



# endeavor

**Video Camera Housing for  
SONY ® HDR-Fx7 & HVR-V1U**

Before operating the unit, please read this manual carefully. Keep it for future reference.



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**WARRANTY**

All Amphibico products are guaranteed against defects in material or workmanship for one full year from the date of purchase for consumer use. These same products when used commercially will carry a 90-day warranty. No statutory warranty applies. Cameras housed in Amphibico housings are not covered under this warranty and ANY WATER DAMAGE SUSTAINED DUE TO INSTALLATION ERROR OR FOR ANY OTHER REASON IS NOT THE RESPONSIBILITY OF AMPHIBICO INC. Therefore the appropriate insurance should be maintained by the user.

Subject to the terms and conditions specified hereunder, Amphibico Inc. agrees to correct, either by repair or by replacement, any defect in material or workmanship which develops within one year after delivery of the product to the original purchaser.

Repair or replacement is provided in the event that investigation and factory inspection by Amphibico Inc. discloses that such a defect has developed under normal and proper use. No warranty is granted concerning components, accessories, or devices not manufactured by Amphibico Inc.

AMPHIBICO INC. SHALL BE RELEASED FROM ALL OBLIGATIONS UNDER ITS WARRANTY IN THE EVENT REPAIRS OR MODIFICATIONS ARE MADE BY PERSONNEL OTHER THAN ITS OWN OR AUTHORISED (IN WRITING) SERVICE PERSONNEL.

Amphibico Inc., in its continued commitment to provide excellence in the field of underwater imaging, reserves the right to change specifications at any time, without notice and without incurring any obligations to incorporate new features in equipment previously sold.

**CONDITIONS**

Registration condition: The attached (warranty) card must be mailed to Amphibico Inc. within fourteen (14) days after retail purchase.

Repairs: The unit must be returned freight prepaid to Amphibico Inc. The returned documents must show Serial NO. and be marked " CANADIAN GOODS RETURNED." No returns will be accepted without Amphibico Inc return authorisation number.

## General Shooting Tips

### Water entry

Never leap into the water while holding the housing. Always have the housing handed to you or lowered down once you are in the water.

Point the lens of the housing upwards and shake off any air bubbles. It may also be necessary to gently wipe the lens with your finger to remove bubbles.

### While shooting

1. Best results will be obtained with natural light if the sun is directly overhead during calm water periods.
2. Placing the sun behind your shoulder during shooting will produce the best colors.
3. Wide angle is the preferred focus setting for best results with subject, as close as possible to the housing. This will reduce the water column and the amount of particles between subject and lens.
4. Zooming during shooting is not recommended unless absolutely necessary as telephoto will magnify particles. Swimming toward subject is a much more visually pleasing filming method.
5. Use image stabilizer if available on your camera when filming macro to minimize camera movement during high magnification. Image stabilizer is not as critical while using wide angle and will use battery power unnecessarily.
6. Buoyancy control is one of the most important aspects of underwater videography and diving in general. Avoid disturbing bottom silt and contacting delicate reef structures. Work on controlling your breathing and your buoyancy. Your video will be much more visually appealing. You are trying to make yourself a steady shooting platform. The less movement you make, the better your video will be. Work on attaining a comfort zone underwater. The more comfortable you are underwater, the more controlled your breathing will be and the steadier your video will be.
7. In low light situations, add light with optional Amphibico video lights for brighter and more vibrant colors. As light level falls so does color saturation. Lights will also provide necessary fill during daylight shooting. If this technique is used, filtration of light using a color correction filter will be necessary for accurate color rendition.

### Audio Tips

To eliminate any faint background noises which may come from an internal device, it is recommended to switch the audio level setting on your camcorder from auto to manual. The audio level should be set anywhere between 3 and 4 once in manual mode. For the HVR-V1 camcorder, you only need to set the CH1 to manual.

## Endeavor

Marine housing for the SONY® HDR-Fx7 & HVR-V1

THE ENDEAVOR CLASS housing for the "NEW" Sony HDR-FX7 & HVR-V1-3CMOS HDV camcorders. Designed for the Prosumer in mind with access to full camcorder controls, outstanding Optics and superior balance it will create broadcast HD quality imaging. Amphibico continues to excel to a new level by accessing from the housing, all the important features such as White Balance, Gain, Shutter Speed, Iris and manual focus. We have also added a large 3.5" SD LCD rear viewfinder to facilitate your framing. Those who are familiar with Amphibico's products will know that the housing construction quality and reliability is still the highest you could find in the industry. That is why Amphibico once again, is leading the way of technology and performance with underwater imaging.

### Designed for professional underwater use

- 14 Electronic push button controls to access over 25 functions
- 6 Mechanical push button controls
- 3.5" Standard Definition LCD rear Viewfinder
- Electronic Controlled Manual Focus
- Electronic Variable zoom
- Manual Iris
- Manual Gain
- Manual Shutter Speed
- Expanded Focus
- Power On/Off
- Picture (direct to Memory Stick)
- VCR Mode (Play, Rewind, F-Forward, Stop, Pause)
- Index Markers
- Menu Control Panel
- Sensitive Dual Hydrophones
- Audible Water sensor alarm
- Tally light flashes green while filming
- Secure Lockable Safety Latches
- Remote ON/OFF Video Light Switches (for Amphibico Ultra Pro Pack lights only)
- Bayonet Mounted Lens System
- Optional lens adaptors
- 2 Auxiliary ports
- Internal Flip filter Arm with blue water color correction filter installed
- Picture recorded onto memory stick even while recording video
- HD and SD signals available for surface monitors

<p><b>Unpacking your housing</b></p> <p>First steps with your underwater video housing</p>	p.4	
<p><b>Housing features and controls</b></p> <p>Get to learn more on what makes your housing professional</p>	p.5-6	
<p><b>Preparing Camcorder &amp; Housing</b></p> <p>Basic but important settings before initial use</p>	p.7-12	
<p><b>Housing &amp; Camcorder operation</b></p> <p>Will guide you through all the functions</p>	p.13-21	
<p><b>Maintenance</b></p> <p>Keep your housing in good shape for best performances</p>	p.22	
<p><b>Specifications</b></p> <p>What you need to know about your system</p>	p.23	<p>Operating depth :</p> <ul style="list-style-type: none"> <li>- Each unit is pressur 330ft (100m)</li> </ul>
<p><b>Tips and Tricks</b></p> <p>What you need to know about underwater videography</p>	p.25	

**The Endeavor offers an array of optional accessories and they are as follows:**

- Large carry case with casters and handle
- Optics
  - +2 Diopter
- Audio
  - Professional saddle with XLR adapter (for external audio on the HVR-V1 camcorder)
- Video
  - 100' (30m) umbilical cable for video to surface
    - a) SD Rear Bulkhead users: Dual video out, to the monitor back an to the surface
    - b) HD Rear Bulkhead users: Will have to choose between Video to surface or to the monitor back. Only one HD signal is available.
- Lights
  - 35/50 Watt "HID" Technology Arc Light with aluminum Extension Arm
  - 10 Watt Arc Light "HID Technology" with mounting arm
- Filters
  - UR PRO Green Water 67mm Filter
  - ND Graduating 67mm Filter
- WB/Color chart slate
  - 7" x 11" slate
  - 11" x 17" slate.
  - Offered with an optional branding to personalise your slate
- Charger with 4x High capacity Amphibico brand NiMH battery kit
  - 4x High capacity Amphibico brand NiMH battery kit
- Extended warranty program

**ENDEAVOR**
**Marine housing for the Sony HDR-FX7 & HVR-V1**

- Marine grade aluminum Construction
- Fully anodized with a hard coat of polyurethane paint and a clear coat
- All hardware is marine grade brass and stainless steel
- Optics: Marine bayonet mounted lens system, flat port.  
     Optional: Marine bayonet mounted lens system, 0.68X rectilinear fully coated amphibious conversion lens. Full zoom-through capability, 94° field of view underwater and vacuum-sealed for maximum anti-fog protection.
- Internal Flip filters with a Blue Water
- Sensitive Dual Hydrophones to pick up high frequency sounds, such as whales and dolphins
- 3.5 inches LCD viewfinder
- 2 Auxiliary ports

**Weight of unit :**

- On land fully loaded w/camera NP970 battery, lens and 6 lead ballasts.
  - Endeavor SD with Flat port : 22.16 lbs (10.05kg)
  - Endeavor SD with Dome port : 22.1 lbs (10.02kg)
  - Endeavor SD with 94° Wide Angle Adaptor : 25.21 lbs (11.44kg)
  
  - Endeavor HD with Flat port : 23.10 lbs (10.48kg)
  - Endeavor HD with Dome port : 23.05 lbs (10.45kg)
  - Endeavor HD with 94° Wide Angle Adaptor : 26.14 lbs (11.86kg)
- In freshwater fully loaded w/camera NP970 battery, lens and 6 lead ballasts.
  - Endeavor SD with Flat port : neutral
  - Endeavor SD with Dome port : neutral
  - Endeavor SD with 94° Wide Angle Adaptor : 0.28lbs (125g) negative
  
  - Endeavor HD with Flat port : 23.10 lbs (10.48kg)
  - Endeavor HD with Dome port : 23.05 lbs (0.22 lbs (100g) negative

**Dimensions :**

- Length 17.0 inches (430mm)
- Width 13.0 inches (330mm)
- Height 9.0 inches (229mm)
- Measurements includes lens and grips

**Operating depth :**

- Each unit is pressure tested to 330ft (100m)

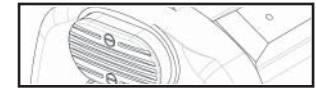
Before unpacking your housing kit, inspect the shipping box as well as all contents for damage during shipping. If damage has occurred, please contact the shipping company immediately.

Every Amphibico Housing is pressure tested prior to shipping. However, damage may have occurred during shipping. It is strongly recommended to test dive the housing once without camcorder installed to assure the housing is water tight.

This instruction manual assumes that the user is already familiar with the SONY® HDR-FX7 and HVR-V1 camcorders. If not, please read instruction manuals thoroughly before beginning to use the housing.

Your Endeavor camcorder housing comes to you as follows:

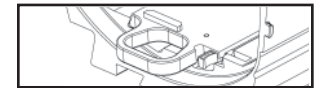
A) Marine Housing



B) Lens port (upon system selection)



C) Removable / lockable camcorder saddle (shipped in its position inside the housing)



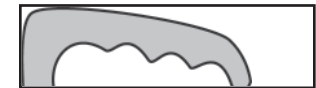
D) O-ring kit with container of silicone grease



E) Instruction Manual and warranty card



F) Carry Handle

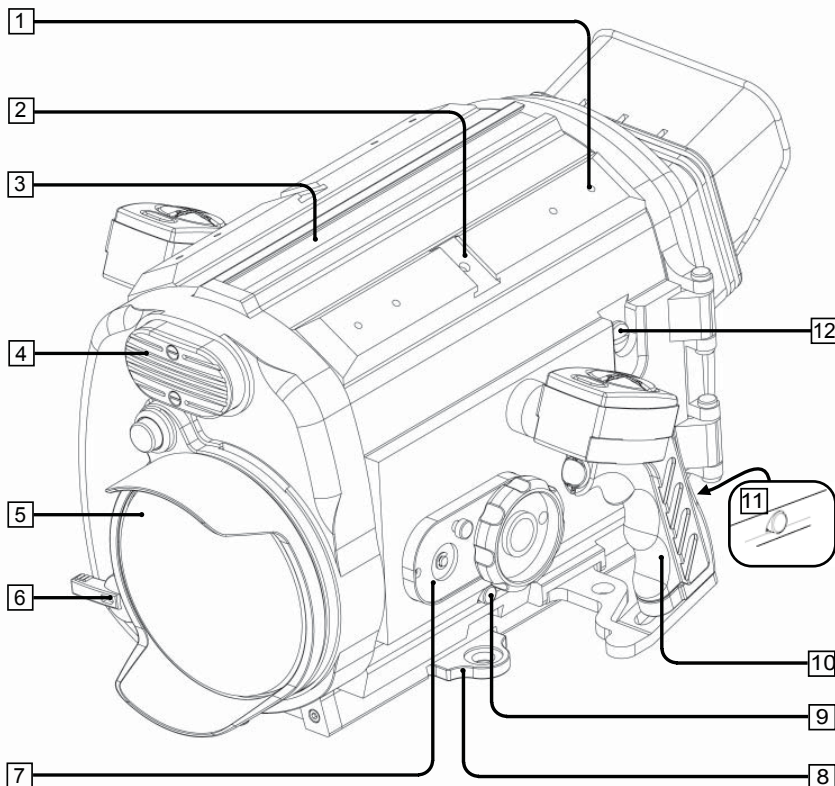


G) Allen key 1/8" (for carry handle)



H) Allen key 1/16" (for lead balasts)





- |                                |                               |
|--------------------------------|-------------------------------|
| 1 Accessory Mounting Holes     | 7 Iris Control Panel          |
| 2 Accessory Mounting Side Rail | 8 Power Pack Mounting Bracket |
| 3 Accessory Mounting Top Rail  | 9 Expanded Focus              |
| 4 Dual Hydrophone              | 10 Left Electronic Grip       |
| 5 Bayonet Mount Lens Port      | 11 Picture Profile            |
| 6 Color Correction Flip Filter | 12 External Accessory port    |

**WARNING: DO NOT** leave the housing exposed to direct sunshine, as extreme heat condition can be detrimental to certain of its components.

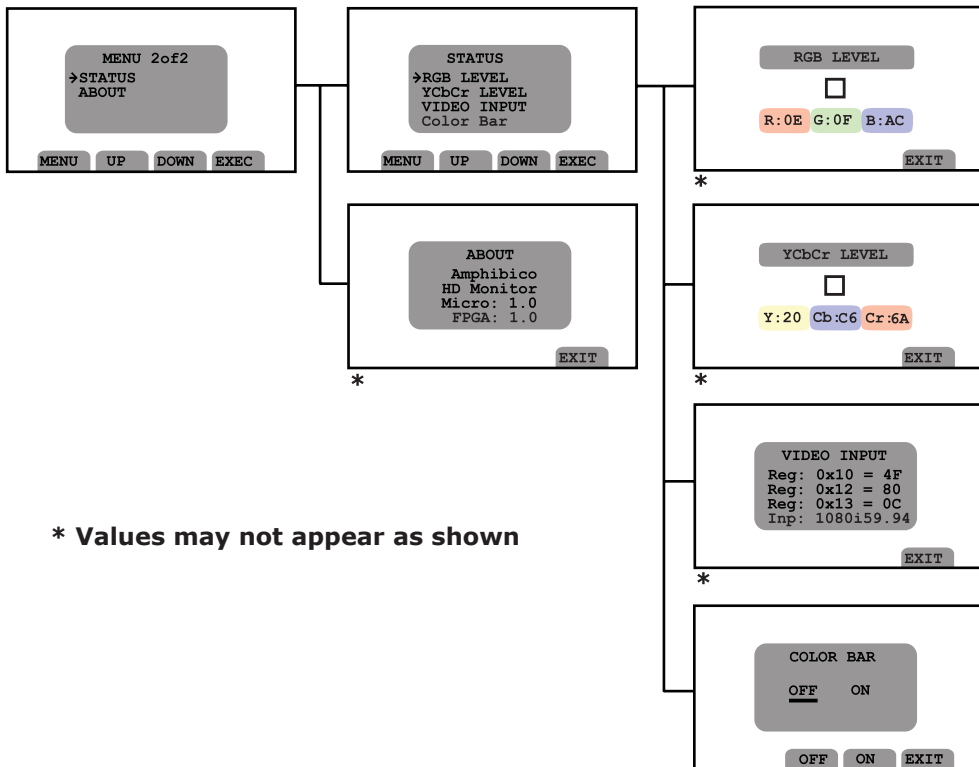
1. Keep housing and o-rings away from direct sunlight. Always store unit when possible away from direct sunlight as this can dry out and crack o-rings in the housing. Ultraviolet rays can damage plastics, paint and o-rings.
2. Always rinse or soak closed housing in fresh water for 10 to 15 minutes after every use. Reach into freshwater and operate all controls to clear salt water. Do not use solvents to clean unit. If preferred, use mild detergent and clean fresh water.
3. Fasteners that are removable should occasionally have the threads lubricated with silicon grease.
4. Rinse clean and remove water spots from external filters and lens surface after every dive or water spots may build up and become impossible to remove. Dry gently with a soft, lint-free cloth.
5. Inspect housing's rear door main o-ring seals (double seals) before every dive. Make sure that there are no cracks or misalignment in the o-ring channel and that no debris is caught on the o-rings.

## SERVICING O-RINGS

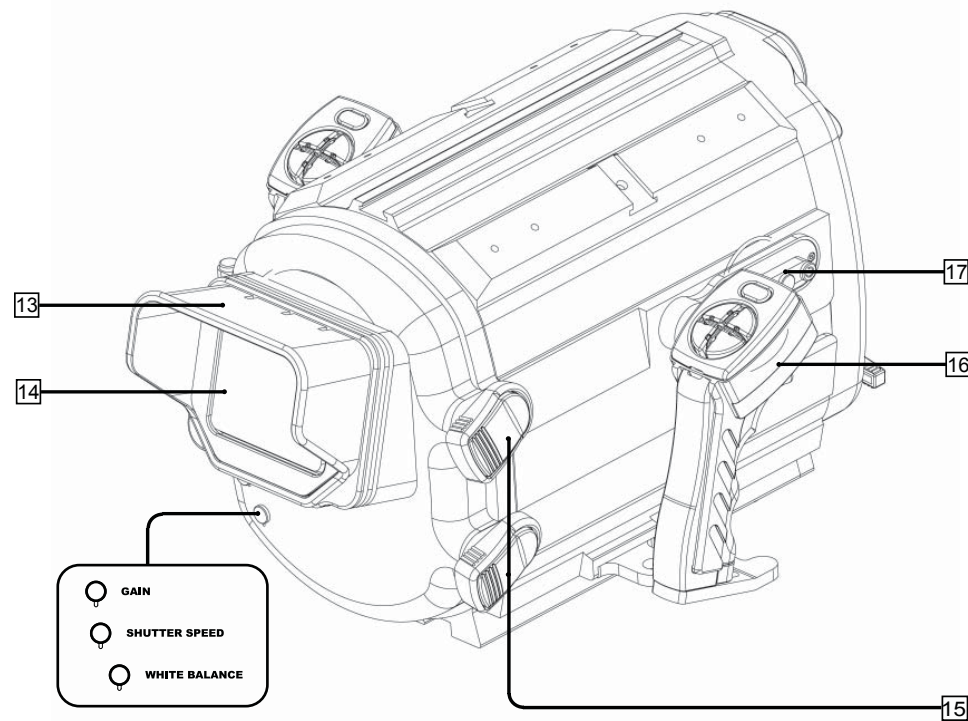
1. O-rings and sealing surface should be lightly lubricated with silicon lubricant on a regular basis. This is not necessary after every dive; every tenth dive during regular heavy use is sufficient. This should always be done before storing the housing and before a first dive after taking the housing out of storage.
2. It is important never to use a sharp instrument when removing an o-ring as this may cause damage to the o-ring or the o-ring groove. A hairpin or a credit card works well.
3. The removed o-ring should be examined for damage. Check to make sure that the o-ring is free from nicks and cuts and that it retains its original round profile. O-rings that appear to be damaged should be discarded immediately and replaced with new o-rings.
4. Rinse the o-ring with freshwater and dry it with a clean lint free cloth.
5. Clean the o-ring grooves (where the o-rings sit) with a Q-tip. Be sure to remove any lint the Q-tip may leave behind. Inspect the groove for damage.
6. Wipe the part of the housing that the o-ring seals against with a clean lint free cloth.
7. Re-grease the o-rings with a thin layer of silicon grease until it appears to be smooth and shiny. Do not over grease it - use just enough grease so that the o-ring will pull smoothly through your fingers. Excessive amounts will only attract dirt to the o-ring.
8. Replace o-rings in their proper position on the lens assembly and on the main door seal.



**On Screen Display (OSD)  
Screen 2 of 2**



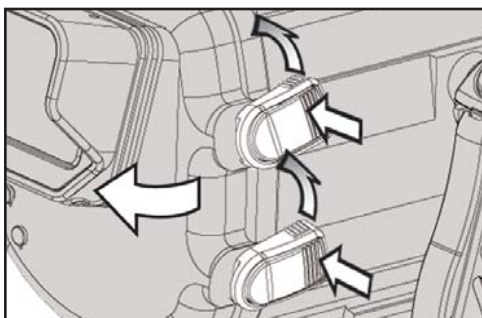
Amphibico 16:9 Supported Format - 2007-06-18				
Revision 1.5				
Format	Format Names	Digital Zoom (Y/N)	Supported	Special Comment
525 (NTSC)	NTSC	No	Yes	Underscan by ~ 5%
625 (PAL)	PAL	No	No	Underscan by ~ 5% (Vert. Crop)
525 (Component)	525i59.94	No	Yes	Underscan by ~ 5%
625 (Component)	625i50	No	Yes	Underscan by ~ 5% (Vert. Crop)
720x480p59.94	480p59.94	Yes (Anam.)	Yes	Underscan by ~ 5%
720x576p50	576p50	No	No	Underscan by ~ 5%
1280x720p59.94	720p59.94	Yes	Yes	Full Screen
1280x720p50	720p50	Yes	Yes	Full Screen
1920x1080i59.94	1080i59.94	Yes	Yes	Full Screen
1920x1080i50	1080i50	Yes	Yes	Full Screen



- 13 LCD Monitor Shade
- 14 LCD Monitor (SD or HD, upon system selection)
- 15 Safety Latch
- 16 Right Electronic Grip
- 17 Menu Panel

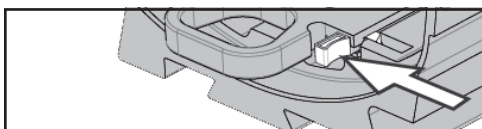
## Opening the housing

Sit the housing on a flat surface. Press and rotate both safety latches counter-clockwise simultaneously until the rear door opens.

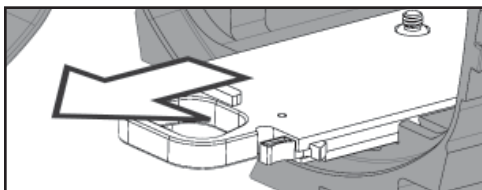


## Removing the saddle

Push the saddle locking mechanism as indicated in order to release the saddle from its locked position.

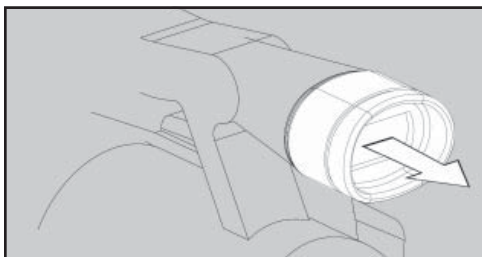


Use the handle to pull the saddle completely out of the housing.



## Setting the camcorder

1. Remove the eyecup and magnifier element.
2. Put a fully charged battery in the camcorder.
3. Place a recordable tape into the camcorder.
4. Set the AUTO LOCK switch to the center position.



### NOTE for users of the HVR-V1 camcorder.

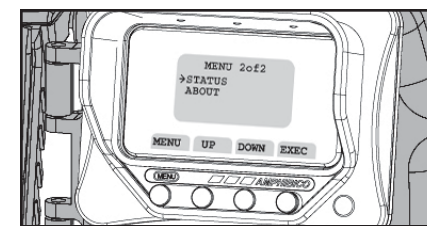
You will have to remove the external MIC support holder in order to fit the HVR-V1 camcorder into the housing.

1. Unscrew both screws and remove support holder.
2. Replace screws into their mounting holes for safe keeping.
3. Set the "XLR CH SEL" in the menu screen to "CH1, CH2".
4. Set the input 1 switch to "OFF".



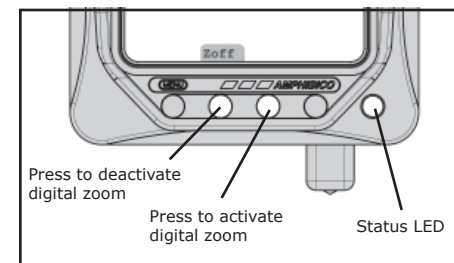
## Setting up your HD monitor

When using the high definition monitor, you have the ability of adjusting different settings through the on screen display. As indicated, the buttons will give you access to different settings on the display. The following diagrams will show you how.

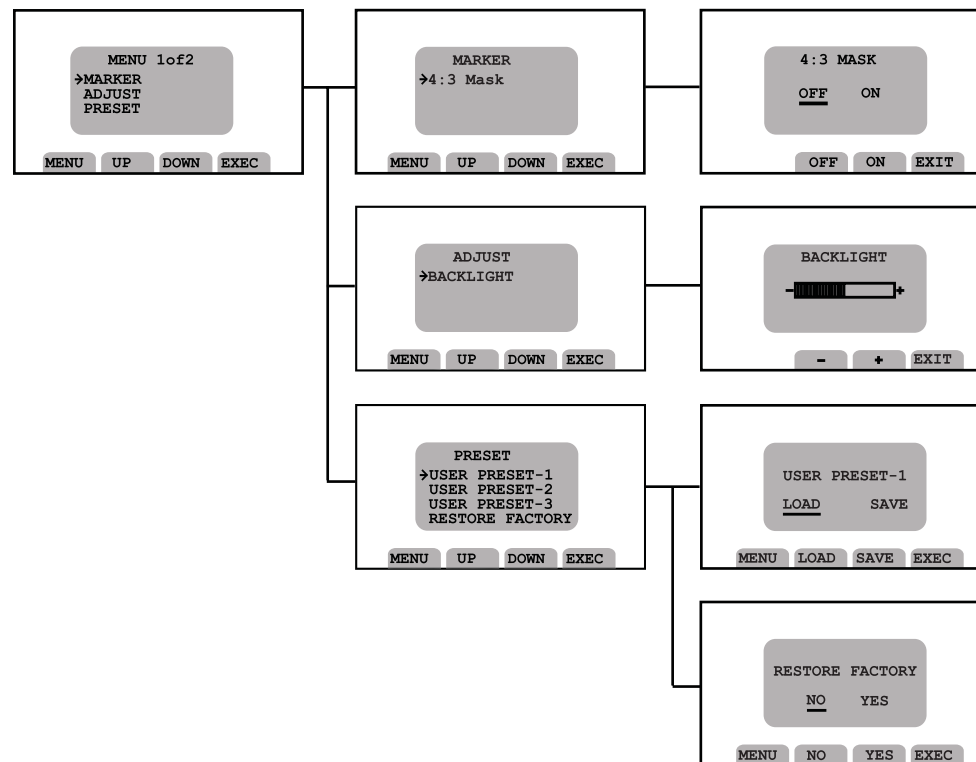


## Digital Zoom

The digital zoom feature is activated through the menu keys as shown. The status LED will turn amber color to indicate that this feature is activated. To deactivate, simply press on the "Zoff" key.



## On Screen Display (OSD) Screen 1 of 2





### Endeavor with HD Monitor Back

When installed on the Endeavor housing, the high definition monitor back will display high definition images on a 4.3 inches LCD screen.

For you to fully appreciate the use of the LCD viewfinder, you need to know the following details.

### Setting the camcorder

In order for the viewfinder to display the image correctly, you must set the camcorder to the right video out setting. To do so, browse through the camcorder MENU, then access the DISPLAY SET page and DISP OUTPUT setting. Set the value to V-OUT/PANEL. This way, the image will correctly show in the viewfinder screen.

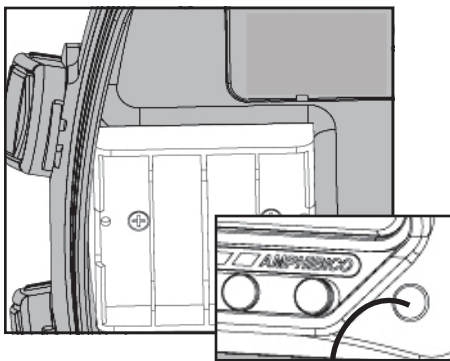
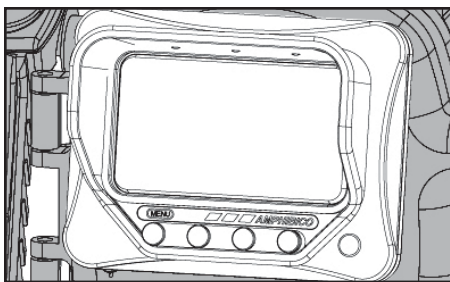
**NOTE THAT ALL CAMERA MARKERS SHOULD BE SET TO OFF.**

### Batteries

It is recommended to place four fresh "AA" batteries into the battery holder before every dive.

Operating limit: Typical alkaline batteries will produce up to 30 minutes of continuous use. Nickel metal hydride batteries (Ni-MH), on the other hand, will produce up to 265 minutes.

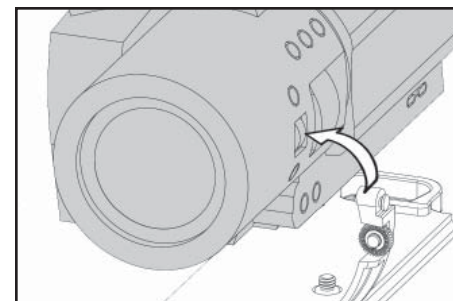
The "LOW BATT." indicator starts to flash red once the batteries have reached their operating limit. A steady red color indicates that the batteries need to be replaced.



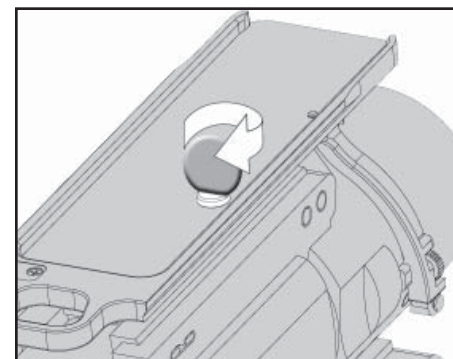
Low batt.

### Installing the saddle

**1.** Place the saddle under the camcorder with its handle pointing the back of the camcorder. Align the thumbscrew and guide bar (located on the back of the saddle) with the camcorder's tripod mounting holes. Make sure that the saddle arm is lining up with the IRIS adjustment wheel of the camcorder.

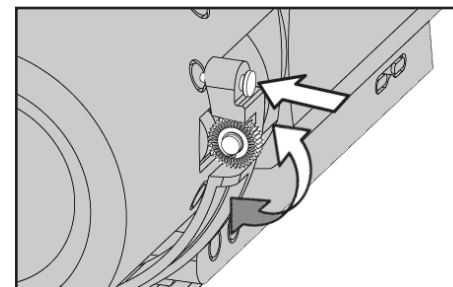


**2.** Tighten the thumbscrew with a coin or a screwdriver to secure the saddle to the camcorder. The saddle arm should be sitting against the camcorder's IRIS wheel. The gear's teeth have to mate correctly with the IRIS wheel indents so there is a movement transfer when turning the wheel.

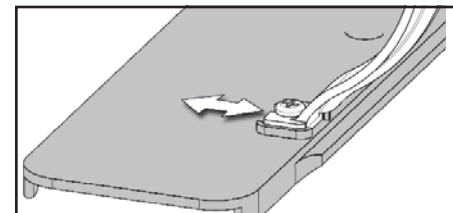


**3.** In order to activate the IRIS, please push the button as indicated in order to toggle the IRIS ON and OFF.

If the gear doesn't grab on to the camcorder's IRIS wheel, reposition the gear so the points mate with the wheel dents. To verify that the assembly works correctly, roll the gear with your thumb. The IRIS wheel will then start turning.



**4.** If you find that the gear doesn't touch the IRIS wheel enough to activate it, you can adjust the saddle arm by moving it in a little more. Loosen the screw and slide the arm in. Tighten the screw back on and try steps 1, 2 and 3 again.



**WARNING !**

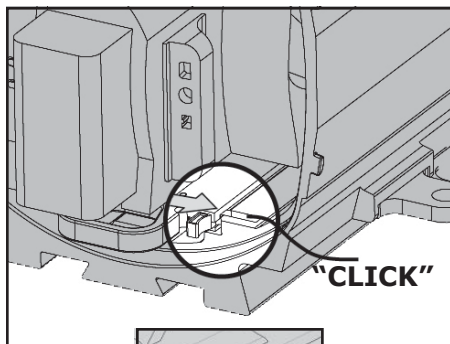
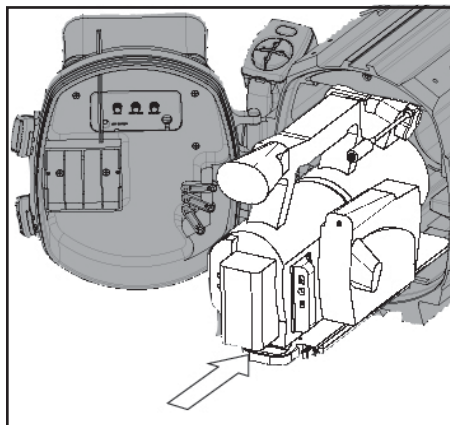
**DO NOT PLACE ANY TYPE OF LENS ADAPTER OR LENS FILTER OTHER THAN AMPHIBICO ACCESSORIES ON THE CAMCORDER. Doing so can cause severe damage to the unit when inserting camcorder into housing.**


**PLACING THE CAMCORDER INTO THE HOUSING**

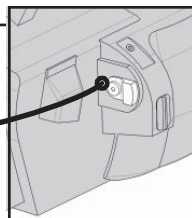
By now the camcorder is set, installed to the saddle and ready to be placed inside the housing.

1. Line up the camcorder and saddle with the rails found inside the housing.
2. Begin to insert the camcorder by placing the front of the saddle over the housing rails. This will allow you to better locate the rails on the housing.
3. Slide the camcorder all the way until the saddle locking device locks into place.
4. Set the power switch on the camcorder to CAMERA.

**NOTE:** It is essential for the camcorder to be turned ON in order for the housing electronic features to work properly.



Set to CAMERA

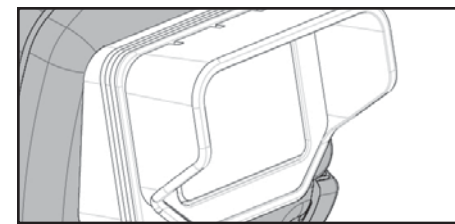

**Endeavor with SD Monitor Back**

Some Endeavor housings are equipped with a standard definition viewfinder mounted on the back. This depends on your choice of equipment.

For you to fully appreciate the use of the LCD viewfinder, you need to know the following details.

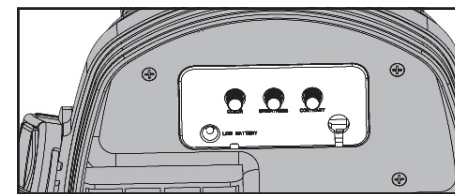
**Setting the camcorder**

In order for the viewfinder to display the image correctly, you must set it to the right video out setting. To do so, browse through the camcorder MENU, then access the DISPLAY SET page and DISP OUTPUT setting. Set the value to V-OUT/PANEL. This way, the image will correctly show in the viewfinder screen. **NOTE THAT ALL CAMERA MARKERS SHOULD BE SET TO OFF.**


**Adjusting colors**

Settings for the rear LCD monitor are located on the inside of the rear bulkhead and are described as follows.

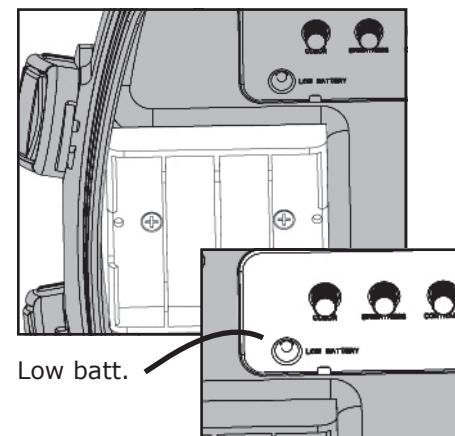
COLOR: To adjust color saturation  
 BRIGHT: To adjust the brightness  
 CONTRAST: To adjust the contrast


**Batteries**

It is recommended to place four fresh "AA" batteries into the battery holder before every dive.

Operating limit: Typical alkaline batteries will produce up to 30 minutes of continuous use. Nickel metal hydride batteries (Ni-MH), on the other hand, will produce up to 150 minutes. We suggest you to use the High capacity Amphibico brand batteries

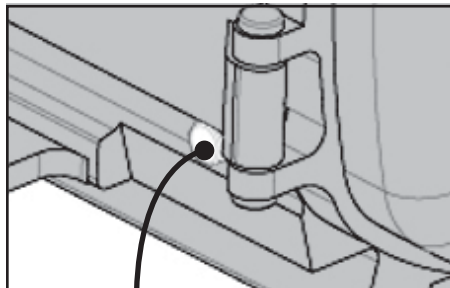
The "LOW BATT." indicator starts to flash red once the batteries have reached their operating limit. A steady red color indicates that the batteries need to be replaced.



Low batt.

### Picture profile


As quoted in your camcorder's user manual, you can set 6 different picture quality settings. This function is called PICTURE PROFILE (P.P.). To access the function through your Endeavor housing, press the P.P. push button located on the lower back of the left side of the housing. The P.P. screen will show up. Navigate the P.P. menu with the MENU PANEL + and - keys. You can also adjust the values of each P.P. with the same keys.

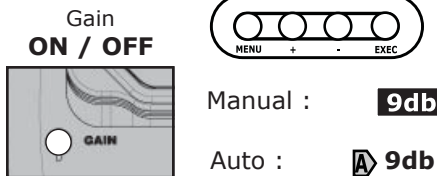


Picture Profile access


Please refer to your camcorder's user manual for more details on picture profile.

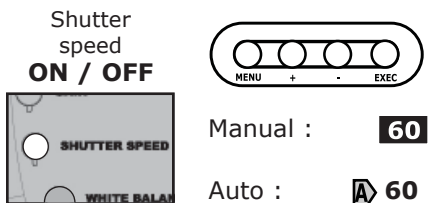
### Gain

You can adjust GAIN by using it with the "+" and "-" buttons on the MENU panel. To turn the function to manual, simply push on the GAIN button located on the rear bulkhead. Push the button once again to return into the automatic  setting.



### Shutter Speed

You can adjust SHUTTER SPEED by using it with the "+" and "-" buttons on the MENU panel. To turn the function to manual, simply push on the SHUTTER SPEED button located on the rear bulkhead. Push the button once again to return into the automatic  setting.



### Connecting the camcorder

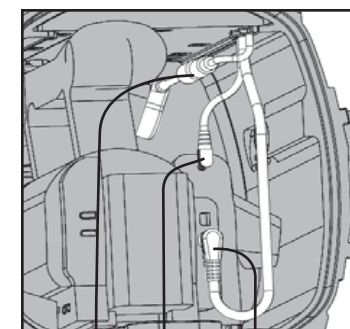
**LANC:** Connect the cable from the top panel to the camcorder's LANC jack.

**VIDEO:** Connect the video cable (D-shaped) to the camcorder's A/V jack.

**AUDIO (HDR-FX7):** Connect the audio cable from the front of the saddle to the camcorder's MIC jack (Not shown).

**AUDIO (HVR-V1):** Connect the adapter plug (supplied) to the camcorder's INPUT 1 MIC jack. Connect the audio cable from the top panel to adapter plug.

**NOTE:** MIC must be plugged in before fully inserting the camcorder.



Audio  
Video  
LANC / Remote

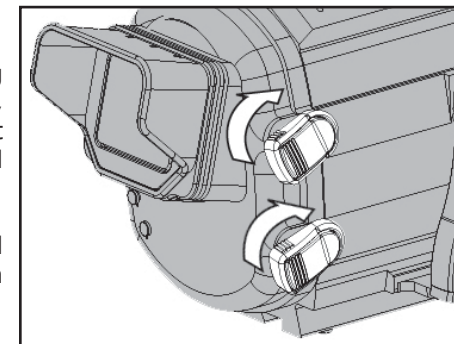
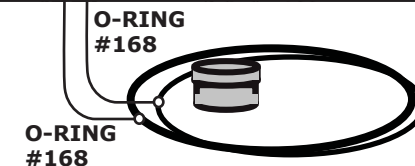
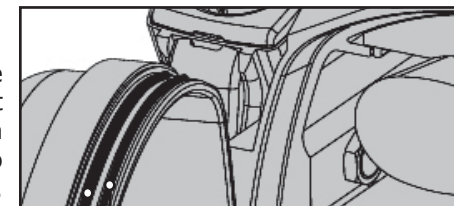
### CLOSING THE HOUSING

**1.** While the housing is open, inspect the two o-rings and the sealing surface for dirt and debris. If necessary, clean them with a lint free tissue. Make sure that the two o-rings and the sealing surface are clean. Then apply a small amount of lubricant (supplied) to the o-rings.

**NOTE:** If you have to change your o-rings, make sure you are using the o-rings provided with the package. Using different o-rings than those in the o-ring kit may cause the housing to leak and result in damage.

**2.** Make sure that no cables are blocking the sealing surface. If a cable gets pinched, the system might be intermittent or not functioning at all. Close the rear door until the latches begin to engage.

**3.** Make sure the o-rings are well placed before locking the latch. Turn the latch clockwise until a positive click is felt.





## REPLACING THE BAYONET LENS

The Endeavor is equipped with high quality lens adaptors (upon system selection). For example, You may have to replace the existing flat port if you want to change to a Dome port or a Wide angle lens adaptor.

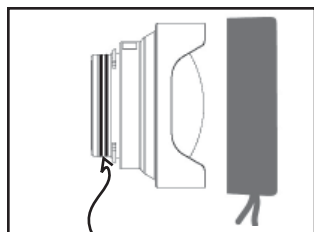
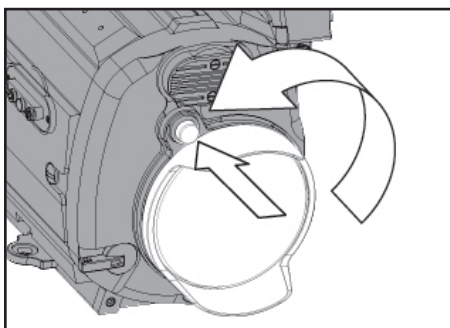
1. To remove the lens, push and hold the button on the upper left of the front bulk-head and then turn counter clockwise until the lugs are free from the bayonet ring. Pull gently on the lens adaptor to release it.

If you feel too much resistance due to o-rings and pressure, we suggest you to stay behind the housing and hold it against your chest. With your right hand, hold the bayonet release button depressed and grab the bottom of the lens shade with your left hand. Turn counter clockwise to release the port from the bayonet.

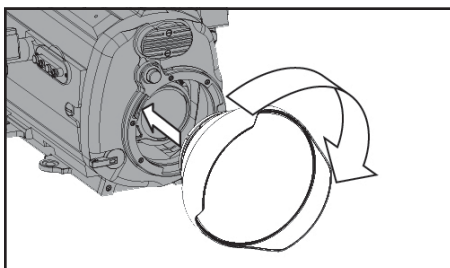
2. Remove the covers from the replacement adaptor lens. Place them in a clean and dry environment to avoid any damage. Make sure the seals on the back part of the lens port are clean and free from dust and debris.

3. Put a small amount of lubricant on the o-ring seals and the sealing surface of the housing.

4. Line up the bayonet lug marked by a hole with the printed dot on the front bulk-head of the housing. Push the adaptor lens all the way in until it sits on the bayonet ring and turn clockwise. You will hear a positive click and the adaptor will lock into place.



LUBRICATE O-RINGS



## Menu Control Panel

The menu control panel is located on the right-hand side of the unit, in front of the grip. This panel allows the user to communicate with the camera's menu settings.

### Menu Button :

Brings up the menu screen on your viewfinder.

### "+" button :

Scrolls menu selections upwards.

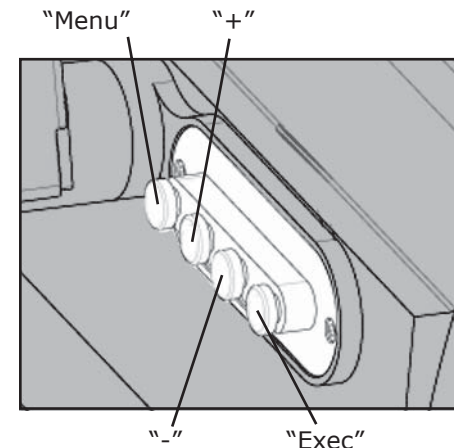
### "-" button :

Scrolls menu selections downwards.

### "Exec" button :

Activates your menu selection.

## Menu Control Panel

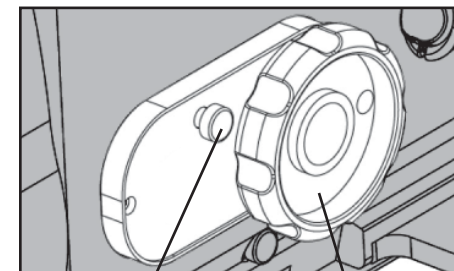


## Iris adjustment panel

You must first make sure that the iris is set to manual. Since the current aperture value (f) is always displayed in the viewfinder, when set to manual, the small icon **A** disappears. If not, press on the Iris button located beside the iris knob. This will set the iris to manual, rotating the Iris knob CW or CCW will make the aperture value of the camcorder change. Note that the **A** icon means that the camcorder's iris function is set to automatic.

You may find the iris values changing a little slow. For more sensitivity on the camcorder's iris wheel, set the *DIAL SENS* to *HIGH* in the *EXPOSURE/IRIS* menu setup screen.

## Iris adjustment panel



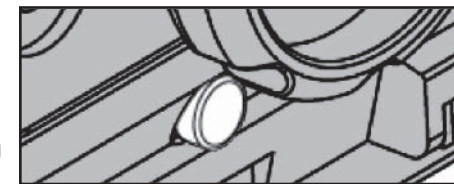
Toggle between Auto / Man Iris

Iris adjustment dial

## Expanded focus

In order enable the Expanded Focus functions of the camcorder, locate the push button below the Iris Adjustment Panel. By pushing on the button, the image shown in the viewfinder will be magnified by about 2 times. This will help you set the focus during manual focusing.

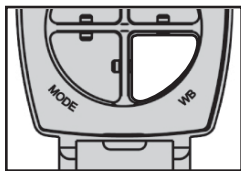
## Expanded focus



### White Balance

Pressing on the WB button located on the rear bulkhead will enable this feature. Press on the right grip WB button to white balance. Pressing again on the WB button located on the rear bulkhead will disable the feature.

Right Grip



White Balance  
**ON / OFF**



### Hidden features

These features are accessible when the user presses on the SHIFT button (left trigger). To run the following functions, press the suggested buttons while holding the SHIFT button depressed.

#### A. POWER OFF : Press MODE

This will turn the system OFF.

#### B. STBY RETURN : Press right grip trigger.

Will bring the system back to REC.

#### C. BACKLIGHT : Press WB.

Will activate the backlight function of the camcorder.

#### D. FAST ZOOM T : Press Zoom T

Will increase the zoom speed.

#### E. FAST ZOOM W : Press Zoom W

Will increase the zoom speed.

#### F. REC REVIEW : Press AF Toggle

Allows you to review the last few seconds of the most recently recorded scene while in rec/standby mode.

#### G. DISPLAY TOGGLE : Press Moment. AF

Will display O/OFF the camcorders information.

#### H. RIGHT LAMP ON/OFF : Press Focus -

Will turn ON and OFF right Discovery II light while attached to the housing (light kit not supplied).

#### I. LEFT LAMP ON/OFF : Press Focus +

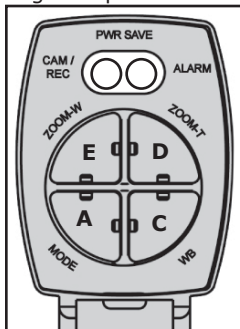
Will turn ON and OFF left Discovery II light while attached to the housing (light kit not supplied).



Trigger on  
left grip:

**Shift key**

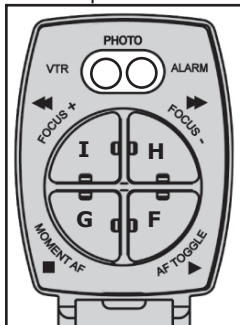
Right Grip



Trigger on  
right grip:

**B**

Left Grip



Trigger on  
left grip:

**Shift key**

### INSTALLING ACCESSORIES

The Endeavor as been equipped with mounting holes and railing systems to accommodate for a variety of accessories. Locations for a few of these accessories have been designated for your convenience. However, these locations can be used for other accessories. Some of them like the monitor or video lights require to be connected to the housing. Accessory connector ports are available for this purpose.

### Achieving neutral buoyancy and balance

Adding accessories to the housing may make it heavier or off balance in the water. Removable ballasts have been added to the bottom of the housing for this purpose.

### To make the weight adjustments.

1. Submerge the housing with the added accessories into the water so you get an idea of what and where to remove weight.
2. Using the allen key supplied, start removing or relocating the ballasts from the right or the left channels as illustrated.

### WATER ENTRY

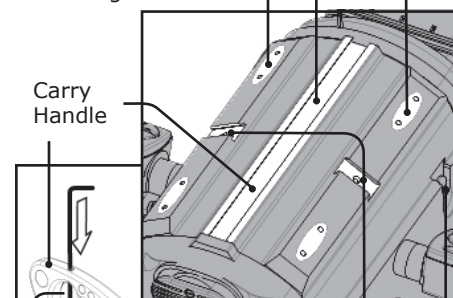
1. Always turn housing to its ON position before entering water. To turn it ON, use the right grip trigger button. This is confirmed by the CAM. indicator light turning on steady green. The housing monitor will also turn ON. Doing step 1 will activate the built-in moisture alarm sensor located in the bottom of the housing.

### IMPORTANT

All indicator lights will start flashing RED and an audible alarm will be heard if water leakage occurs inside the housing. Remove from water as soon as possible, take the camcorder out of the housing and inspect all seals and the inside of the housing. **ALWAYS REMEMBER DIVER SAFETY FIRST.**

2. Lower the housing just below the water surface in level position and hold for one minute to confirm there is no leakage in the housing.

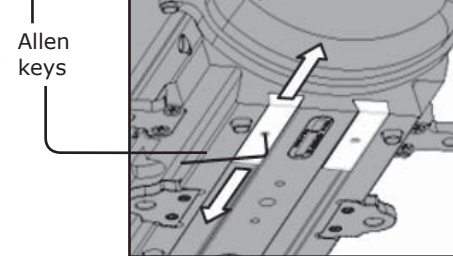
Accessory brackets  
mounting holes



Carry Handle



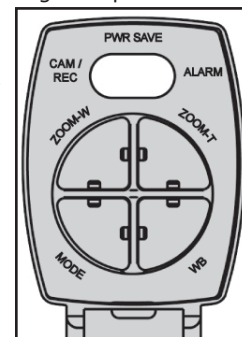
Accessory connector port



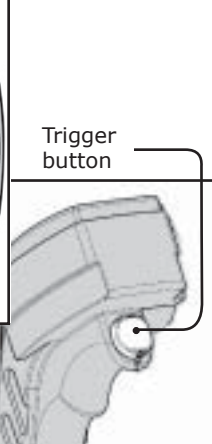
Accessory lights

Allen keys

Right Grip



Trigger button





The ENDEAVOR offers a large range of functions both electronic and mechanical. This chapter will explain to you in detail all of these functions.

### POWER ON

The trigger button on the right grip will activate the camcorder. Simply press on it once and the CAM -1- indicator light will turn on steady green. The rear monitor will also be turned ON to confirm the power ON of the camcorder.

### POWER OFF

To power off the camcorder during a dive will allow you to save on battery energy. To do so, push the MODE button while keeping the left grip trigger button (shift) depressed. Wait for 2 seconds and the system will shut down.

### POWER SAVE

(Right grip LED indicators are on steady green) When the camcorder is left in Record/Standby for more than 5 minutes, it will exit this mode to prevent tape wear and battery loss. To return to REC mode do the followings:

Simply press on the right trigger button. The camcorder will start recording. Note that it will take longer to start recording.

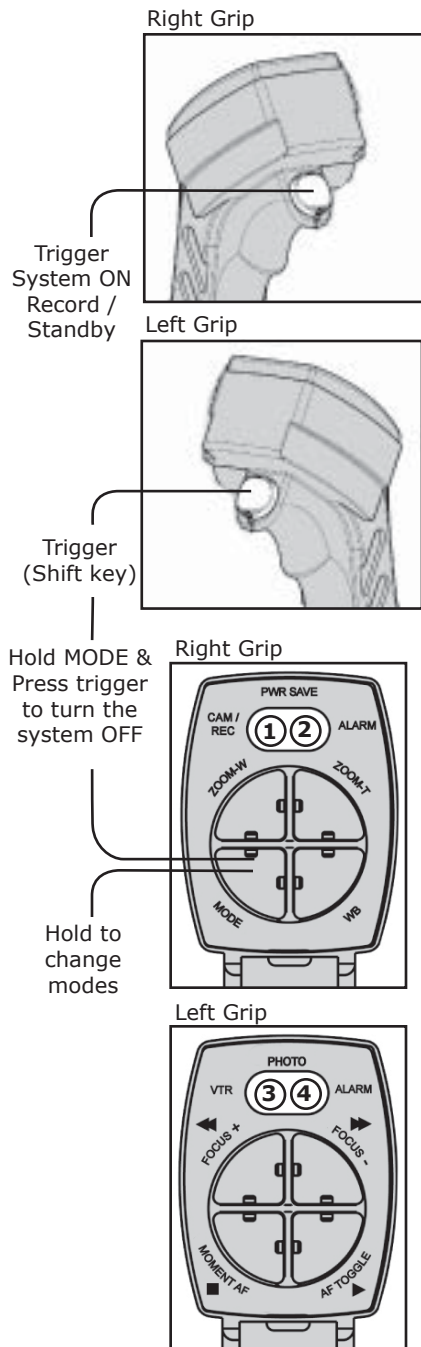
### MODE SETTINGS

There are two mode settings on the housing. One mode setting is for the CAMERA operation (CAM MODE -1-) and the VCR operation (VTR MODE -3-) of the camcorder.

You can change mode settings, once the housing is activated, by pressing on the MODE switch located on the right grip control panel.

### CAM MODE

The housing will set itself to record/standby mode (-1- CAM indicator LED is steady green) when initially turned ON. To record a scene, simply press on the right grip trigger button. The CAM indicator LED will flash green when recording. Pressing it again will bring it back to record/standby mode.



### PICTURE

While you are in REC/Standby mode, you can take a picture that will be directly recorded onto the memory stick. Hold the Trigger on the left grip while pressing onto the Trigger on the right grip. Note that you can take a picture while recording a scene. The picture will be stored onto the memory stick.

### VTR MODE

In VTR mode, all playback functions on both grips become available. The CAM indicator LED turns off and the VTR indicator LED turns on steady green in this mode.

### Left Grip

- ◀ Rewind
- ▶ Fast-Forward
- Stop
- ▶ Play

**Trigger : SHIFT**

### ZOOMING

Located on the right grip, the ZOOM-W and ZOOM-T buttons enables you to zoom through with a constant speed. Pressing on ZOOM-W will widen the zoom while pressing on ZOOM-T will result in the opposite being telephoto.

*Faster Zoom Speed:* If so desired, the zoom speed may be increased. Simply hold down the left grip trigger button (shift key) while pressing on the ZOOM-W or ZOOM-T buttons.

### FOCUSING

The camcorder focus on the Endeavor can be set to either auto or manual focus. To toggle from auto to manual focus, simply press on the AF TOGGLE button to navigate through Auto and Manual focus.

### Manual Focus

In manual focus, fine tune the focus by using the FOCUS + and FOCUS - buttons.

Use the right grip MOMENT AF button (by holding it down) to temporary auto focus. Letting go will return to manual focus.

