (18m), you should keep your maximum shooting distance to within 6 feet (1.8m).

Get close to your subject

The ideal shooting distance is within 4ft (1.2 meters). This distance will result in greater detail. The camera’s minimum focus range is 15” (38cm). For shooting closer shooting distances of 6” to 24” (15cm to 60cm), consider purchasing the optional 10X close-up lens (item # SL572).

Move calmly and control your buoyancy before taking a picture

It's hard to take good pictures when you are moving. Position yourself at the best shooting angle and neutralize your buoyancy. Be calm and patient: Sometimes you have to wait 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. Shoot many pictures of the same subject - if you don't like it, delete it later.

Use one or two underwater photo-video light to enhance color and brightness

Water filters out light and red/yellow colors resulting in blue images. The Dive and Snorkel modes will correct for lost colors, which is effective to about 60ft/18m depth, depending on available sunlight and water visibility.

The most effective way to compensate for lost colors is by using an underwater light specifically designed for photography and video. SeaLife makes a variety of underwater photo-video lights (under Sea Dragon name) that easily mounts to the bottom of the camera. The Flex-Connect system of trays, grips, flexible arms and adapters can click together and apart in seconds without tools, for compact travel. Two lights can be mounted to the camera for wide angle illumination. Visit

your local authorized SeaLife dealer or the SeaLife website for more details.

Pan very slowly or not at all

When recording video, keep the camera aimed steady at the subject. Avoid making any sudden or jerky movements. If you pan the camera, move it very, very slowly or you will get seasick watching it later. A better way is to slowly move the camera off of the subject, stop recording, change the angle or distance, then start the recording again.

Limit video clips to 10 seconds or less

It's easier to share and edit smaller video clips. Remember, the file size for a 1-minute video clip recorded at 1080p-30fps is about 170MB, which is about 30 times larger file size than a 16 megapixel still image. Shorter video clips can be stitched together using video editing software, like YouTube, Adobe Premier, Microsoft Movie Maker or Apple iMovie. You can also add music and titles to produce a dramatic movie of your dive adventure.

Visit SeaLife website for updates and helpful tips

Updates to this manual, troubleshooting tips and underwater photography tutorials are all available at www.sealife-cameras.com.

Ask your local SeaLife dive dealer about underwater camera courses

Most SeaLife dive dealers offer underwater camera courses which include hands-on training as well as many helpful tips and techniques to underwater videos and photography.

VII. Optional Accessories

Sea Dragon Underwater Photo-Video Lights

Sea Dragon Photo/Video Lights have been engineered to produce exceptional brightness with “True Lumen” output, and an optimal Color temperature and color rendering. The results are stunning natural underwater colors, as if the subjects were lit by the sun itself. Sea Dragon Photo/Video lights also offer a consistent and wide beam angle.



Left: Micro 3.0 with Sea Dragon 3000 Auto UW photo-video light, including Flex Connect Grip and Micro Tray. Right: Micro 3.0 with two Sea Dragon 2500 UW photo-video lights, including Flex Connect Grips and Dual Tray

AquaPod (SL912)

The SeaLife AquaPod Mini lets you to get your camera close to both land and sea creatures while maintaining your distance, and allows you to get that perfect shot of yourself amidst all of the action. Rotate the camera on the AquaPod Mini to easily take self-portrait images. Easy to use and hold steady, the AquaPod Mini extends from 15.5 inches (39cm) to 38 inches (97cm). It is particularly travel friendly because its collapsed size easily fits into a briefcase or carry-on luggage.



When using the AquaPod, set the camera to “Time Lapse” mode so you can easily to shoot a series of pictures without. For videos, just push the video button on the camera and start shooting. For best results, make smooth and gentle movements so the lens stays focused on your subject.

10X Close-up Lens (SL572)

For shooting sharp close-ups from 6" to 24" (15cm to 60cm). The lens easily attaches to the lens port above or below water and includes a safety lanyard that connects to the camera.



Photo Pro Backpack (SL940)

Features an 8-liter padded camera/lighting “wet” compartment with 6 adjustable dividers to fit virtually any combination of cameras, lights, lenses and accessories. The compartment’s waterproof liner prevents damp camera gear from leaking into the adjoining dry compartments. Above the larger camera compartment, there is a dry accessory compartment with 5 zippered pockets for storing common items, like cables, spare batteries, chargers, adapters, manuals, smartphone, sunglasses, etc.



VIII. Care and Maintenance

- Soak camera in a fresh water tub for about 20 minutes immediately after underwater use. While holding camera underwater, push each button a 20 times to rinse out trapped debris and saltwater. Remove the rubber USB cover to allow fresh water to rinse the waterproof USB contacts
- Do not directly or indirectly expose the camera to spray-on sunscreens. Most spray-on sunscreens contain chemicals that attack the polycarbonate material of the underwater housing, causing cracks that compromise the waterproof seal.
- Do not use abrasives, chemicals, cleaning solvents or detergents to clean the UW camera.
- Dry the camera and USB contact area with a clean towel the fresh water rinse. Don't allow water to dry on the lens or LCD window, which can cause water stains.
- Make sure camera and USB contacts are perfectly dry before charging, PC connection or storage.
- Do not take apart or attempt to service the camera yourself. Contact your local authorized SeaLife dealer if the camera becomes damaged and requires service. Opening and tampering

with the camera will void your warranty.

- Keep camera away from extreme temperatures or prolonged exposure to direct sunlight.
- Store camera in a clean dry area. Storage temperature range is -20°F to 140°F (-29°C to 60°C).
- For long-term storage, charge battery to about 50%. Storing camera with 0% charge may shorten battery lifespan or permanently damage the battery.
- The camera's internal battery maintains 85% of its original power after 500 recharge cycles and 70% after 1000 recharge cycles. The battery can be replaced by an Authorized SeaLife Service Center.
- For updates to this manual and troubleshooting information, visit www.sealife-cameras.com Tech Support webpage..

IX. Troubleshooting

Camera locks up

- In the unlikely event the camera locks-up, push and hold the shutter and power buttons at the same time for about 5 seconds to force-off and reboot the camera.
- Check SeaLife website for firmware updates: www.sealife-cameras.com/firmware

Camera not connecting to computer or wall charger

- Thoroughly clean the gold contacts on the camera and USB adapter with cotton swab moistened with isopropyl alcohol. Do not use pencil eraser or other abrasives to clean the contacts as that will remove the gold plating.
- Check and remove any debris that may be obstructing the USB adapter from being fully inserted into the camera's waterproof USB port.
- Reboot computer and try again.
- Inspect the USB cable and replace if damaged. Only use the USB cable provided with your SeaLife Micro camera. Other micro-B

type USB cables may not be compatible because of insufficient conductivity or lack of proper shielding. Replace the USB cable (item # SL51004) if you see any signs of corrosion or damage.

- The USB adapter is not waterproof and needs to be replaced if it got wet.
- Try connecting the camera to a PC or wall charger and pulling back slightly on the adapter. This may be a temporary solution to get a USB connection until the adapter can be replaced.

Pictures/videos not sharp or out of focus

- The camera uses a fixed focus lens that is sharp from 15" (38cm) to infinity. Make sure to maintain at least 15" (38cm) distance between the camera and the subject. For close-up shooting distances of 6" to 24" consider purchasing the SeaLife 10X Close-Up lens (SL572).
- There are other factors that may contribute to pictures or videos not being sharp. Most common is shooting in low light conditions, which may cause a grainy image or motion blur. Consider purchasing a Sea Dragon photo-video light, which is ideal for capturing sharp, colorful pictures and videos underwater or in low light conditions.

Downloading SeaLife Micro Cam app for iPad

- Search App Store for “SeaLife Micro 3+” and select “iPhone Only” from the dropdown menu on the top left of your iPad. The SeaLife Micro 3+ app is originally designed for iPhones but works equally well with iPad.

More information

- Check SeaLife website Tech Support page for the latest tips, updates and troubleshooting advice.
- For technical support, please contact the USA SeaLife Service Center at service@sealife-cameras.com or the SeaLife distributor in your country. A list of distributors is on the SeaLife website: www.sealife-cameras.com/authorized-dealer-locator.

X. Spare Parts and Service

Parts - To order spare parts, please contact your local SeaLife dealer. Visit the Dealer Locator at www.sealife-cameras.com to find a dealer near you. US residents can also order spare parts online at www.SealifePartsDirect.com

Service - If the camera is not performing to your expectations or requires repair service, please follow these important instructions:

- Visit the SeaLife website Tech Support page for troubleshooting tips, updates and other helpful information
- Check that you have the most recent firmware loaded on your camera. The camera's firmware may be updated through the Micro 3+ app settings menu. Firmware updates are also available in the Technical Support menu of the sealife-cameras.com website.
- Contact the dealer from whom you purchased the camera. The Dealer Locator page contains a complete list of local dealers.
- If none of the above options help, please follow the return instructions available on the sealife-cameras.com website.

XI. Specifications

Note: Product specification subject to change without notice. Please visit www.sealife-cameras.com for updates

Image Sensor:

16 mega pixel SONY IMX083 1/2.3" CMOS sensor

Image resolution/sizes:

16mp (4608x3456 4:3);

14mp (4608x3072 3:2)

12mp (4608x2592 16:9)

9mp (3456x2592 4:3)

7mp (3456x1944 16:9)

4mp (2304x1728 4:3)

3mp (2304x1296 16:9)

2mp (1920x1080 16:9)

Picture / Video file format:

JPEG (.jpg) and RAW (.dng)

MPEG4 h.264 (.mp4)

Video Resolution/sizes:

4K at 30fps (frames per second)

1080p at 120 fps

1080p at 60 fps

1080p at 30 fps

720p at 120fps

720p at 60fps

720p at 30fps

480p at 120fps

480p at 60fps

480p at 30fps

Audio:

Microphone: Yes (mono)*

Speaker: Yes (mono)

Audio format: ACC (video/ audio compressed together)

* Note: Microphone and speaker are sealed inside waterproof enclosure which lowers audio recording and speaker volume. Volume levels shall be fine-tuned, so mic and speaker function as good or better than Micro 2.0 camera.

Lens:

Aperture F2.8

7 element, fully multi-coated, aspheric optical lens (Confirm qty of elements)

Focal length 3.37mm (35mm film equivalent = 19mm)

Focus:

Fixed-focus lens

15" to Infinity (40cm to infinity)

Field of View:

100° diagonal FOV (Land) / 75° diagonal FOV (Underwater)

Shutter speed:

1/25 to 1/2000 second

LCD:

2.4" 260K TFT LCD color display

Memory (internal):

64GB internal solid state memory

1GB NAND Flash

USB:

2.0 High Speed

PC connection:

PC: Windows XP / 7 and up

MAC: OS 10.8 and up

Battery:

Internal Li-ion battery. 2000 mAh, 3.7V. 7.4Wh.

3+ hours when shooting pictures or recording 1080p-30fps video

2+ hours when RAW+JPEG images or recording 4K-30fps video

Charging:

Use any 5V USB wall charger (not included)

Includes USB cable (Type A to Micro-b) and 5-pin USB adapter

4 hour charging time with 1.5A+ wall charger (8 hours with 0.PC USB output)

App:

Works with SeaLife Micro 3+ app installed on phones and tablets running Android 6 and up or Apple iOS 12 and up.

WiFi:

Wi-Fi 802.11b/g/n (Approximate range = 100ft / 30m)

Environment

Individually depth tested to 200' (60 m)

Operational to 25,000ft (7600m) above sea level

3ft / 1m

Buoyancy:

Negative 1.8 oz. (52g)

Operating / Storage temp:

Land: 23°F to 122°F (-5°C to 50°C)

Underwater: 33°F to 110°F (0.5 °C to 44°C)

Storage temp -20°F to 140°F(-29°C to 60°C)

Tripod mount:

Standard ¼-20 UNC tripod threads

Certification:

CE, AS/NZS, ROHS, FCC, IC

Product weight / dimensions

11.6 oz. (329g) / 2.1" x 2.9" x 4.2" (5.4cm x 7.4cm x 10.7cm)

Warranty period:

1 year limited warranty for manufacturing defects

FCC Statement

Class B: Section 15.105

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT

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 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.

Section 15.21

CAUTION:

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

Section 15.19(a)(3)

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.

RF Exposure Information (SAR)

This device meets the government's requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government.

The exposure standard employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6 W/kg. Tests for SAR are conducted using standard operating positions accepted by the FCC with the EUT transmitting at the specified power level in different channels.

The FCC has granted an Equipment Authorization for this device with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this device is on file with the

FCC and can be found under the Display Grant section of www.fcc.gov/eot/ea/fccid after searching on FCC ID: 2AAD3AA2G1J1

End Product Labeling

This transmitter module is authorized only for use in device where the antenna may be installed such that 20cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: "Contains FCC ID: 2AAD3AA2G1J1 " and "Contains IC: 10290A-AA2G1J1 "

Information for the OEMs and Integrators

The following statement must be included with all versions of this document supplied to an OEM or integrator, but should not be distributed to the end user.

- 1) This device is intended for OEM integrators only.
- 2) Please see the full Grant of Equipment document for other restrictions.

IC Statement

(RSS-Gen section 7.1.3)

Canada, Industry Canada (IC) Notices

This device complies with Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Canada, avis d'Industry Canada (IC)

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Radio Frequency (RF) Exposure Information

The radiated output power of the Wireless Device is below the Industry Canada (IC) radio frequency exposure limits. The Wireless Device should be used in such a manner such that the potential for human contact during normal operation is minimized.

This device has been evaluated for and shown compliant with the IC Specific Absorption Rate ("SAR") limits when operated in portable exposure conditions.

Informations concernant l'exposition aux fréquences radio (RF)

La puissance de sortie émise par l'appareil de sans fil est inférieure à la limite d'exposition aux fréquences radio d'Industry Canada (IC). Utilisez l'appareil de sans fil de façon à minimiser les contacts humains lors du fonctionnement normal.

Ce dispositif a été évalué pour et démontré conforme à la Taux IC d'absorption spécifique ("SAR") des limites lorsqu'il est utilisé dans des

conditions d'exposition portatifs.

CE

RED

“Hereby, Pioneer Research, declares that this device Micro 3.0 is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.”



XII. Limited Warranty

Please register your SeaLife product online at: www.sealife-cameras.com/warranty. SeaLife will not

Limited Warranty

Manufacturer warrants to the original purchaser (the “Purchaser”) of this product (the “Product”), provided the Product was at the time of purchase, new and unused and in its original packaging for a period of one (1) year from the date of purchase (the “Warranty Period”), that the Product is free from defects in workmanship and materials when used in accordance with Manufacturer’s published specifications. In the event that the Purchaser believes the Product contains a defect, the Purchaser should seek troubleshooting advice from the SeaLife website at www.sealife-cameras.com or the importer of the Product in the country in which the Product was purchased by the Purchaser. The local authorized SeaLife Dealer can also assist with Product servicing and, in the event it is determined that the product requires servicing, can issue to Purchaser a return authorization number. To be entitled to any remedy hereunder, Purchaser must return the Product to Manufacturer within the Warranty Period, at the sender’s risk, accompanied by the following (the “Claim Requirements”): (a) a Manufacturer issued return authorization number, (b) a letter describing in the defect in reasonable detail; (c) a valid address for the Purchaser; and (d) a copy of the original purchase receipt or proof of purchase specifying the purchase date of

the Product For more information about repair service, or to locate a service center in your country, please visit the SeaLife website at www.sealife-cameras.com.

Important: The foregoing limited warranty applies only to the Product sold by Manufacturer. This limited warranty does not cover, and does not provide any remedy for damage to, any smart phones, other electronic devices, or other products, used in connection with the Product. Purchaser understand and agrees that while Manufacturer has undertaken commercially reasonable efforts to ensure that the Product functions in accordance with Manufacturer's applicable published specifications, some risk of flooding or other failure remains when the Product is used, which risk the Purchaser assumes.

In the event Purchaser returns the Product to Manufacturer with the Claim Requirements, and Manufacturer is able to replicate the alleged defects or leaks, and determines in its reasonable discretion that the Product contains a defect in workmanship or materials, Manufacturer will, in its absolute and sole discretion, repair or replace this Product and return it to Purchaser free of charge. In the event that Manufacturer is unable to replicate alleged defects or leaks, or determines that the product does not contain a defect in workmanship or materials, Manufacturer will notify Purchaser and upon request by Purchaser Manufacturer will return the Product to Purchaser at Purchaser expense.

Excluded from this warranty are any damages caused by the failure to

use the Product in accordance with Manufacturer's published specifications, cosmetic damages, damages caused by abuse, misuse, wear, tear, water damage caused by damaged O-ring or O-ring contact surfaces or debris trapped between the product housing and the O-ring, damages caused by exposure to sunscreens or other chemicals, repair or attempted repair by unauthorized persons, improper storage, non-performance of scheduled maintenance, and battery leakage.

THE FOREGOING IS PURCHASER'S SOLE AND EXCLUSIVE REMEDY, AND MANUFACTURER'S SOLE AND EXCLUSIVE OBLIGATION, WITH RESPECT TO A CLAIM THAT A PRODUCT IS DEFECTIVE. EXCEPT FOR THE LIMITED WARRANTY SET FORTH ABOVE, MANUFACTURER DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE PRODUCT INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. UNDER NO CIRCUMSTANCES SHALL MANUFACTURER BE LIABLE TO PURCHASER OR ANY THIRD PARTY FOR ANY SPECIAL, INCIDENTAL, INDIRECT, CONSEQUENTIAL OR PUNITIVE DAMAGES INCLUDING, WITHOUT LIMITATION, LOSS OF PROFITS, INJURIES TO PERSONS OR PROPERTY, OR DAMAGES FOR WHICH PURCHASER MAY BE LIABLE TO OTHER PERSONS OR ENTITIES, EVEN IF MANUFACTURER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, AND WHETHER THE CLAIM IS FOR BREACH OR REPUDIATION OF CONTRACT, BREACH OF WARRANTY, TORT, NEGLIGENCE OR OTHERWISE. SOME JURISDICTIONS DO NOT

ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES OR ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE FOREGOING LIMITATIONS MAY NOT APPLY. ANY OF THE FOREGOING NOTWITHSTANDING, IN NO EVENT SHALL MANUFACTURER'S MAXIMUM AGGREGATE LIABILITY ARISING OUT OF OR RELATING TO THE SALE OF THE PRODUCT EXCEED THE PURCHASE PRICE PAID TO MANUFACTURER FOR THE PRODUCT.

This limited warranty is governed by the laws of the State of New Jersey, U.S.A. Any warranty claim, or other dispute arising out of or related to this limited warranty or the Product, shall be brought exclusively in the state or federal courts located in the State of New Jersey, U.S.A., the exclusive jurisdiction and venue of which Purchaser and any party from which Purchaser purchased the Product, directly or indirectly, irrevocably consent to for this purpose.

SeaLife® **micro3.0**™



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