

# USER GUIDE

## AFCL-HD57 4K UNDERWATER HDMI MONITOR



## **Battery Size**

This Monitor is designed to accept battery compatible with Sony SF-750 (4-cell, 7.2V rechargeable lithium-ion battery pack). Many aftermarket brands produce high quality battery packs which are compatible with the Sony brand. Please make sure you select the 4-cell battery type as the 6-cell version will not fit inside the battery compartment.

## **Disclaimer**

Anglerfish Creative Lighting is not responsible for improper use of this underwater monitor. User remains responsible for connecting the monitor correctly to the camera system and following the camera manufacturer's recommendation for attaching an external monitor. Anglerfish Creative Lighting is not responsible for any damages as result of incorrectly connecting the monitor to the camera.

The monitor can accept 4K signal up to bandwidth of 14-18Gbit. In some situation the signal output with higher bit rates will not be compatible with the monitor and will not display correctly. If this happens please reduce the output bit rate or resolution.

## **Warranty**

This monitor comes with 1-year manufacturer's warranty. The warranty is only active if the product is registered. To register your monitor please send an email to [info@anglerfishlighting.ca](mailto:info@anglerfishlighting.ca) with your name, serial number and a copy of your receipt indicating a purchase date. Your serial number can be found inside the battery compartment and is displayed under the bar code.

Should you experience a technical problem with your monitor you can contact our dealer who will advise you on a solution. If this does not fix the problem, they will further advise you on how to send the monitor to us for repair.

This warranty does not apply to cosmetic damage, such as scratches or general wear and tear.

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# Product Overview

Thank you for purchasing our underwater HD monitor with advanced integrated digital signal processing circuit and professional IPS LED panel. This underwater monitor has high brightness, low power consumption and stable performance.

Make sure you have all the items listed below:

1. Anglerfish HDMI monitor c/w cable
2. Standard ball mount and associated machine screws
3. Monitor shade and associated thumb screws
4. Std. HDMI Bulkhead (M14x1.0 tread)
5. Adapters for various housing bulkhead openings
6. HDMI Adaptor Connector for Female Micro (D) to Male Micro (D) or Mini (C) or Standard (A)
7. Battery cover compartment



To ensure the best use of the unit, please read the user's manual carefully



Always perform a vacuum test or wet test your housing without the camera installed every time installing or removing the bulkhead





To do not attempt to open, modify or repair the monitor without authorization. Opening and tempering with the monitor will void warranty



The HDMI Micro connection at the end of the bulkhead is very fragile and requires care while handling. Do not bend or force the connector. It will cause the connector to fail. **See page 11 for installation details.**

If possible, best practice is to connect the connector to camera after the camera is fully inserted into the housing. Some housing designs will require installation of the connector prior to installation of camera inside the housing. Take extra caution not to strain the connector.

Always take caution while installing or removing the camera from the housing.



The installation of the bulkhead for this monitor requires simple 'DIY' skills. If you do not feel comfortable installing the bulkhead, ask for more details from our dealers. Attempting to install bulkhead without basic skills will result in damage.



## CAUTION

- Please avoid impact and droppage of the monitor onto the ground.
- Avoid prolonged exposures to the sun as the LCD display may get damaged under UV light. Under the sun, always have the shade on the monitor to protect the LCD display.
- Do not take apart or repair the unit by yourself without authorization.
- Remember to always rinse your monitor in fresh water after each use. Operate the buttons under fresh water several times to completely flush any remaining saltwater. If you notice salt crystallization after the unit is dry, it means saltwater was not rinsed well.
- Remove the battery from the monitor while traveling on an airline or for storing for long periods (more than a day).
- Operating the monitor under direct sunlight may cause the monitor to overheat. Always turn off the monitor above water in tropical locations.
- **Always use high quality batteries comparable to Sony NP-F750 brand.**



# Features

- Brightness Histogram
- Peaking Focus Assist (three colors options)
- False Colors
- Zebra Exposure (1-100IRE adjustable)
- Scan Mode (Under Scan, Over Scan)
- Check Field (Red, Green, Blue, Mono)
- Anamorphic Mode (1.3x, 2.0x, 2.0x magnification)
- Image Flip (H, V, H/V)
- Image Freeze
- Center Marker
- Screen Marker (80%,85%,90%,93%,96%, 2.35:1)
- Ratio Marker (4:3,13:9,14:9,15:9,16:9,1.85:1,2.35:1)
- Color Temperature Adjustment
- Nine Grid (Zoom one of the images to realize the full screen)
- Zoom (4X, 9X, 16X)
- HDMI Input Support Format: 480i/576i/480p/576p, 1080i (60/59.94/50),720p (60/59.94/50/30/29/25/24/23.98), 1080p (60/59.94/50/30/29.97/25/24/24sF/23.98/ 23.98sF), 4K UHD 3840×2160p (30/29.97/25/24/23.98Hz), 4096×2160p (24Hz)





# Product Description

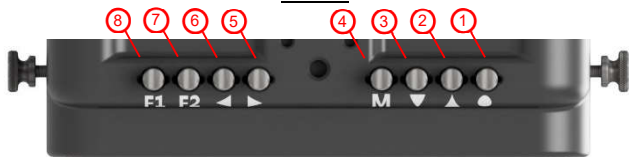
Monitor Front Panel



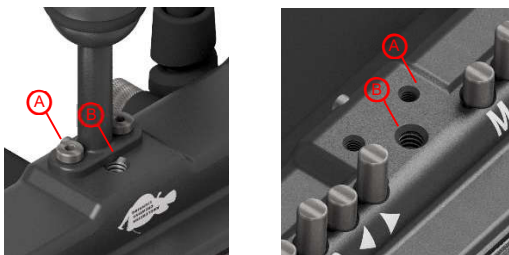
Monitor Back Panel



Buttons

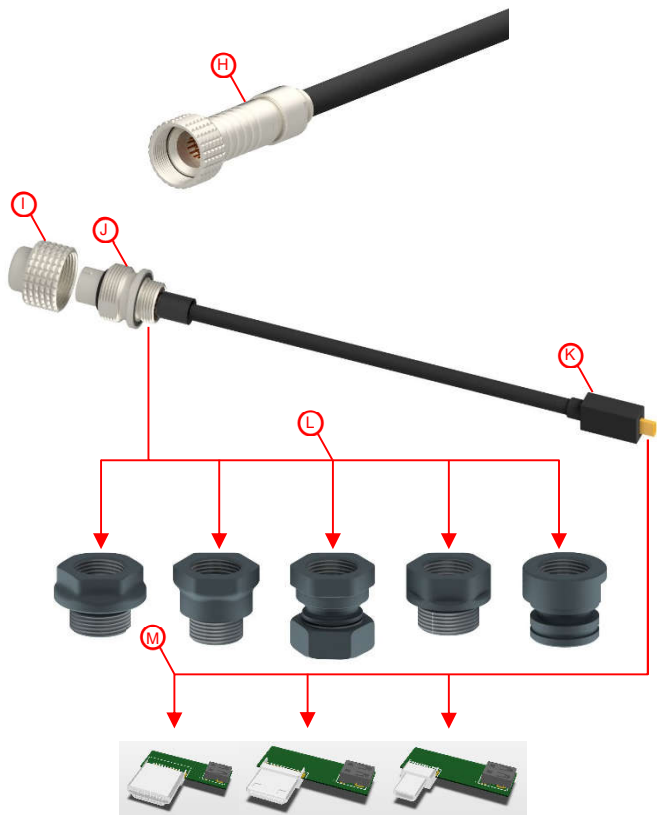


## Attachment Points



## Sunshade & Battery Compartment





- 1** ● Power On/Off button
- 2** ▲ In OS Menu it is used to scroll up to set items.
- 3** ▼ In OS Menu it is used to scroll down to set items.
- 4** **M** Menu button
- 5** ► In OS Menu it is used to scroll right to set items. Also acts as custom button F4, same setting as F1 & F2
- 6** ◀ In OS Menu it is used to scroll left to set items. Also acts as custom button F3, same setting as F1 & F2
- 7** **F2** Custom button, same setting as F1.
- 8** **F1** Custom button, enter into the Secondary F menu of the OS Menu to set custom button according to your preference
- A** Ball Mount connection threads
- B** Std. 1/4"-20 thread for custom attachment
- C** Battery compartment
- D** Sunshade thumb screws
- E** Sunshade
- F** Battery compartment thumb screw
- G** Ball Mount
- H** HDMI bulkhead connector
- I** Bulkhead cap
- J** M14x1.0 HDMI bulkhead
- K** HDMI Micro connector (Type D Male)
- L** M14x1.0 Adaptors for various housing brands
- M** 6 HDMI Adaptors for various camera brands (Type A Std, C Mini, D Micro), right and left angle



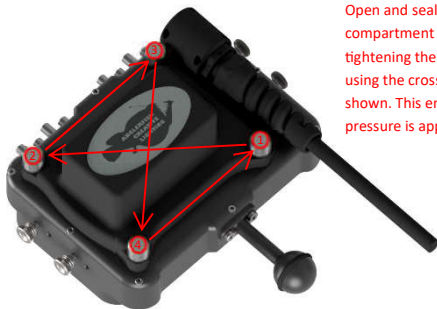
## Using the Sunshade

The sunshade can be mounted on the monitor in two ways: right side up and upside down. Use the correct hole to mount the thumb screw.

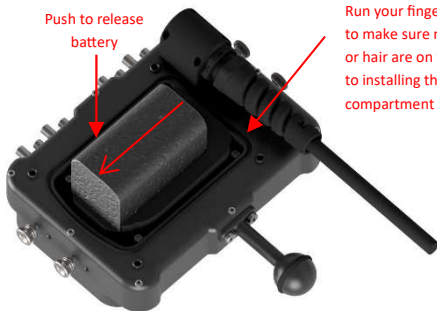


# Battery Compartment

The monitor is equipped with water sealed battery compartment which can be access via four thumb screw. Please do not over tighten the thumb screws to a point where a tool must be used to loosen them. To tighten the thumb screws, a cross pattern is recommended as shown below.



Open and seal the battery compartment by loosening or tightening the thumb screws using the cross pattern as shown. This ensure even pressure is applied to the o-ring



# Bulkhead Connector Installation

After installing the bulkhead onto the camera housing using the supplied bulkhead adaptors shown on page 7, it is necessary to select one of six angled HDMI connectors that is appropriate for your camera and housing design. The following options are available:

1. Right Angle HDMI Type D (Micro)
2. Left Angle HDMI Type D (Micro)
3. Right Angle HDMI Type C (Mini)
4. Left Angle HDMI Type C (Mini)
5. Right Angle HDMI Type A (Standard)
6. Left Angle HDMI Type A (Standard)



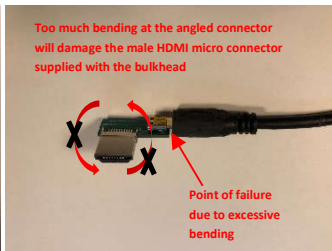
Before you select the proper HDMI connector, review your camera's operational manual and understand which type of connector is required (Type A, C, D).

Visualize and think about the cable routing that would be best for your camera / housing. Then select the right or left angle option. Do not try to connect the connector to the camera without thinking about the cable routing. **Doing so will result in cable strain, damage to the bulkhead connector or the camera.**



HDMI Connectors are sensitive and fragile. Applying too much strain or excessive bending will result in cable failure.





### Stiffening the connector (Optional)

It is recommended to stiffen the connection between the angled connector after installing the bulkhead and after figuring out the correct angled connector required for the setup.



**Stiffening up the connector should only be done after the bulkhead is installed in the housing.** After the angled connector is installed, the bulkhead can no longer be removed because the assembly is too large to go through the housing bulkhead port

This task requires some 'DIY' skills, some basic rudimentary knowledge and some creativity. Do not attempt to do this without some level of confidence and knowhow. Some items and tools are required for this task. If you do not have appropriate tools do not try this by yourself.

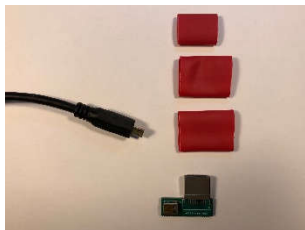
**Do these tasks at your own risk!**





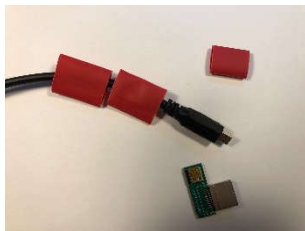
The following tools and items are required:

- heat shrink, the kind with adhesive (we recommend 25mm long 3/8" diameter, and 30mm long 1/2" diameter),
- heat gun,
- zip tie,
- cutter,
- some pieces of plastic (we recommend cutting them from plastic cards)

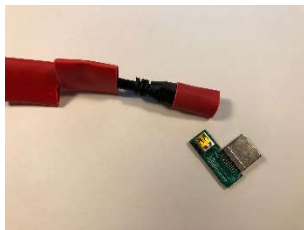


Slip the shrink wraps over the cable starting with the larger ones

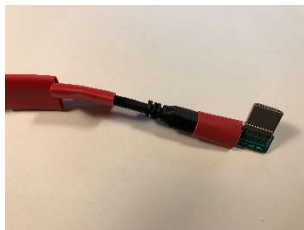
**We recommend using a heat shrink with heat active adhesive for extra support. They are much more rigid than normal heat shrinks.**



Carefully slide smaller shrink wrap over the plastic part of the micro HDMI connector



Carefully connect the angled connector. Be sure not to put too much force on the connector



Apply hot air. Do not exceed 150°C as it will melt the plastic part of the connector.



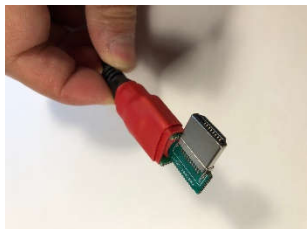
A couple of pieces of plastic can be used to provide extra rigidity.

Plastic can be cut from old plastic cards or harder plastic.



Apply the other layers of heat shrink to add stiffness

**Be sure the heat shrinks and the plastic used to stiffen the assembly does not interfere with the housing or the camera after setup.**



In addition to above you can also route cable down and up. Using a zip tie to hold the cable in place. This greatly reduces the stress on the micro HDMI connection and reduces the bending on the connection.



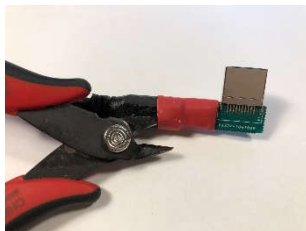
Be sure to use small zip ties and make sure they do not interfere with the camera and housing



If required to remove the bulkhead from the housing. You must remove the angled connector. To do so you need to cut the zip ties and the shrink wrap.

**Do this step with extra caution!**  
**The best technique is to use small wire cutter. And do not put any strain on the connector.**

**Do not do this task repetitively as it will damage the connector over time.**



Additionally, another form of extension cable can be purchased online. These provide more flexibility for housing with limited space. They come with a ribbon cable and 4K signal is not always guaranteed.



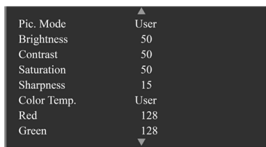
# OS & Menu Operation

Press **●** to turn on monitor power. It takes a few seconds for the monitor to boot up. After the splash screen is displayed, the monitor is ready for use. If an HDMI signal is applied to monitor, the monitor will automatically display the image on the screen. If there is no signal the monitor will display a blue screen with a warning message “No Signal”. Note the blue “No Signal” screen can be customized. Blue is the default color.

To gain access to the monitor menu, press **M** button to enter main OS, and press **◀ ▶** buttons to toggle through the submenu icons as shown below.



Press **▼** button to enter the submenu.



Use **▼ ▲** buttons to scroll through the submenu items.

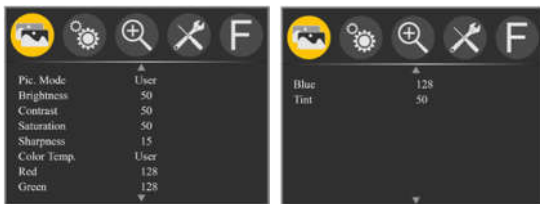
After selecting an item in the submenu, use **◀ ▶** buttons to adjust the desired parameters.

After adjusting the desired parameters, **▼ ▲** buttons can be used to scroll through rest of the items in the submenu.



Press **M** at any time to go back into main OS menu. While in the main OS menu press **M** to exit the main OS menu.

### Image Submenu Tab



**Picture Mode** parameter can be set to: Standard, Mild, User, Dynamic. Select 'user' to customize adjustment for Brightness, Contrast, Saturation, Sharpness.

**Brightness** parameter allows the user to adjust the image brightness from 0 to 100 percent.

**Contrast** parameter allows the user to adjust the brightest and the darkest ratio of the image from 10 to 100 percent.

**Saturation** parameter allows the user to adjust the color concentrate of the image from 0 to 100 percent.

**Sharpness** parameter allows user to adjust the image edge sharpness details to provide edge contrast on the image from 0 to 100 percent.

**Color Temperature** parameter allows the user to set the color temperature to the following settings 6500, 9300 and user. When selecting 'user', the



**Red, Green, and Blue** channels can be adjusted to for a lighting environment.

**Tint** parameter allows user to adjust the image cool and warm hue from 0 to 100 percent.

### Setting Submenu Tab



**Language** parameter allows the user to set the desired language: English, 简体中文, Español, Português, Français, Nederlands, Deutsch, 日本語, 繁體.

**Aspect Ratio** parameter allows the user to select the image aspect ratio: Auto., 4:3, 16:9, Just Scan, Panorama, P2P

**No Signal** parameter allows the user to select the no signal background screen color: Blue Screen, Red Screen, Green Screen, Black Screen, White Screen

**OSD Transparency** parameter allows user to overlay the main menu on top of the image: Off, Low, Middle, High.

**OSD H** parameter allows the user to the horizontal position of the OS menu from 0 (left) to 100 (right) percent.



**OSD V** parameter allows the user to the vertical position of the OS menu from 0 (left) to 100 (right) percent.

**OSD Time** parameter allow the user to set the automatic off time for the OS menu while not buttons are active: Off, 10Sec, 20Sec, 30Sec.

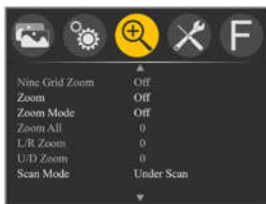
**Backlight** parameter allows user to adjust the backlighting intensity from 0 to 100%.

**Power On** parameter allows the user to set power on mode: Auto., Manual. When selecting Auto., the monitor will turn on automatically when a battery is inserted. In the manual mode the monitor enters it is standby, sleep mode when a battery is inserted.

**USB Upgrade** parameter allows the monitor OS to be upgraded. This function can only be done by a service technician.

Reset parameter allows the user to revert all user settings back to the original setting. Press ► button to confirm a reset. Allow the monitor to boot up it take several seconds to perform a reset.

### Zoom Submenu Tab





**Nine Grid Zoom** parameter: Off or On. In order to activate the Nine Grid zone, first Nine Grid function should be can be turned on in the Functions Submenu. When Nine Grid zoom is active, ◀ ▶ can be used move the zoom area and ▼ ▲ can be used to zoom into the selected area.

**Zoom** parameter: Off, 4X, 9X, 16X Image Zoom function, use this function to directly zoom into the center of the image.

**Zoom Mode** parameter: Off, Mode1, Mode2. Use this zoom function for custom programing of zoom mode. Two modes can be programed.

**Zoom All** sub parameter: 0 to 100. Provides the zoom range.

**L/R Zoom** sub parameter: 0 to 100. Provides the horizontal stretch range.

**U/D Zoom** sub parameter: 0 to 100. Provides the vertical stretch range.

**Scan Mode** parameter: Under Scan, Over Scan

### Function Submenu Tab



**Center Marker** parameter: Off, On. Allows the user to turn on center crosshair

**Safe Frames** parameter: Off, 80%, 85%, 90%, 96%, 93%, 2.35:1. Allows the user to select the screen marker.

**Nine Grid** parameter: Off, On. Allows user to display the nine grids.

**Image Freeze** parameter: Off, On. Captures the current image and displays it as a still image.

**Image Flip** parameter: Off, H\_V Flip, H Flip, V Flip. Allows the user to flip and mirror the image.

**OSD Flip** parameter: Off, On. After turning on the Image Flip, turn on this function to achieve the OSD Flip function.

**Anamorphic** parameter: Off, 1.3X, 2.0X, 2.0X MAG, User. Use this function with anamorphic lenses to restore the real proportion of scene.

**Anamorphic nX** parameter: 1.20X to 2.00. Allows for customizable anamorphic adjustment is available.



**Check Field** parameter: Off, Mono, Red, Green, Blue



**Histogram** parameter: Off, On. Allows for display of the image brightness distribution.

**False Colors** parameter: Off, On. Allows for analysis of the whole image brightness and display False Color.

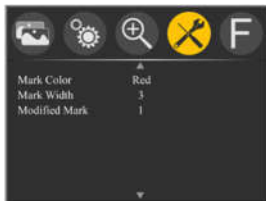
**Focus Assist** parameter: Off, On. It sharpens the edge of images to help photography for focus detection.

**Peaking Color** parameter: Red, Green, Blue. Used to outline the edge of the image for focus assist function.

**Over Exposure** parameter: Off, On. Displays zebra pattern over exposed areas of the image.

**Exposure Level** parameter: 1 to 100 IRE. Allows the user to set the overexposure threshold.

**Ratio Marker** parameter: Off, 4:3, 13:9, 14:9, 15:9, 16:9, 1.85:1, 2.35:1. Allows the user to display the image display ratio marker.



**Mark Color** sub parameter: Red, Green, Blue, Black, White



**Mark Width** sub parameter: 1 to 7. Allows the user to select the mark color display width.

**Modified Mark** sub parameter: 0 to 6. Allows for adjust the brightness of the image outside of the ratio marker area.

### Custom Function Set Tab

This submenu allows the user to set and customize the function buttons.



# Compliance



Anglerfish Monitor is constructed from electrical components and parts that are RoHS compliant.



The Monitor is a lead-free product.



This electronic product should not be mixed with general household waste. The correct disposal of this product will help prevent any potential negative effect to the environment. For disposal please take this product to a designated electronic waste recycling or disposal area.



## QA/QC Check List

- PCB Testing & Inspection
- Menu Function and Program Test
- HDMI Cable Test
- HDMI Signal Test 4K, 24p
- Hydrotest (980 kPa)

Serial No.

