

# AQUATICA™

## Digital

DIGITAL U/W HOUSING FOR NIKON D70 SERIES  
OPERATING MANUAL



## FOREWORD

Thank you for having selected the AQUATICA A70 Digital Camera Housing System for your underwater photography.

The AQUATICA A70 Digital Housing is the result of a long and continuing relationship with the most demanding underwater photographers in the world. Each housing is handcrafted, quality checked and pressure tested to 300 feet by a small group of specially trained individuals, each of whom takes the utmost pride and satisfaction in offering the best underwater camera housing in the world.

The Aquatica A70 Digital Housing was designed for optimum technical and optical performance and to provide easy and efficient underwater access to all the functions and controls of the Nikon D70 SLR.

This manual assumes that the User is already familiar with the Nikon D70 camera. If not, please read the Nikon D70 instruction Manual before attempting to use the housing.

With basic care and maintenance, your AQUATICA A70 will give you a lifetime of enjoyment and satisfaction in producing underwater images.

Please read this manual carefully before using your housing for the first time and note that: wherever cited the right hand is your right when using the housing.

## SAFETY PRECAUTIONS

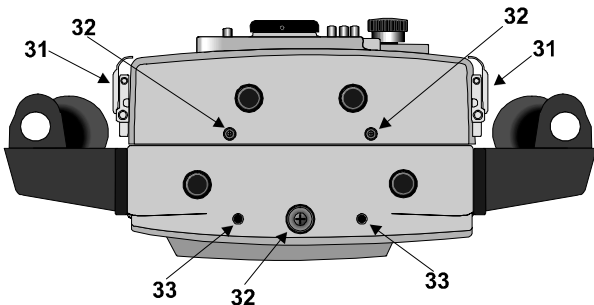
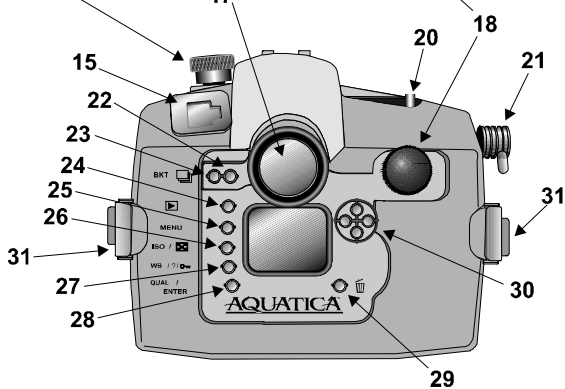
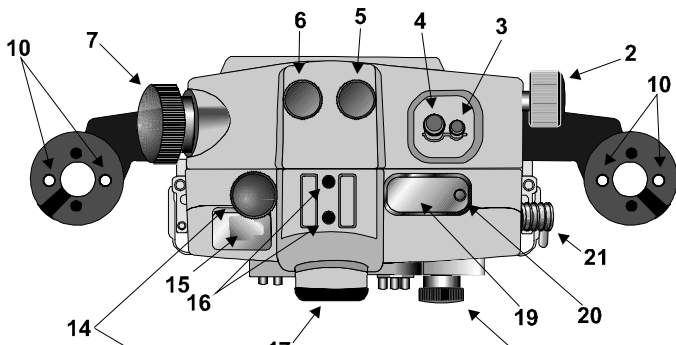
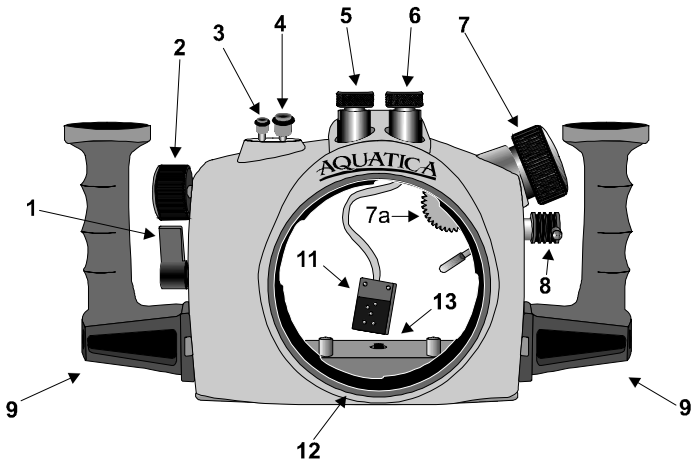
Improper transportation handling or use of this housing might cause a flood or malfunction.

Please read and follow the following precautions:

- Store and transport the housing in a sturdy, shock proof container and avoid travelling with the camera mounted inside the housing as impact forces especially on the external push buttons will be transferred to the camera.
- When travelling by air, either remove the port or open the housing.
- Never change a port or open the housing in a location where sand or similar foreign material might come in contact with an O-ring
- Use of accessories or modifications and alterations unauthorized by the manufacturer may result in flooding or poor functioning of the controls
- Be careful when opening the housing as the pressure buildup inside the housing will exaggerate the force of the latch spring. Keep fingers away from the path of the latches.
- Whenever changing ports or O-rings, perform a simple seal test with out the camera inside.
- Avoid scratching the acrylic or glass ports and windows.
- Make sure that all ports remain properly attached before rinsing the housing, especially when rinsing without a strobe make sure the Bulkhead connector is sealed with its plug.
- Never attempt to operate the camera in autofocus mode with the lens mounted focus gear engaged with the housing gear.
- The main O-ring seals should be maintained and cleaned on a regular basis. Read and follow the Care and Maintenance instructions on this manual.
- Ensure that the spring loaded secondary lock is properly engaged to prevent the accidental opening of latches.

# AQUATICA™

## A70



1. SHUTTER RELEASE LEVER
2. SUB -COMMAND INPUT KNOB
3. EXPOSURE COMPENSATION CONTROL
4. METERING MODE CONTROL
5. BULKHEAD FOR FLASH CONNECTOR
6. SECOND BULKHEAD FOR FLASH CONNECTOR (OPTIONAL)
7. FOCUS/ZOOM KNOB
- 7a. FOCUS / ZOOM RING CONNECTING GEAR
8. LENS LOCK RELEASE LEVER
9. GRIPS (X2)
10. MOUNTING HOLES (1/4" X 20) FOR BASE BRACKETS FOR ARMS
11. HOTSHOE CONNECTOR
12. BAYONNET MOUNTING FLANGE
13. CAMERA MOUNTING SADDLE
14. MODE DIAL CONTROL KNOB
15. MODE DIAL VIEWING PORT
16. ACCESSORY MOUNTING HOLES (X2)
17. VIEWFINDER
18. MAIN COMMAND DIAL KNOB
19. TOP LCD DISPLAY WINDOW
20. LCD ILLUMINATOR BUTTON (FORMAT)
21. AE / AF LOCK LEVER
22. SHOOTING MODE BUTTON (FORMAT)
23. BRACKETING BUTTON
24. PLAYBACK BUTTON
25. MENU ACCESS BUTTON
26. ISO / THUMBNAIL ACCESS BUTTON
27. WHITE BALANCE / PROTECT ACCESS BUTTON
28. ENTER / PLAYBACK ZOOM / IMAGE QUALITY / SIZE BUTTON
29. DELETE BUTTON
30. MULTI SELECTOR ACCESS BUTTONS
31. LATCHES (2X)
32. SACRIFICIAL ANODES (3X)
33. MOUNTING HOLES (1/4" X 20) FOR STROBE TRAY

## CONTROLS IN DETAIL

1. **SHUTTER RELEASE LEVER** : Pulling the shutter release lever back part way activates the camera meter and autofocus. Pulling the lever back all the way fires the camera.
2. **SUB-COMMAND INPUT / APERTURE KNOB** : Rotates clockwise and counterclockwise. Use alone or in combination with other controls to select or set various camera functions or modes. In "Manual" the exposure mode controls the aperture settings (see camera manual).
3. **EXPOSURE COMPENSATION CONTROL KNOB** : Rotate clockwise to engage the Exposure compensation control [+/-]. Rotate the Main-Command knob to set the desired exposure compensation value. The value will appear in the Top LCD panel and in the Viewfinder. Finally rotate the knob counterclockwise and completely up to set in the neutral position.
4. **METERING SYSTEM LEVER** : Rotate clockwise to engage the metering mode selector button. Then rotate Main-Command knob clockwise or counterclockwise to select Spot, Center-Weighted or Matrix metering options. Finally rotate the knob counterclockwise and completely up to set in the neutral position.
5. **BULKHEAD CONNECTOR** : For Flash Sync Cord. (Nikonos Type 5 pins).
6. **EXTRA BULKHEAD CONNECTOR (OPTIONAL)** : For additional Flash Sync Cord. (Nikonos Type 5 pins).
7. **FOCUS/ZOOM KNOB** : Turning allows manual focus of a single focus lens or rotation of the zoom mechanism of a lens.
- 7a. **FOCUS/ZOOM PINION GEAR** : Engages and operates the focus or zoom gear attached to the lens.
8. **LENS RELEASE LEVER** : activates the lens release button on the camera allowing easy removal of the lens.
9. **HAND GRIPS (X2)** : Left and right grip allowing the mounting of strobe arms and accessories.
10. **MOUNTING HOLE** : These are 1/4"-20 TPI holes that are ready to accept TLC Base Brackets or TLC Base Ball for strobe arms or accessories.
11. **HOT SHOE CONNECTOR** : connects the camera to the Flash Bulkhead. Slide this Connector into the camera Hot Shoe. When detaching do not pull the cord as this might damage the electrical connections.
12. **BAYONNET MOUNTING FLANGE** : allows the mounting of different ports and extension rings on the housing.
13. **CAMERA MOUNTING SADDLE** : Supports the camera inside the housing in a fixed position.
14. **MODE DIAL KNOB** : Rotate to change the exposure mode (P,S,A,M)
15. **MODE DIAL VIEWING PORT** : For viewing selection of mode dial.
16. **MOUNTING HOLES FOR ACCESSORY BRACKET** : Two 1/4"-20 TPI holes to accept a TLC accessory bracket or TLC base ball for mounting a strobe Arm or a modeling light.
17. **VIEWFINDER** : A full view of the illuminated camera viewfinder displays all necessary information.
18. **MAIN-COMMAND INPUT KNOB** : It rotates clockwise and counterclockwise. It can be used alone or in combination with other controls to select or set various camera functions or modes. Refer to camera manual for in depth use.
19. **TOP LCD WINDOW** : displays essential camera operating data.
20. **LCD ILLUMINATOR / FORMAT BUTTON** : For engaging display illuminator. used for formatting card in conjunction with button No. 22
21. **AE / AF LOCK LEVER** : Lock the autofocus or auto exposure according to preference.
22. **SHOOTING MODE / FORMAT BUTTON** : For selecting the single or continuous shooting mode, used for formatting card in conjunction with button No. 20
23. **BRACKETING BUTTON**: Push to activate the bracketing function, rotate main command knob to desired exposure correction.
24. **PLAYBACK BUTTON** : Press to activate the monitor and review images.

25. **MENU BUTTON** : Press to activate menu display, scroll using multiple selector buttons and select using enter button.
26. **ISO / THUMBNAIL BUTTON** : Press to display images in "contact sheets" of 4 or 9 images. used for cchanging ISO
27. **WHITE BALANCE / PROTECT BUTTON** : Press to protect selected image from accidental deletion or accessing white balance functions
28. **ENTER / PLAYBACK ZOOM BUTTON** : Press to acknowledge selected function or use for zooming in playback mode.
29. **DELETE BUTTON** : Press to delete images, use multiple selector buttons to select and press enter button to delete.
30. **FOCUS AREA / MULTI SELECTOR BUTTONS** : These buttons have multiple uses. they allow the selection of the focus area, in the menu mode, they are used to scroll up or down and left to right to choose from your menu selection and they are used in the delete mode.
31. **LATCHES** : Two heavy duty latches with safety locks to protect against accidental opening.
32. **SACRIFICIAL ANODES:** (3X) zinc anodes are installed to protect your housing against salt water corrosion, theses are made to deteriorate easier than the other strategic part of your housing, hence the name sacrificial anodes. These anodes will need to be replaced as needed
33. **MOUNTING HOLES** : Two 1/4" X 20 holes are provided for mounting strobes trays or accessories.

## FEATURES

The Aquatica A70 is issued from the world's most technologically advanced underwater housing lineage, ergonomically designed to place all the essential camera controls under your finger tips and features the following:

- A. A Lens Lock Release control that will activate the lens release button of camera from the outside of the housing.
- B. Large ergonomic and easy to operate controls for most of the manual and computerized camera functions.
- C. The following controls can be easily manipulated underwater:
  - Mechanical shutter release.
  - Main-Command Dial
  - Aperture through the Sub-Cmd Dial
  - Focus / Zoom
  - LCD panel illumination.
  - Top LCD windows
  - Metering system selector
  - Auto Bracketing (BKT)
  - Exposure mode (Mode)
  - Exposure Compensation
  - Focus Area Selector
  - ISO sensitivity
  - Delete button access
- E. A complete selection of bayonet mounted ports including an 8" diameter dome, flat ports, extension tubes and rings to reserve the image quality for most of the Nikkor AF and other popular AF lenses. A 6" diameter dome is also available but may require a + Diopter when used with lenses with a long minimum focusing distance.
- F. A complete line of lens gears including Auto/Manual focus selector gears and related accessories.

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# PREPARATION OF THE HOUSING

## **1. Attach Grip Bracket to the housing:**

The housing comes with two Grips for both right and left hand grips which should be installed on the sides of the housing with the supplied screws and Allen key. Occasionally remove the brackets and lubricate the screws (see Care and Maintenance: of the housing.)

Depending on which strobe system you are using, you can mount the necessary shoes or brackets onto the 1/4"-20 threaded holes on the top of the hand grips. The AQUATICA **TLC** strobe arm system is recommended.

There are also three (2) 1/4"-20 threaded holes on the bottom of the housing that can be used for various mounting application trays. As well there are two holes on top of the rear half of the housing for mounting accessories.

Mount your strobe and connect the sync cord to the housing's strobe bulkhead. Be sure to read the section titled "Care and Maintenance: of the O-rings."

## **2. Lubricate the Main O-ring Seal:**

Before use, remove the Main O-ring seal from its groove on the front half of the housing and carefully verify that the O-ring and the O-ring groove are free from scratches or foreign material. Lubricate the O-ring with a light coat of silicone grease.

When replacing the O-ring place the entire O-ring over the O-ring groove and start by pushing the O-ring in the corners. Work your way around the O-ring making sure the O-ring is snugly sitting in the groove.

For proper handling and maintenance of O-rings be sure to read the section titled "Care and Maintenance: of the O-rings."

# PREPARATION OF THE PORTS

## **1. Select the correct port:**

Depending on whether you've decided to shoot macro or wide angle photography, you will be installing either the flat Macro Port (product # 18426), or 8" Dome Port (Product # 18405).

See lens chart for the suggest port and accessories.

Macro Port Extension Rings: the Macro Port will accept the AF Micro-Nikkor 55mm AIS lens or 60mm lens or Nikkor AF Zoom lens 35-80. If you intend to use a longer lens such as the 105mm or 200mm Micro Nikkor, you will require extension ring as follows:

- the 105 mm lens needs extension ring product # 18453
- the 200mm lens needs extension ring product # 18454

These extension rings fit between the Macro Port and the housing to provide the extra space necessary for the longer lens.

Dome Port Extension Rings: When using a wide angle or zoom lens, the Dome Port should be used with an Extension Ring as follows:

- the AF14 mm lens needs extension ring product # 18459
- the AF18 mm lens needs extension ring product # 18456
- the AF12-24 mm lens needs extension ring product # 18456
- the AF17-35mm lens needs extension ring product # 18457
- the AF18-70mm lens needs extension ring product # 18453
- the AF20-35 mm lens needs extension ring product # 18453
- the AF24-50 mm lens needs extension ring product # 18455
- the AF28-85 mm lens needs extension ring product # 18455

Refer to the Lens Chart on [www.aquatica.ca](http://www.aquatica.ca) for updating of lenses that can be used in the housing.

These extension rings fit between the housing body and the Dome port to provide the optical correction needed for each lens.

In order to reduce glare, maximize contrast and offer physical protection to the dome, the use of a dome shade (product # 18480 for fisheye shade, and #18482 for wide angle shade) for the 8" dome is recommended.

## **2. Clean the port:**

Dirt, grease or fingerprints on the port especially on the inside, can adversely affect the quality of the image. Acrylic ports should be cleaned with plastic cleaner and the glass ports should be cleaned with lens cleaner. For more details be sure to read the section titled "Care and Maintenance: of the Ports."

## **3. Lubricate the port O-ring seal:**

Before using the port, remove the O-ring on the rear of the port and lightly coat it with silicone grease. For more details be sure to read the section titled "Care and Maintenance: of the O-rings."

## PREPARATION OF THE LENS

Depending on the lens used, there are a number of gear options possible. Using the right gear (s) and correctly mounting them on the lens is very important for a smooth housing operation. Use the following chart to determine which gear(s) to use and follow the installation directions for each gear carefully. Since the aperture control is achieved through the Sub-Command Dial, the use of AF types of lenses is mandatory. The focus/zoom gear can vary from one lens to the other.

Gear selection chart

### PRODUCT # GEAR/LENS

18689	Slip-on focus gear AF 16mm f/2.8
18670	Slip-on focus gear AF 60mm f/2.8 Micro
18679	Slip-on focus gear AF 105mm Micro
18673	Focus/zoom gear AF 28-70mm, AF 35-80mm AF,24-50mm AF
18690	Zoom gear AF 17-35mm f:2.8
18674	Focus gear AF 20mm f/2.8, AF 60mm f/2.8 Micro
18675	Focus/zoom gear AF 20-35mm, AF 28-85mm, AF 35-70mm
18680	Focus Gear AF 18mm f/2.8
TBD	Auto/Manual Focus Selector for AF 60mm f/2.8 Micro
TBD	Auto/Manual Focus Selector for AF 105mm f/2.8 Micro
18656	Focus gear AF 200mm f/4 D
18696	Zoom gear AF 12-24mm f:4 DX and AF 18-70mm
18699	Focus gear AF 10.5mm f:2.8 DX fisheye

If the camera is set in manual focus a focus gear must be mounted on the lens. If you are using a zoom lens with a zoom ring the camera must be on auto focus, also note that if using an 8" dome port you may need to install a close-up diopter on the lens to correct the minimum focusing distance of the lens so that it will be able to focus on the virtual image created by the dome.

### Focus Gear installation:

1. Set the lens to minimum focus distance.
2. Mount the focus gear over the focus ring of the lens such that the round indentation etched on the side of the gear is facing the rear of lens and is aligned with the Distance Index of the lens (for full gears orientation is immaterial).
- 3 (a) For Slip-on gears (gears without mounting screws): Slide the gear over the lens and align the gear with the front of the lens focusing ring.
- (b) For gears with mounting screws: Tighten the three set screws evenly. Tighten each screw approximately ½ a turn working around the gear until all the three (3) screws are tightened, and the gear is concentric with the lens body.

**CAUTION:** Do not over-tighten these screws, as this might bind the lens- thus restricting the rotation of the focus ring and/or damaging the lens. Conversely under-tightening these screws might cause the gear to slip or lose alignment.

4. Rotate the focus ring several times to make sure it moves smoothly and the gear does not slip before closing the housing

Refer to the Lens Chart on [www.aquatica.ca](http://www.aquatica.ca) for updating of lenses that can be used in the housing.

### WARNING:

Never attempt to operate the camera in autofocus mode with the lens mounted focus gear engaged. This might cause serious damage to your camera or to the lens.

### Zoom lenses:

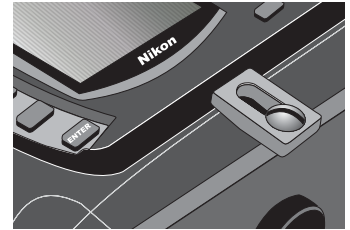
When using a zoom lens, the focus/zoom gear should be mounted on the zoom lens control. The housing focus control becomes the zoom control. Focusing of lens is achieved by using the camera's autofocus system.

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## CAMERA PREPARATION AND INSTALLATION

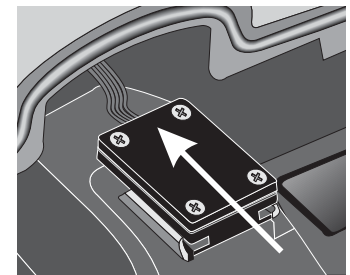
1. Set the Focus Mode Selector (AF or M) Switch to the proper focusing mode
2. ***Important Note:*** "D" Clips that attach the strap should be removed prior to installing the camera in the housing.
3. Make sure the exposure compensation and metering knobs (no. 3 & 4) are pulled in the **UP** position.
5. Carefully place the camera on the saddle and ensure the camera is properly installed and aligned as follows:
  - a) The camera is properly aligned and secured against rotation or movement.
  - b) Align the Tripod Socket of the camera with the mounting screw. Tighten the mounting screw securely while ensuring that the camera position is not altered. set arresting block as per drawing at right.



## CLOSING OF THE HOUSING

Once the camera is secure on the saddle inside the front half of the housing, simply:

1. Slide the housing's hot shoe connector onto the hot shoe base of the camera, as seen in drawing at right.



**Before closing the housing always ensure that:**

1. The main O-ring on the front half of the housing is clean, lubricated and properly seated for a positive seal.
2. The sealing surface on the rear half of the housing is clean and free from any scratches or physical damage.
3. All cords or wires are tucked in so that they do not interfere with the closing of the housing.
4. The Mode dial Knob (key # 14) on the rear half of housing is pulled out to allow clearance when closing the housing.

**To close the housing simply:**

- i. Join the front and rear halves of the housing using the two dowel pins at the bottom of the housing as a guide.
- ii. Hold the housing with both hands and look around the sealing surface to ensure that the O-ring remained properly seated and that no cords, wires or "D-rings" are caught between the edges.
- iii. Close the two latches simultaneously. **CAUTION:** if you feel any resistance as you attempt to close the latches, do not force the closure. Check for an obstruction and try again.
- iv. Verify that the safety locking mechanisms of the latches are properly engaged to avoid any accidental opening.

## LENS INSTALLATION

With the camera inside the housing, install the lens prepared with the gears through the port opening in the front of the housing. Ensure that the lens mounted gears are properly installed and aligned. Rotate the focus / zoom control knob to ensure that the gears are properly meshed, do not grind and that their rotation is smooth.

**Note:** to avoid breaking the auto-focus mechanism of the camera you should always set the Focus Control to "M" Manual when using or testing the proper meshing of a focusing gears.

## CHANGING A LENS (REMOVING A LENS)

The lens mounted gears may restrict the view and ease of access to the lens release button of camera. The AQUATICA A70 features a Lens Release Lever (key # 8) that is designed to trigger the lens release button of camera to allow easy removal of lens.

To remove a lens, simply:

Rotate Lens Release Lever (key # 8) counterclockwise, hold and turn the lens clockwise.

## MOUNTING THE PORT

Before mounting the Port on the Housing always ensure that;

- The port O-ring is clean, lubricated and properly seated in its groove.
- The sealing surface on the Housing is clean and free of physical damage.

The AQUATICA A70 Housing System features a bayonet mount. To mount the port or extension ring simply:

1. Place the housing on its back on a soft steady surface.
2. Place the port or extension ring inside the main port of the housing. Align one of the four alignment notches with the opening of the housing.
3. Place your hands on opposite sides of the port or extension ring.
4. Push with even force on both sides of the port or extension ring until you feel it snap into place. Make sure the bayonet is completely inside the housing.
5. Finally turn the Port clockwise until it stops. Do not force it. If there is too much resistance take the port off, check the O-ring and retry.
6. Check to ensure for the proper seating and sealing of the port on the housing.

**Note :** It is recommended that you familiarize yourself with this mount by trying it without the camera, this will allow you to see the inside view of the bayonet mount and of the ports or extension rings in the housing.

## MOUNTING AND ATTACHING FLASHES

Depending on which strobe system you are using, you can mount the necessary shoes or brackets or Base Ball onto the threaded holes on the top of the hand grips. Use of the Aquatica **TLC** Strobe Arm System is recommended.

There are also two 1/4"-20 threaded holes on the bottom of the housing that can be used for various mounting applications. For example, Aquatica **TLC** makes a strobe arm mounting tray that will fit on the bottom of the housing. A 1/4"-20 threaded hole on top of the front half of the housing will accept an Aquatica bracket or Base Ball that can hold a small dive light or a strobe arm.

The **AQUATICA A70** Digital housing can be fitted with a standard single or double bulkhead connector for strobes

- When using the Standard Nikonos sync cord be sure to lubricate the O-ring on the sync cord's connector with a light coat of O-ring grease. Also put a light coat of O-ring grease on the threads of this connector.

## TAKING A PICTURE

Following are the basic techniques. For more information and advanced photography please study the Nikon A70 instruction manual.

1. Turn the Mode dial Knob (key # 14) until the desired exposure mode appears on both the Viewfinder (key# 17) and Top LCD window (key # 19). Exposure Mode options in sequence are: Programmed Auto (**P**), Shutter Priority Auto (**S**), Aperture Priority Auto (**A**) or Manual Exposure (**M**). Be sure to avoid using the programmed auto mode, the built in flash in some of these mode will pop up and may prevent uses of the camera underwater.
2. Control of Auto Exposure compensation (key# 3) is achieved through knob (key# 3). screw down knob to engage compensation function, select proper factor and make sure to unscrew said knob.

**Note:** When using a flash, it is recommended that the camera be used only in Single Frame Motor Drive or there is the possibility that the camera will fire before the flash can recycle.

3. Turn the Metering System Knob (key# 4) and select the metering system symbol you wish to use: 3D Matrix, Center-Weighted or Spot, in the LCD panel.
4. Pull the Shutter Release Lever partially back. This will activate the camera's meter and autofocus system.
  - If using manual focus use the Focus Knob (key # 7) on the housing or flat port to focus.
  - If using the Manual or Shutter mode adjust the Main Command Knob (key # 18) to set the shutter speed.
8. Pull the Shutter Release Lever (key # 1) the rest of the way until the camera fires.

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## FOCUSING MODE

**NOTE :** Always select the proper focus mode AF or M prior to closing the housing. For more detailed information concerning the operation of the different focus modes consult the Nikon instruction book for the A70.

## USING THE HOUSING

Whenever changing ports or O-rings, it is highly advisable to perform a simple seal test without the camera inside. Strapping a weight to the housing and lowering the unit to a depth of 30 to 50 feet of water for at least 10 minutes will assure you that the seating of the new port or o-ring is proper. This test, though time consuming and often considered unnecessary, may save your camera equipment from irreparable water damage. The housing is now ready for the dive.

### CAUTION:

**Never jump into the water with the housing.** It is best to have the system handed to you after you have made your entry, or have it lowered to you on a rope. Make certain that ropes of other equipment stay clear of the system.

When photographing, be sure to respect the environment. Avoid damaging marine life or manipulating sea creatures to obtain a pleasing photo. The housing is slightly negatively buoyant so that you can lay it down on the bottom, but avoid laying it on living coral or other delicate marine life.

### Changing the memory card

Always take care to thoroughly dry the housing before opening it to change memory card. Wipe the housing off with a dry towel. If possible it is suggested that the housing be blown dried by directing an air nozzle around the main o-ring before opening.

Rest the housing on its front with the lens facing down, release the two latches simultaneously. Lift the rear part of the housing and place it in a secure location. This minimizes the possibility of any residual water falling into the housing and on to the camera when the housing is opened or damage to the sealing surface.

## TRANSPORTING THE AQUATICA A70

Store the AQUATICA A70 Digital housing in a sturdy, shock proof container.

When travelling by air, remove or loosen the port. This allows for equalization of the air pressure inside the housing to the external air pressure. Failure to do so may cause serious damage to the acrylic ports. Avoid travelling with the camera mounted in the housing. If you must do so, remove the lens as external pressure can damage the camera.

## CARE AND MAINTENANCE

### Of the housing:

After each and every salt water dive, your housing system should be soaked or rinsed in fresh water. The housing system should soak in fresh water for at least 30 minutes. During this soaking period reach into the water and operate all the controls several times.

Be sure to remove the housing's main o-ring and clean it after every use. Refer to Maintenance: Of the O-rings. To ensure that the hand grips won't fuse on to the housing due to the exposure to salt water, it is also a good practice to occasionally remove the hand grips. Clean and lubricate the bolts with a small amount of WD-40.

**WARNING:** Use WD-40 carefully, sparingly and only on metal to metal surfaces. WD-40 can damage the acrylic on the ports, the optical surfaces on lens as well as the O-rings.

### Of the Ports:

Care should be taken with the Dome Port and Macro Port to avoid scratches on the lens surface. The acrylic port is softer than glass so minor exterior scratches are often unavoidable. However, since the indices of refraction for acrylic and water are almost equal the scratches will not seriously impair image quality. Internal scratches (air side) must be avoided as they do not fill in with water and will affect the quality of the image.

Clean the dome using only products recommended for cleaning acrylic such as Mirror glaze #17 Professional Plastic Cleaner and a soft lint free cloth. Dust on the interior surfaces of the port can be removed with a soft camel hair brush or a blower brush. Caution must be taken when using aerosol devices as not to spray the lens material with the liquid propellant as this may seriously affect the optical properties of the port. The ports should be removed and serviced after every dive.

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### **Of the Latches:**

The two latches of the AQUATICA A70 are designed to have a locking action to prevent accidental opening. Always ensure that the locking mechanism is secure. Watch for the build-up of corrosion or salt residue around the latches. This will appear as a white material. Lubricate the latches with a small amount of WD-40 to remove the corrosion or salt residue build-up.

### **Of the O-Rings:**

The O-rings that need to be maintained on a regular basis are the main housing O-ring and the O-ring on the lens port.

The main O-ring should be cleaned on a daily basis and the port O-ring should be cleaned daily or each time the port is changed.

### **Of the sacrificial anodes:**

The three anodes attached to the bottom parts of the housing are there to prevent corrosion due to electrolysis, as time goes they will deteriorates and need replacement, contact Aquatica for replacement and procedure of their installation.

## **TO SERVICE O-RINGS ON THE HOUSING MAIN O-RING, PORTS AND EXTENSION RINGS**

1. Remove the O-ring. It is important never to use a sharp instrument when removing an O-ring as this may damage the O-ring groove or the O-ring itself. A bobby pin or edge of a credit card works well.
2. Once the O-ring is removed, it should be examined for damage. Check to make sure that the O-ring is free of 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.
3. Rinse the O-ring with fresh water and dry it with a clean lint free cloth.
4. Clean the O-ring groove (where the O-ring sits) with a Q-tip. Be sure to remove any lint the Q-tip may leave behind. Inspect the groove for damage.
5. Wipe the part of the housing that the O-ring seals against with a clean lint-free cloth.
6. Re-grease the O-ring with a thin layer of O-ring grease until it appears to be smooth and shiny. Do not over grease it. Use just enough grease so the O-ring will pull smoothly through your fingers. Excessive amounts of grease will only serve to attract dirt to the o-ring.
7. Make sure that the O-ring is properly (evenly) installed in the O-ring groove.
8. To reinstall the clean and lubricated O-ring, place the entire O-ring over the groove and start by pushing the O-ring in at each corner then, push the O-ring at each side and finally, work in the rest of the O-ring. Never start at one end and work your way around the O-ring. This places uneven tension on the O-ring which may cause the O-ring to stretch resulting in excess O-ring, which will have no place to go.

*There are internal O-rings on the housing controls as well. These O-rings are not as susceptible to damage as they are not exposed but they do require yearly maintenance and are not user serviceable. The housing should be returned to AQUATICA or to an authorized AQUATICA service facility for this annual maintenance. Check the Web site [www.aquatic.ca](http://www.aquatic.ca) for the closest service center.*

An internal moisture alarm is available for your AQUATICA A70 housing (Product # 18796). This alarm is available through your authorized AQUATICA dealer and can be easily installed.

**AQUATICA**<sup>™</sup>  
**Digital**

# AQUATICA<sup>TM.</sup>

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## Digital

### WARRANTY

PLEASE READ CAREFULLY

## One year Limited Warranty.

Thank you for purchasing an AQUATICA manufactured product! Your AQUATICA housing is hand-crafted by a small group of specially trained individuals - each of whom takes the most pride and satisfaction in offering you the best underwater camera housings in the world.

All AQUATICA products are guaranteed against defects in material or workmanship for (1) 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. Camera housed in AQUATICA housings are not covered under this warranty and ANY WATER DAMAGE SUSTAINED DUE TO INSTALLATION ERROR OR ANY OTHER REASON IS NOT THE RESPONSIBILITY OF AQUATICA. Therefore the appropriate insurance should be maintained by the user.

Warranty does not apply to replaceable seals or damages to impacts or abrasive surfaces.

Warranty applies only to products purchased from authorized AQUATICA dealers and does not extend beyond the original retail purchaser.

Unauthorized modifications or repairs will automatically void this warranty. This applies to removal of serial numbers and AQUATICA identification labels.

To obtain service during or after the warranty period you must notify AQUATICA at **514-737-9481** and ship **BY REGISTERED MAIL (INSURED) ONLY, enclosing your proof of purchase to:**

**AQUATICA  
3025 De Baene  
Montreal (Quebec)  
H4S 1K8**

Mark clearly on your package **“Canadian goods returned for repair”**  
*Do not ship by any other means. Unauthorized packages will be refused.*

YOUR SERIAL NUMBER \_\_\_\_\_