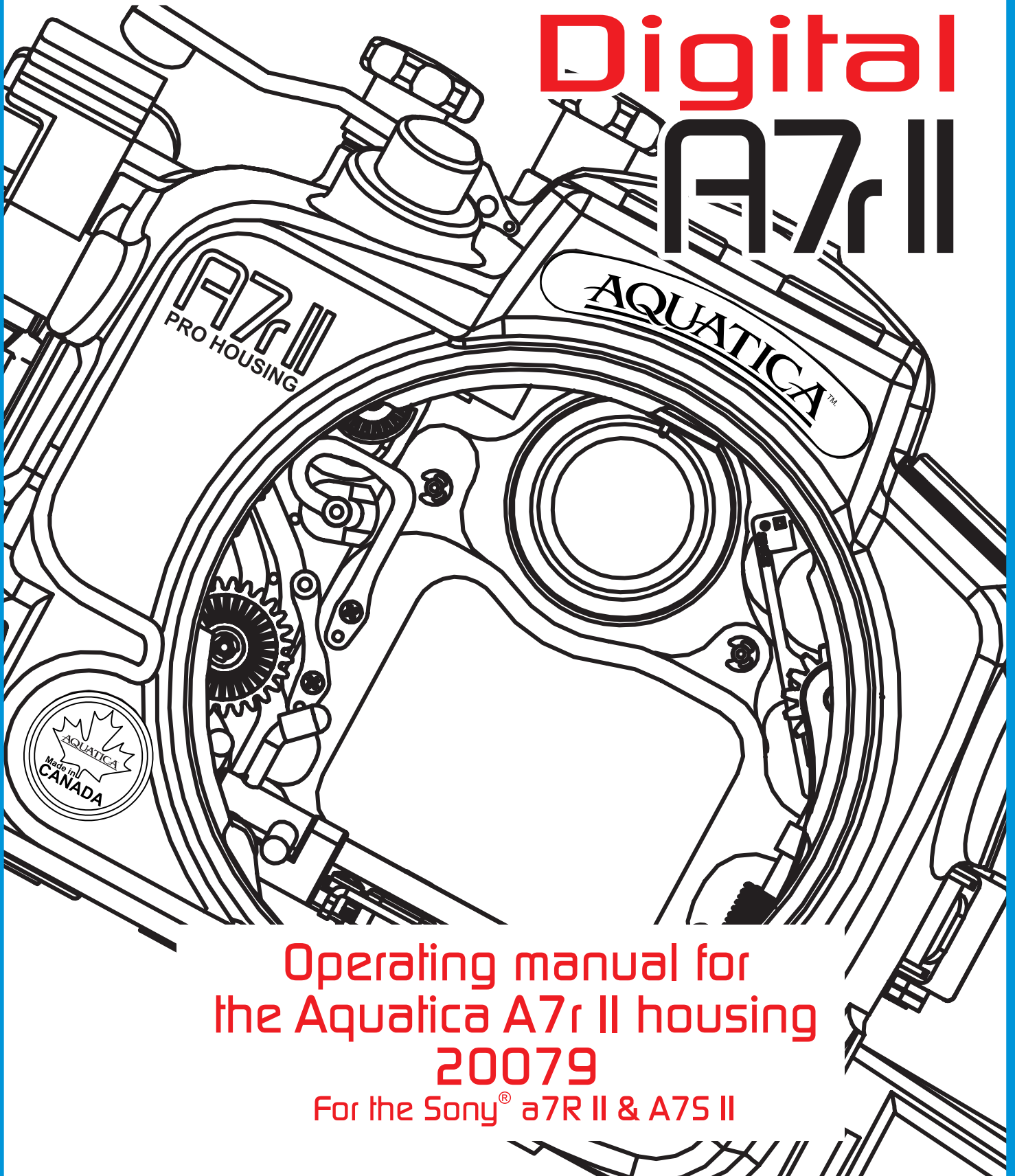


AQUATICA™

Digital A7r II



Operating manual for
the Aquatica A7r II housing
20079
For the Sony® a7R II & A7S II

FOREWORD

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

The AQUATICA Digital Housing is the result of a long and continuing relationship with the most demanding underwater photographers in the world. Each housings is handcrafted, tightly quality controlled and pressure tested to a 300 feet/90m equivalent by a small group of specially trained individuals, each of whom takes the utmost pride and satisfaction in offering you the best underwater camera housing in the world.

The Aquatica Digital Housing was designed for optimum technical and optical performance and to provide easy and efficient underwater access to the essentials functions and controls of the **Sony a7R II & a7S II**. This operating manual assumes that the user is already familiar with the **Sony a7R II & a7S II** camera and its operation. If not, please read your instruction manual before attempting to use the housing.

With basic care and a regular maintenance schedule, your AQUATICA housing will provide years of enjoyment and satisfaction in producing spectacular underwater images.

Please take the time to carefully read this manual before attempting to use your housing for the first time and note that: whenever cited the right hand is your right when using the housing.

SAFETY RECOMMENDATIONS

Please carefully read the following precautions and recommendations:

Improper transportation, handling or use of this housing might cause a flood or malfunction. See Storage and transportation of housing and ports section on page19

Never remove, change a port or open the housing in a location where sand or similar foreign material might come in contact with an O-ring. Be wary of strong wind as it could potentially be carrying sand. Always perform a simple seal test without the camera inside after doing maintenance.

Non authorized use of third party accessories, as well as modifications and/or alterations not specifically authorized by Aquatica may affect performance, cause poor functioning of the controls or impair the sealing integrity of the housing.

Always handle port carefully, like the sensitive optics they are, protect them when not in use to avoid scratching the acrylic or glass surface of the ports and windows.

Always confirm that the ports remain properly attached before rinsing the housing. An optional port locking collars is available (#18469) for securing larger dome to the extension ring. When rinsing without a wired strobe, confirm that the bulkhead strobes connectors are sealed with their plug.

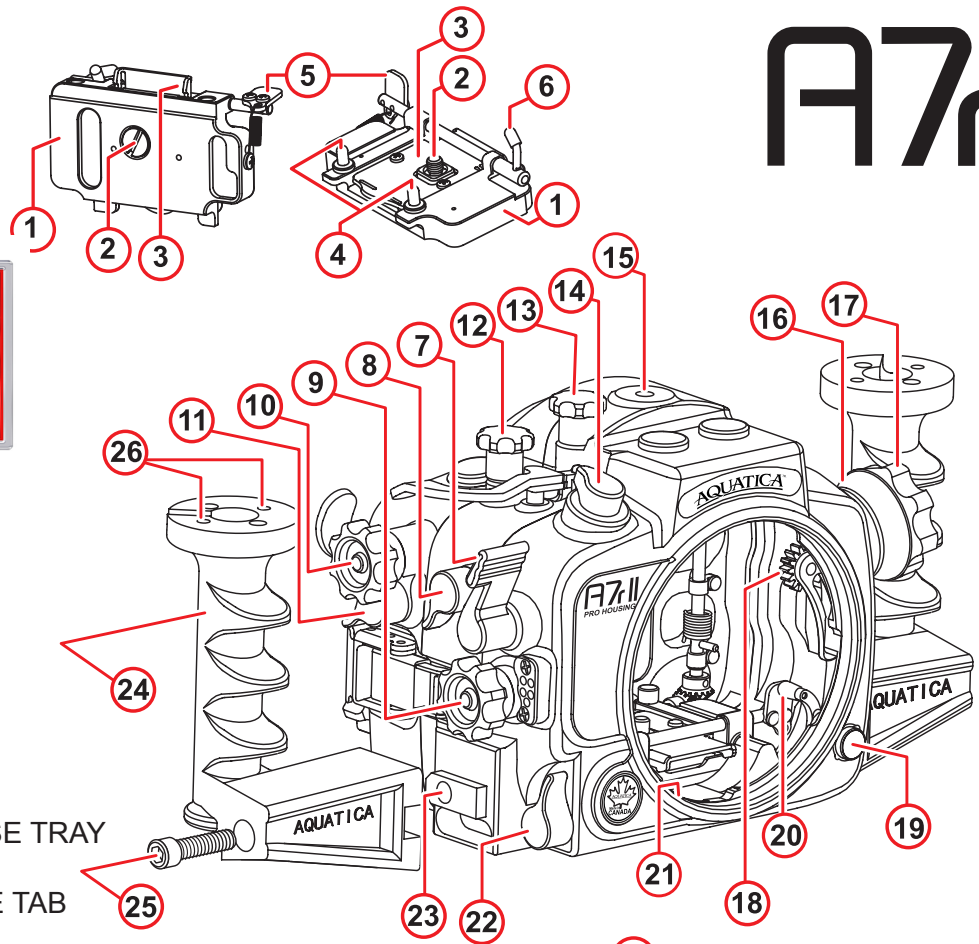
Main Features

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

- Large ergonomic and easy to operate controls for most of the manual and computerized camera functions, including the following controls:
- Extended Mechanical Shutter Release Lever.
- Large knurled knob for accessing Shutter speed control.
- Large knurled knob for accessing Aperture control.
- Direct access to rear dial wheel and SET button
- Oversized knurled knob for accessing the Focus or Zoom feature of the lens
- Easy access knob to mode control and custom function buttons
- Exposure Compensation
- Focus Area Selector
- ISO sensitivity quick access
- Info & Playback
- Menu and controls
- Delete button access
- Quick Video recording access
- A quick release camera tray (saddle), for fast and easy removal of camera.
- A flexible strobe connectors selection to suit your personal needs (see page 14 to 15).
- A new redesigned moisture alarm with integrated vacuum sensor
- A port locking mechanism to prevent accidental rotation of the port or extension mounted on the housing
- A complete selection of bayonet mounted ports including dome ports of 4", 6", 8" and 9.25" diameter, three flat ports and a large selection of extension rings to preserve the image quality of your lenses.
- A Lens Lock Release control that will activate the lens release button of the camera from the outside of the housing, this lever can be pulled out to easily allow the removal of the camera with a gear equipped lens for easy replacement of the camera battery.
- A comprehensive selection of focus and zoom gears to access popular lenses useful for underwater photography,
- A choice of standard eye piece finder (included),
 - Aqua View 180 finder (# 20054)
 - Aqua View 45 Finder (# 20059).
- Bulkhead entry point for external Monitors, Surveyor vacuum monitoring system or remote triggering accessories, including the pole mounted **RCS** remote camera system.

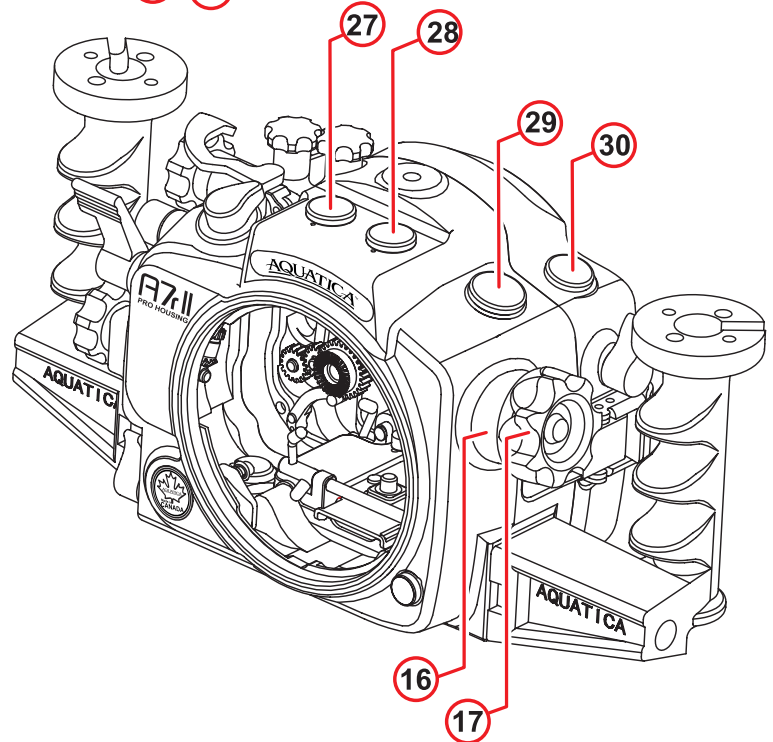
A7r II

A7r II



Controls of A7r II housing

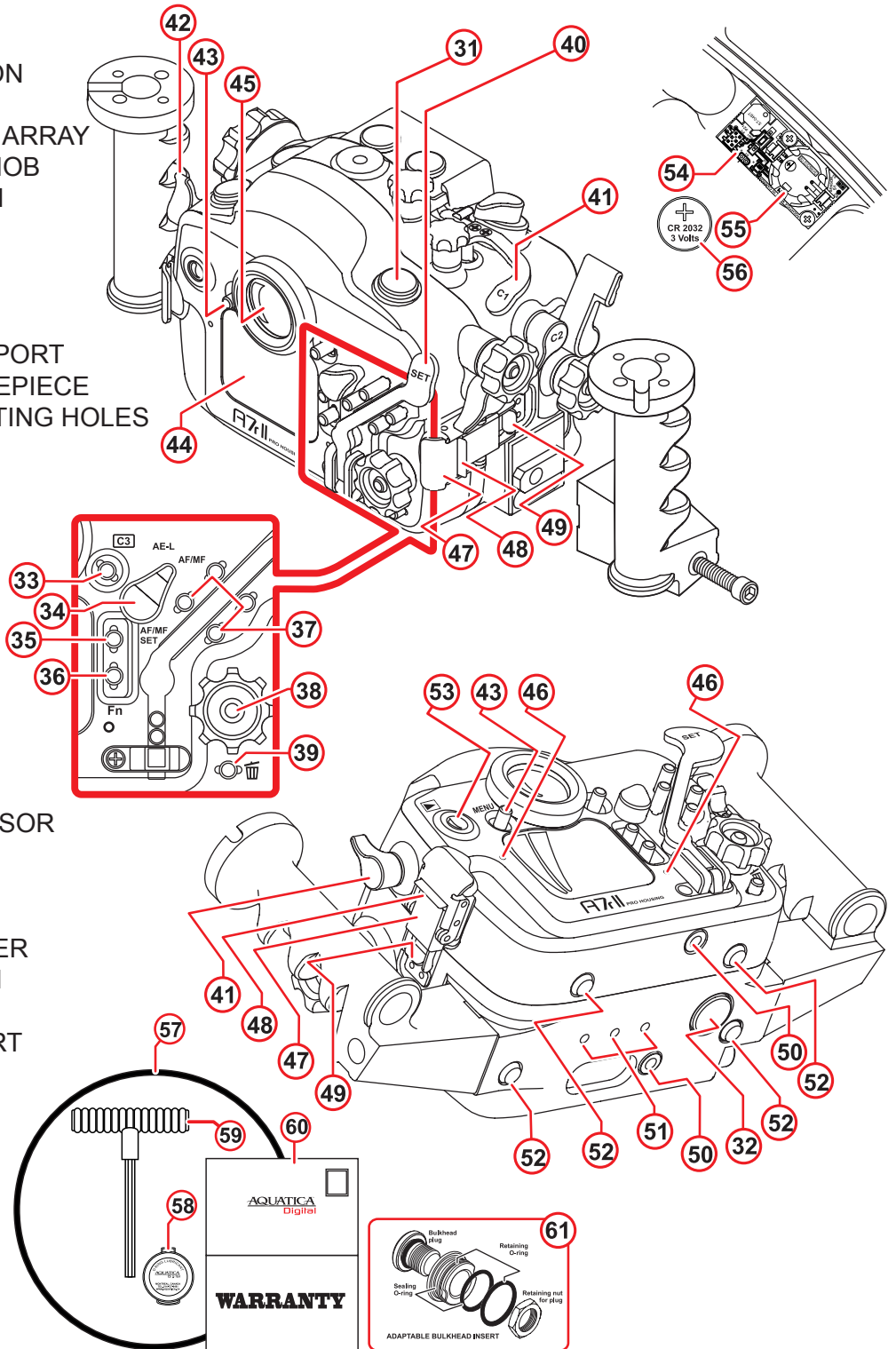
- 1) CAMERA QUICK RELEASE TRAY
- 2) RETAINING SCREW
- 3) CAMERA TRAY RELEASE TAB
- 4) ALIGNEMENT POSTS
- 5) LENS RELEASE TAB
- 6) LENS RELEASE ACTUATING LEVER
- 7) SHUTTER RELEASE LEVER
- 8) C2 ACCESS LEVER
- 9) FRONT DIAL ACCESS KNOB
- 10) REAR DIAL ACCESS KNOB
- 11) VIDEO RECORD LEVER
- 12) EXPOSURE CONTROL KNOB
- 13) MODE DIAL ACCESS KNOB
- 14) ON/OFF SWITCH
- 15) TOP ACCESSORY MOUNTING HOLE
- 16) FOCUS / ZOOM CONTROL RELEASE DISC
- 17) FOCUS / ZOOM CONTROL KNOB
- 18) FOCUS / ZOOM CONTROL PINION GEAR
- 19) LENS RELEASE BUTTON
- 20) LENS RELEASE BUTTON LEVER
- 21) PORT BAYONET FLANGE
- 22) PORT RELEASE MECHANISM LEVER
- 23) GRIPS 5/16"-20 MOUNTING HOLES
- 24) GRIPS (ONE FOR EACH SIDE)
- 25) GRIPS FASTENERS (5/16"-20)
- 26) GRIPS ACCESSORIES MOUNTING HOLES (1/4"-20)



Controls of A7r II housing

- 31) RIGHT ACCESSORY BULKHEAD ENTRY POINT (0.5")
- 32) BOTTOM ACCESSORY BULKHEAD ENTRY POINT (0.5")
- 33) C3 ACCESS BUTTON
- 34) AF/MF & AEL SWITCH LEVER
- 35) AF/M & AEL ENGAGING BUTTON
- 36) Fn ACCESS BUTTON
- 37) MULTI CONTROLLER BUTTON ARRAY
- 38) CONTROL WHEEL ACCESS KNOB
- 39) DELETE / C4 ACCESS BUTTON
- 40) SET LEVER
- 41) C1 ACCESS LEVER
- 42) PLAYBACK LEVER
- 43) MENU BUTTON
- 44) REAR LCD MONITOR WINDOW PORT
- 45) REMOVABLE VIEWFINDER EYEPIECE
- 46) REAR LCD SUNSHADE MOUNTING HOLES

- 47) LATCHES
- 48) SAFETY LOCKING TABS
- 49) STRIKES TABS
- 50) SACRIFICIAL ANODES
- 51) BOTTOM MOUNTING HOLES
- 52) RUBBER ANTI SKID PADS
- 53) SENSOR **LED** WINDOW PORT
- 54) MOISTURE AND VACUUM SENSOR
- 55) BATTERY COMPARTMENT
- 56) SENSOR ALARM BATTERY
- 57) SPARE MAIN O-RING
- 58) O-RING LUBRICANT CONTAINER
- 59) LARGE HEXAGONAL WRENCH
- 60) WARRANTY CARD
- 61) ADAPTABLE BULKHEAD INSERT



A7r II

HOUSING CONTROLS IN DETAILS

- 1) CAMERA QUICK RELEASE TRAY:** This quick mounting tray allows for precise installation of the camera inside the housing, it also allows removal of the camera with the lens attached for easy battery replacement.
- 2) RETAINING SCREW:** This ¼"-20" fastener secures the camera to the tray and is tightened using an ordinary coin.
- 3) CAMERA TRAY RELEASE TAB:** Pressing down on this tab release the tray from the housing.
- 4) ALIGNMENT POSTS:** These post maintain the camera aligned to the tray.
- 5) LENS RELEASE TAB:** This tab is actuated by pushing the lens release button of the housing (# 19) and pushes the lens release button of the camera with the actuating lever (# 6)
- 6) LENS RELEASE ACTUATING LEVER:** This lever connects to the lens release button of the camera and is engaged by pressing the housing lens release button (# 19).
- 7) SHUTTER RELEASE LEVER:** Pulling the shutter release lever back part way activates the camera meter and auto focus. Pulling the lever back all the way fires the camera.
- 8) C2 ACCESS LEVER:** This lever give quick convenient to the highly customizable C2 button.
- 9) FRONT DIAL ACCESS KNOB:** This knob rotates clockwise and counter clockwise. Use it alone or in combination with other controls to select or set various camera functions or modes. In "Manual" the exposure mode controls the shutter speed or aperture settings (see camera manual).
- 10) REAR DIAL ACCESS KNOB:** This knob rotates clockwise and counter clockwise. Use it alone or in combination with other controls to select or set various camera functions or modes. In "Manual" the exposure mode controls the shutter speed or aperture settings (see camera manual).
- 11) VIDEO RECORD LEVER:** Pressing this lever activates the video recording mode.
- 12) EXPOSURE CONTROL KNOB:** This knob accesses the exposure compensation control dial. Rotate to select correction required.
- 13) MODE DIAL ACCESS KNOB:** This knob accesses the mode dial of the camera, rotate to select shooting mode.
- 14) ON/OFF SWITCH:** Rotate right or left to turn the camera power ON or OFF.
- 15) TOP ACCESSORY MOUNTING HOLE:** ¼"-20 Threaded mounting point for accessories or focus light.
- 16) FOCUS / ZOOM CONTROL RELEASE DISC:** Lifting and rotating this disc to its resting post will retract the pinion gear (# 18); by doing so, the camera and lens assembly can be pulled out from the housing as a unit.
- 17) FOCUS / ZOOM CONTROL KNOB:** Turning allows manual focus of a single focus lens or rotation of the zoom mechanism of a lens.
- 18) FOCUS / ZOOM CONTROL PINION GEAR:** Engages and operates the focus or zoom gear attached to the lens.
- 19) LENS RELEASE BUTTON:** Pressing this button activates the lens release button on the camera via the camera tray mechanism (# 5 & # 6) allowing easy removal of the lens.
- 20) LENS RELEASE BUTTON LEVER:** This linkage engages the lens release tab (# 5) of the tray.
- 21) PORT BAYONET FLANGE:** Allows the mounting of different ports and extension rings on the housing.
- 22) PORT RELEASE MECHANISM LEVER:** Pressing this lever will release the locking mechanism to allow removing of a port or extension.
- 23) GRIPS 5/16"-20 MOUNTING HOLES:** Attachment point for the housing grips (one per sides).
- 24) GRIPS (left and right hands):** Removable grips for handling the housing, allows the mounting of strobe arms and accessories.
- 25) GRIPS 5/16"-20 FASTENER:** Use with included hexagonal wrench (#61) for securing the grips to the housing (one per sides).
- 26) GRIPS ACCESSORIES MOUNTING HOLES (1/4"-20):** These are provided for mounting strobe arm or other accessories.
- 27) MAIN BULKHEAD ACCESS HOLE:** This bulkhead entry point is normally used as the main connection, configuration may vary according to an owner's preference, (see page 17 & 18)
- 28) BULKHEAD ACCESS HOLE:** This bulkhead entry point is normally used as the main connection, configuration may vary according to an owner's preference, (see page 17 & 18)
- 29) FRONT LEFT ACCESSORY BULKHEAD ENTRY POINT (16mm):** This can be used for mounting accessories such as a remote trigger, or HDMI monitor. (see page 18)
- 30) TOP LEFT ACCESSORY BULKHEAD ENTRY POINT (0.5"):** Typically reserved for the optional Surveyor vacuum valve, this can be used for mounting accessories such as a remote trigger, or other communication accessories.
- 31) TOP RIGHT ACCESSORY BULKHEAD ENTRY POINT (0.5"):** This can be used for mounting accessories such as a remote trigger, or other communication accessories
- 32) BOTTOM ACCESSORY BULKHEAD ENTRY POINT (0.5"):** Typically reserved for supplying power to the camera, this can be used for mounting accessories such as a remote trigger, or other communication accessories.
- 33) C3 ACCESS BUTTON:** Pressing this button will engage the selected feature assigned to this highly customizable C3 button.

HOUSING CONTROLS IN DETAILS

34) AF/MF & AEL SWITCH LEVER: Allows switching between focus modes and AEL function.

35) AF/M & AEL ENGAGING BUTTON: depending on the selected mode, pressing this button will allow toggling between auto and manual focus, or locking the auto exposure.

36) Fn ACCESS BUTTON: Press this button to engage the selected feature assigned to this highly customizable Fn button.

37) MULTI CONTROLLERS BUTTON ARRAY: Use these four buttons to navigate through the multiples options of the menus, modes and features of the camera.

38) CONTROL WHEEL ACCESS KNOB: Rotate this knob to allow quick and precise adjustment or navigation of the value selected.

39) DELETE /C4 ACCESS BUTTON: Press this button to engage the procedure for deleting images or accessing the selected feature assigned to this highly customizable C4 button.

40) SET LEVER: This extended lever quickly engage the set button to confirm the selected mode or value.

41) C1 ACCESS LEVER: Press this lever to engage the selected feature assigned to the highly customizable C1 button of the camera.

42) PLAYBACK LEVER: Press this conveniently placed lever to review your images.

43) MENU BUTTON: Press to activate menu display, scroll using front, rear or control wheel knobs and select using **SET** lever.

44) REAR LCD MONITOR WIDOW PORT: This port window allows viewing of the recorded images and is used in the Live View as well as in the Video mode for framing and composing. It also allows viewing of the entire menus selection as well.

45) REMOVABLE VIEWFINDER EYEPIECE: This Galileo type view finder offers a full view of the camera viewfinder and its information display. For an enhanced larger view, this viewfinder can be removed and replaced with one of our two optional Aqua View Finders, available in 45° & 180° version.

46) REAR LCD SUNSHDE MOUNTING HOLES: These two holes are for attaching the optional (# 19231) sun shade to the housing.

47) LOCKING LATCHES: Two heavy duty latches (one per side) with safety locks to protect against accidental opening.

48) SAFETY LOCKING TAB: Push safety tab and lift latches to open.

49) STRIKES TABS: These hook up the latches.

50) SACRIFICIAL ANODE: A zinc anodes is installed to protect your housing against salt water corrosion; it is made to deteriorate faster than the other strategic metal part of your housing, hence the name sacrificial anodes. This anode need to be replaced by the user as needed.

51) BOTTOM MOUNTING HOLES: Three 1/4" X 20 holes are provided for mounting strobes trays or accessories.

52) RUBBER ANTI SKID PADS: Rubber pads are provided to protect the housing and preventing it from sliding on wet decks.

53) MOISTURE AND VACUUM LED PORT: Gives visual access to the moisture and pressure sensor status LED.

54) MOISTURE AND VACUUM SENSOR: Moisture/pressure sensor alarm: This alarm works both as a water detection device and ambient pressure sensor.

55) SENSOR BATTERY COMPARTMENT: This battery compartment holds the battery for the moisture/pressure sensor. Carefully read instruction regarding installation of the battery.

56) SENSOR BATTERY: CR 2032, 3 Volts, this battery powers the sensor. Carefully read instruction regarding its installation.

57) SPARE MAIN O-RING: A spare main O-ring is supplied with the housing.

58) O-RING LUBRICANT CONTAINER: Use for lubricating the housing O-ring (see page 20 for impornat notice).

59) LARGE HEXAGONAL WRENCH: Supplied for attaching the grips with the provided fasteners (# 25).

60) WARRANTY CARD: Please fill and return this warranty card to Aquatica as instructed.

61) ADAPTABLE BULKHEAD INSERT: This adapter allows bulk-head entry point # 28 to be reduced in size to 1/2" diameter. (see page 15)

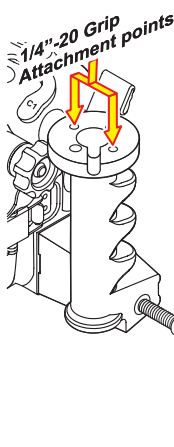
PREPARATION OF THE HOUSING

Two hand grips are provided, these attach on the sides of the housing with the supplied hexagonal head screws (# 25) and are tightened with the supplied hexagonal wrench (# 59).

Mount the necessary shoes or brackets onto the 1/4"-20 threaded holes located on the top of the hand grips. Three threaded holes of the same size are located on the bottom of your Aquatica housings for mounting accessories such as lighting support, trays, brackets or tripod. A similar sized hole, located on the top the housing, allows the mounting of a video light, focusing light, or buoyancy compensating devices.

Mount your strobes and their arms on the housing and connect the sync cord to the housing's strobe bulkhead. Before using electrical type sync cords, carefully read the section (page 17) pertaining to wired connection and ralways follow your strobe manufacturer manual and its recommendations.

For proper handling and maintenance of O-rings be sure to read the section titled "Maintenance of the housing and ports" (page 16 & 17).



PREPARATION OF THE PORTS

Underwater photography typically requires the use of a dome port for wide-angle or a flat port for close up and macro photography. Your lens and subject selection should dictate the type of port you select. Flat Macro Ports are available in three (4) versions (product # 18426, 18428, 18429 and 18430), and Dome Ports in four (4) sizes ranging from 4" to 9.25" (Product # 18405, 18407, 18409 or 18410).

There are occasions where an extension ring will be required to either, optimize the optical performance of a dome, or for adding sufficient space to accommodate a longer macro lens:

Macro Port Extension Rings: These aluminum rings extend the internal space of a Flat Macro Port, shorter focal length macro lens do not require one, but longer ones (100mm and longer) will need in order to provide the necessary space to accommodate them.

Dome Port Extension Rings: With wider lens, the dome port may require an extension ring, this to physically accept the lens and to closely match the position of the optical center of both the dome and lens as can possibly be done.

The Aquatica 6" and 8" dome ports have removable dome shade, without a shade, a circular 180° Fisheye lenses can be used to its full potential, when using standard type of lenses, the use of a dome shade is highly recommended as it improve contrast, reduce glare and offer an added level of protection for the dome delicate surface.

and/or accessories is supplied along with this manual. For the latest updated version of this lens chart, Please refer to the Sony Type 4 lens chart available for download from our website: http://www.aquatica.ca/en/products_zoom.html

Cleaning 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 glass ports with an appropriate lens cleaner.

Lubricating the port and extension ring O-ring seal:

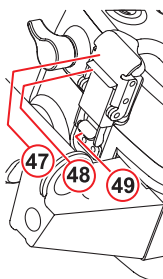
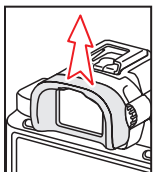
Before using a port or extension ring, remove the O-ring on the rear and lightly coat it with silicone grease, clean its groove before installing it back.

For more information concerning the care and maintenance of your ports and their O-rings, please refer to the section titled "Maintenance of the housing and ports" Starting (page 16).

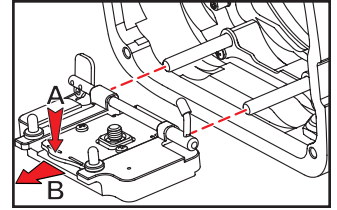
CAMERA PREPARATION AND INSTALLATION

To open the rear door of the housing, start by pressing on the safety catch (# 48) and lifting the latches body (# 47) upward.

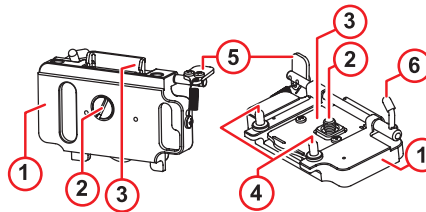
Important Note: Prior to installing the camera in the housing, remove the rubber eye cup, the camera strap and clips, and/or any object that might obstruct installation, third party camera strap hookup should be removed. It is advisable before inserting the camera in the housing, and in order to save valuable time underwater, to preset your camera shooting preferences in advance,



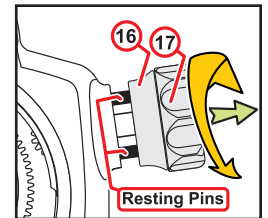
1- Remove the quick release tray (# 1) from the housing by a A) pressing down on the lever (#3) and B) pulling the tray out as shown below. Carefully place the camera on it, making sure that the camera is properly aligned and secured against rotation or



movement on the alignment pin (# 4) . Align the Tripod Socket of the camera with the mounting screw (# 2). Tighten the mounting screw securely while ensuring that the camera position is not altered.



2- Pull out the zoom/focus knob assembly by lifting and rotating the disk (# 16) so that it rest on the dowel pins underneath as per illustration, this will move the pinion gear clear and allow easy mounting of the camera and lens.



3 - If using the optional Hydrophone connect the plug to the camera audio jack, and tuck the rubber flap of the microphone plug cover safely out of the way.

4 - Slide the quick release tray (# 1) back into place; it will lock itself into place.

5 - If using hot shoe triggered strobes, insert the hot shoe or mount the optical trigger as shown if using Optically triggered strobes as illustrated on page 14 & 15).

CLOSING OF THE HOUSING

Once the camera is securely installed in the front half of the housing, before closing up the rear cover, you should always confirm the following:

- That the main O-ring on the housing is clean, lubricated and properly seated for a positive seal. Inspect the sealing surface and confirm that it is clean and free from any scratches or physical damage (see Page 20).
- Hold the latch on each side (# 47), close up the rear door of the housing and engage the latch on the strike tab (# 49) and press both latch simultaneously. Verify that the safety tabs (# 48) on each latch are engaged by trying to lift the latch up.
- Visually check that the O-ring remained properly seated and no obstruction is present
- Confirm that the ON/OFF lever (# 14) and AF/MF & AE-L switch (# 34) are properly positioned (matching with the camera controls) and working properly.

CAUTION: In the event that you should feel any unusual resistance when attempting to close the rear door, do not force the closure. Reopen, inspect carefully for any potential obstruction and try again.

PREPARATION AND INSTALLATION OF THE LENS

There are a number of gear available for the lenses selection supported for this housing. Using the right gear and correctly mounting it on the lens is a very important step for a smooth operation of the Zoom or Focus control. Carefully follow the directions found on each gear packaging. A comprehensive list of the supported lenses for this housing and their respective gears and dome ports is supplied along with this manual. The lens charts are regularly updated as newer lens are made available, for the latest available version of this housing lens chart please visit our Lens Chart section at http://www.aquatica.ca/en/products_zoom.html.

Notes: On some lens /dome port combination, a close up lens (diopter) might be required or even desirable. This is intended to correct the minimum focusing distance of the lens so that it will focus on the virtually projected image created by the dome. Refer to the Sony Type 4 lens chart to see if a diopter is required for your selected lens/port combination.

Zoom lenses: Mount the gear on the lens zoom ring. The housing focus/zoom control (key # 17) then becomes the exclusive method of controlling the zoom. Focusing of the lens is then achieved by using the camera's autofocus system, or on certain Wide Angle zoom lens, it might be possible to access the manual focus via a dedicated port extension ring equipped with a manual focus access knob

Prime Lenses: Use in AF mode or if a focus gear is available for the lens, it can also be operated in manually. For Manual operation, the camera focus selector (# 34) need to be set to the manual focus position and engaged (by pressing the # 35 *Engaging button*), then use the knob located on the left hand (# 17) to rotate the focus gear.

WARNING: Never attempt to manually focus if the camera is in autofocus mode with a mounted focus gear engaged. This will strain the focus mechanism motor and might damage your lens.

Gear installation on the lens:

Most gears are of the slip-on gears (gears without mounting screws) type: The packaging of the gear contains important information and should be consulted before attempting to mount a gear on a lens. Only original gears manufactured by Aquatica are recommended for use on their housing.

Lens installation

Note: Always take extra precaution in protecting the sensor from airborne dust or particles whenever installing or removing a lens.

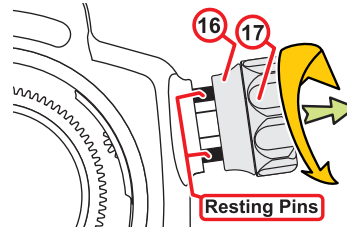
With the camera installed the housing, install the lens through the port opening in the front of the housing in the normal recommended way. If the lens is equipped with a zoom or focus gear, confirm that the pinion gear (# 18) is retracted and that the gear is properly installed and aligned. Check the meshing of the lens gear with the pinion gear (#18) on the housing by rotating the Focus/Zoom control knob (#17) several times to make sure the gear rotates smoothly and does not slip.

Changing a lens (removing a lens)

The Aquatica Housing provides two methods for removing and replacing a lens. It can be done either from the front by removing the port or through the rear, by removing the camera mounted on its quick release tray (key # 1)

From the front: unlock and remove the port and/or extension ring (see chapter: Mounting a port and/or Extension ring on the housing). If a gear is mounted on the lens, access to the camera lens release button is still possible using the lens release lever (key #19) on the housing.

From the back: Pull out the Zoom/Focus pinion gear clear (# 18) by rotating the release disc (key #16) until it rest on its pins, open the housing back cover, remove the hot shoe (if present) from the camera and pull out the camera tray (# 1) complete with camera & lens from the housing, replace the lens and reinstall in the reverse order.



FOCUSING MODE

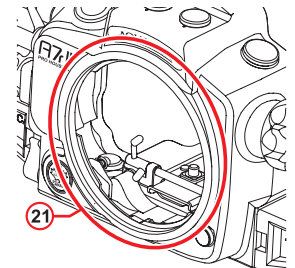
Various focusing options are offered on the Sony a7R II and a7S II, but the main AF/MF can be accessed by rotating the lever (# 34) to the AF/MF position and pressing the (# 35) buttons to toggle between modes.

For more detailed information concerning the operation of the different focus modes consult the Sony ® instruction book for the a7R II and a7S II cameras. These camera have many customizable features that can greatly contribute to the performance of the autofocus performance underwater.

MOUNTING A PORT AND/OR EXTENSING RING ON THE HOUSING

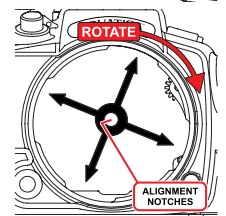
This AQUATICA A7r II housing features a locking bayonet mount.

Safely mounting a Port or extension on the housing requires that the O-ring be clean, lubricated, be properly seated in its groove and that the opposing sealing surface be clean and free of any physical damage.



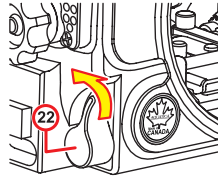
To mount a port or extension ring on the housing:

1. Place the housing on its back on a soft and steady surface.
2. Place the port or extension ring inside the bayonet 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. Rotate 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 see that the port or extension are properly seated before attempting to rotate again.
6. Try to rotate counter clockwise to confirm that the port or extension is safely locked on the housing.



7. When using large dome port such as the 6", 8" and 9.25" with an extension, uses of the optional extension ring to port locking collar (# 18469) is recommended, this add another layer of safety by preventing the larger dome port from rotating during manipulation or transportation to the dive site.

To remove a port or extension from the bayonet, press the port release lever (#22) and rotate the port or extension counter clockwise, carefully pull the port or extension off the bayonet.



Note: It is recommended that you familiarize yourself with this procedure by trying it without the camera in or the back cover attached to the housing; this to better visualize the internal functioning of the bayonet and port.

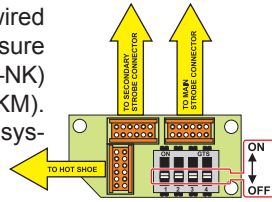
CONNECTING LIGHTING EQUIPMENT

Mounting the strobe arms will require that the necessary shoes, brackets or Base Ball be attached to the threaded holes located on the top of the hand grips (# 25). Use of the Aquatica Delta 3 Strobe Arm System is recommended.

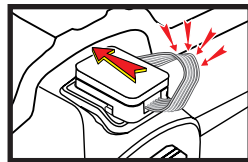
Three 1/4"-20 threaded holes on the bottom (# 50) of this housing can be used for various mounting applications. A similar sized 1/4"-20 hole with thread is located on top of the housing (# 15), and is ready to accept a 1"/25mm Technical Lighting Control Delta 3 (# 77651) for adapting a small dive light or an additional strobe arm can be attached using a clamp.

Strobe illumination setup: Using wired connections

Sony Digital cameras housing with wired connection are setup for manual exposure with either two individual Nikonos (# 20079-NK) or one Ikelite type connectors (# 20079-KM). These connectors are part of a modular system with an internal switchboard.

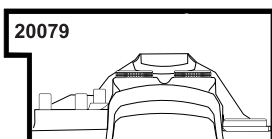
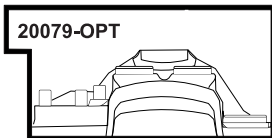
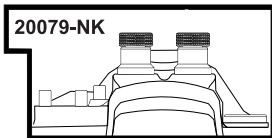
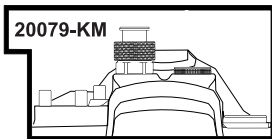


Set up instruction: All switches must be in the OFF (lower) position on the switchboard so that only the ground and sync are left active. This will allow two underwater strobes or housed flashes to be connected directly via the main and secondary bulkhead or with a dual sync cord of the main connector.



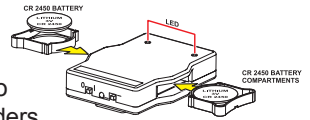
Note on sync cords maintenance:

When preparing the sync cord, be sure to lubricate the O-ring on the sync cord's connector with a light coat of the strobe manufacturer original O-ring lubricant, also advisable is to put a light coat of O-ring lubricant on the threads of this connector to help prevent threads from freezing up. Some electrical sync cord are known to use dissimilar metal in their construction, these can create an unwanted electrolytic reaction. Whenever using sync cord with metal fitting, it is recommended that they be removed, cleaned and the threads lubricated on a daily basis.

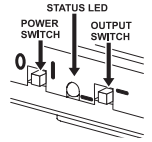


For user of the 20079-OPT version: Start by selecting the desired optical cord adapter(s) if needed, and insert in the optical port base(s).

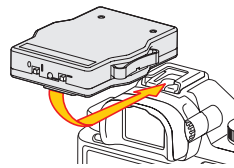
The LED flash trigger included with the 20079-OPT version operates on two standard CR2450 batteries. To install these, pull out the batteries holders, insert them in their respective holder with the positive side (+) facing up, and push back the batteries holders into place when done.



There are two switches and a status LED on the back of the trigger unit, the one located on the left side is the power switch, slide it to the on (I) position, the two LED located on top of the trigger should blink once and the status LED should blink green informing you that the unit is ready for operate. In the event that the battery power would be low, this status LED will blink red, you should then proceed to replace both batteries with fresh ones.



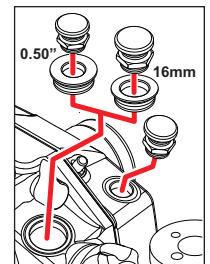
The switch located on the right side is the power ratio selector switch, while most strobes will operate properly in the low power position, some strobes, such as the newer Sea & Sea YS-D2, requires a stronger light output in order to sync, in such case simply move the power ratio switch to the upper position, this will increase the output power of the LED's. It is important at this point, to note that in order to have consistent performances, a premium quality optical fiber cord that will carry the light signal from the trigger adequately is recommended. Some lesser quality optical fibers do have poor light transmitting capabilities, and if possible, you should avoid using them in the sake of reliability.



Mount the LED flash trigger on the camera hot shoe, push until it stop, switch unit on and trigger the camera a few times, should the status light turn red, replace batteries before proceeding with the dive. The trigger unit itself has insignificant battery drain and these last quite a long time, on the other hand, you should preferably power down the camera and the underwater strobe(s) in order to avoid unnecessary battery drainage on them while transiting to the dive site.

ADAPTABLE BULKHEAD CONNECTION

This housing features an adaptable bulkhead access hole, the housing is shipped with the 16mm diameter adapter installed by default. This being a popular size for mounting external monitors. Should you wish to add other accessories, the 0.50" version might be better adapted to that purpose, to swap adapter, simply follow this procedure:



Remove the adapter retaining O-ring from the inside and push the adapter out, On the one to be installed, inspect and lubricate the sealing O-ring and push the new adapter in place and install the retaining O-ring back on the inside..

As is customary with any O-ring replacement, it is always suggested to validate the sealing integrity by performing a pressure test, an immersion of the housing without camera inside, or if a Surveyor Vacuum system is installed, to test by extracting the pressure and monitoring the vacuum for any sign of leakage.

IMPORTANT NOTICE: Installation of any accessories on your housing should be only be attempted by Aquatica or by qualified technicians from an authorized Aquatica Service Center.

MAINTENANCE OF HOUSING AND PORTS

When changing ports or O-rings, a simple seal test without the camera inside should be performed. 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. Never handle the housing by grabbing the port or if using one, the Aqua View Finder, make sure that boat staffer are familiar with this procedure and advise them to manipulate only by using the grips provided with the housing.

When replacing the main sealing 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 it is snugly sitting in the groove. Avoid going solely in one direction as doing so will stretch the O-ring material and possibly prevent it from properly seating.

Maintenance of the housing mechanical components:

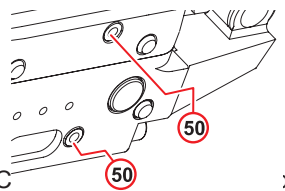
After every salt water dive, your housing system requires that it be soaked and/or rinsed in fresh water. It should soak for a minimum of 30 minutes. Operate all the controls several times, while soaking, to dislodge any trapped salt water residues.

Periodically remove the hand grips for storage and transportation and to avoid having the thread of the attachment bolts fuse on to the housing. Unscrew, clean and lubricate the bolts with a small amount of WD-40 or Zinc based lubricant.

WARNING: Use WD-40 or any lubricant carefully, sparingly and only on metal to metal surfaces. WD-40 or other petroleum based lubricant can damage the acrylic on the ports, the optical surfaces of a lens or O-rings.

SACRIFICIAL ANODES:

Two anodes (# 49) are attached to the bottom parts of the housing to prevent galvanic corrosion due to electrolysis, as time goes they will deteriorates and need replacement. C order replacement (parts # 19220).



STORAGE AND TRANSPORTATION :

Store and transport the housing in a sturdy, shock proof container and avoid travelling with the camera mounted inside the housing. In the event of an impact, especially on the external push buttons, this could potentially be transferred to the camera controls and damage them.

When travelling by air or in situation where atmospheric pressure changes are foreseen, remove the port, the eye piece or open the housing. Doing so allows equalization of the air pressure inside the housing with the external one. Failure to do so may cause internal pressure built up which could potentially force ports or acrylic windows to pop out or potentially unseat their O-ring seal.

O-RINGS OF THE HOUSING, PORTS AND EXTENSION RINGS:

1. Removing an O-ring: Never use a sharp instrument when removing an O-ring as this may damage the sealing surface of the groove or the O-ring itself. A dedicated O-ring tool, a dull pointed object or the edge of a credit card usually works well.

2. Once removed, the O-ring should be inspected for damage. Carefully check that it is free of nicks or cuts and that it retains its original round profile. O-rings that appear to be damaged should be immediately replaced with new ones and the damaged one permanently discarded.

3. Rinse the O-ring with fresh water and dry it with a clean lint free cloth.

4. Clean the O-ring groove (the channel where the O-ring sits) with a cotton swab. Be sure to remove any lint the cotton swab may leave behind. Inspect the groove for damage.

5. Wipe the matching sealing surface part of the housing with a clean lint-free cloth.

6. Lubricate the O-ring with a thin layer of Aquatica O-ring lubricant (# 19213) until it appears to be smooth and shiny. Do not over lubricate. Use just enough lubricant so the O-ring will pull smoothly through your fingers. Excessive amounts of grease will only serve to attract and trap dirt onto the o-ring.

7. Confirm that the Port and extension ring O-rings are properly and evenly seated in their O-ring groove.

8. To reinstall the clean and lubricated main O-ring of the housing, first 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.

The internal O-rings on the housing controls are not user accessible, while these O-rings are not as susceptible to damage as they are not exposed, rinsing properly with fresh water to flush out salt crystals and sand residues will be the proper way to assure trouble free operation, Aquatica recommended yearly maintenance of the internal O-ring. Authorized service center, both the continental USA and Europe, are available to the users for this service. Prior to sending the housing, always check for the closest service center to you on our website www.aquatica.ca

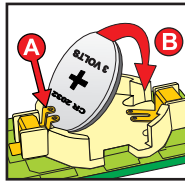
WARNING: Use only petroleum free O-ring lubricant such as our # 19213 Aquatica O-ring Lubricant, petroleum based lubricant, used by some manufacturers for lubricating their Silicone made O-rings can and will cause the O-ring material to swell, this will render the O-ring difficult to install and likely will result in the O-ring being damaged or pinched with dire consequence.



MOISTURE ALARM

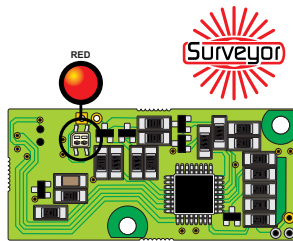
This Aquatica housing is supplied with a Surveyor moisture and vacuum sensor alarm (# 54). This sensor device has two distinct purposes, a moisture detection circuitry and an ambient pressure sensor circuitry; both are integrated on the same circuit board.

A standard CR2032 battery cell (# 56) is provided as the power source, to insert the battery, first slide it in the battery compartment, making sure first, that it is under the two contacts (A), and then pushing down (B) until it snap into place.



MOISTURE DETECTION FUNCTION:

Once a battery is installed, the moisture detector function of the Surveyor alarm will remain on standby and will not need be activated, in the event of any contact with water, an audible signal coupled with a blinking bright red flashing LED, will be activated and visible through the LED viewing port (# 53). Proceed to remove the housing from the water, always keeping in mind your personal safety.

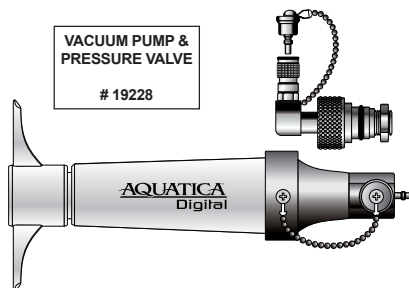


To test the moisture alarm circuitry, simply moisten the tip of your finger and establish contact with the probes end, this should trigger the alarm signal, if it fails to activates, check the position of battery compartment contacts and the state of the battery itself, replace with a fresh one if necessary.

If not being used for prolonged periods of time, it is preferable to remove the battery from the sensor circuit to avoid unnecessary drain on this one.

VACUUM SENSOR FUNCTION:

Should you wish to take advantage of the housing built in vacuum monitoring feature, a pressure valves and pump, if not installed already at the factory when ordered, will be required. This valve and pump kit (# 19228) is also available separately and includes the operating manual for the vacuum system.



Installation of the valve is straight forward and does not require special tooling, there is a designated entry hole on the rear left hand side (# 30) of the A7r II housing dedicated to this purpose.

As is customary with any O-ring replacement, it is always suggested to validate the sealing integrity by performing a pressure test, once the Surveyor Vacuum system is fully installed, you should, prior to immersing the housing, test by extracting the pressure and monitoring the vacuum for any sign of leakage.

WARRANTY

PLEASE READ CAREFULLY

One year Limited Warranty.

Thank you for purchasing an AQUATICA manufactured product! Your AQUATICA housing is handcrafted 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 RESPONSABILITY 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 _____

AQUATICA™

Digital

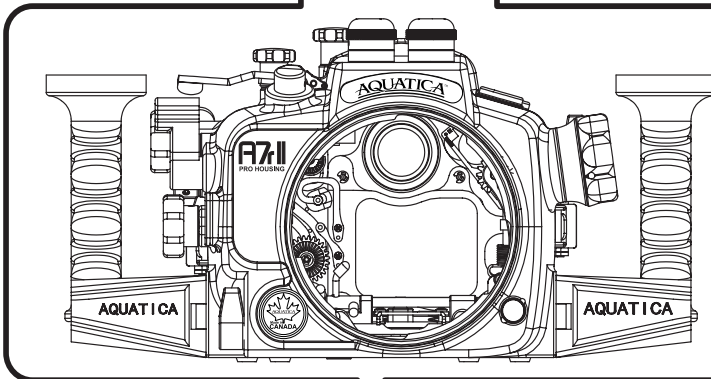


System chart

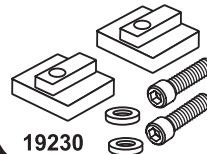
A7r II

BULKHEAD SELECTION*

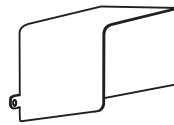
20079-NK 20079-KM 20079-OPT



Grip extender



19230



19231

Rear LCD shade

Replacement Viewfinder

19218



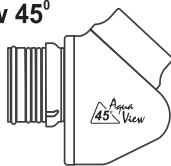
INCLUDED

Hydrophone



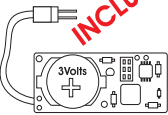
19221

Aqua View 45° Finder
20059

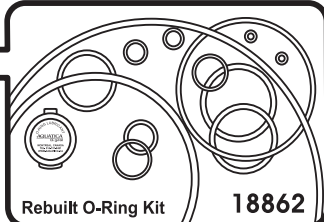


Moisture & Vacuum sensor circuit

19229

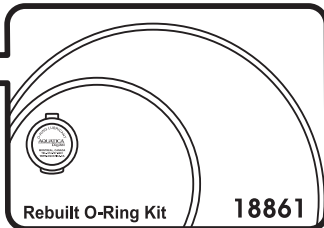


INCLUDED



Rebuilt O-Ring Kit

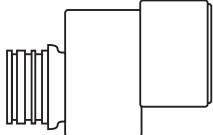
18862



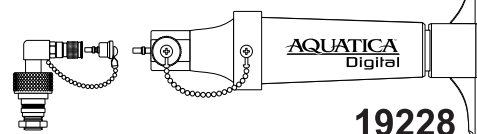
Rebuilt O-Ring Kit

18861

Aqua View Finder
20054

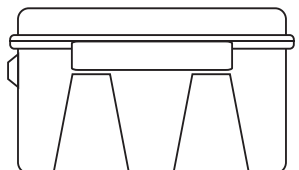


Vacuum pump and pressure valve kit



19228

Protective Hard Case
19216



Deep Rated spring Kit



19217

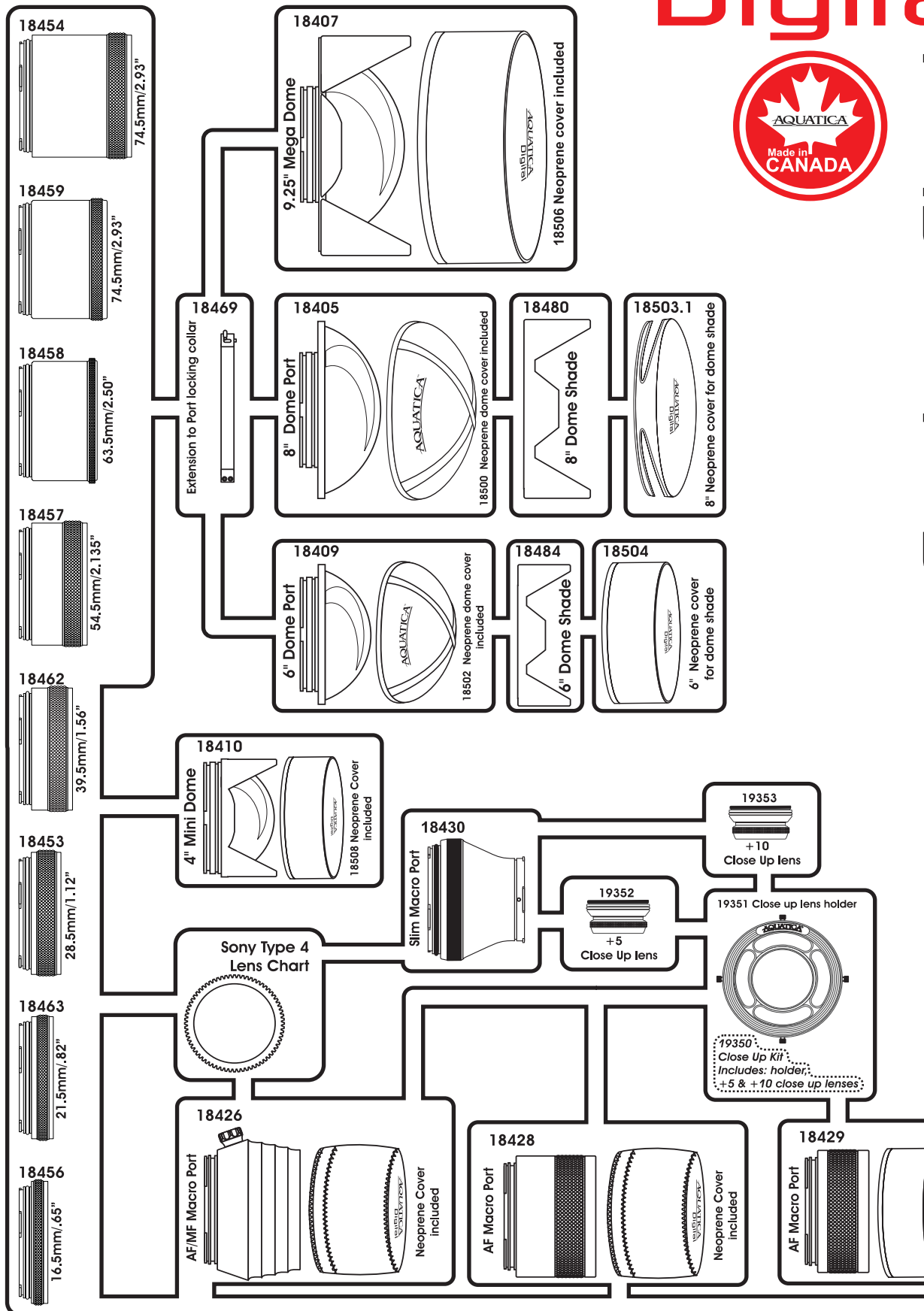
Sacrificial Anodes
(4 x anodes and screws)



19220

AQUATICA

Digit



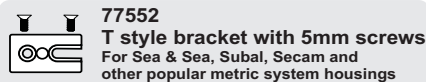
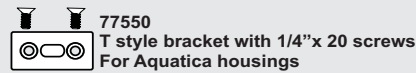
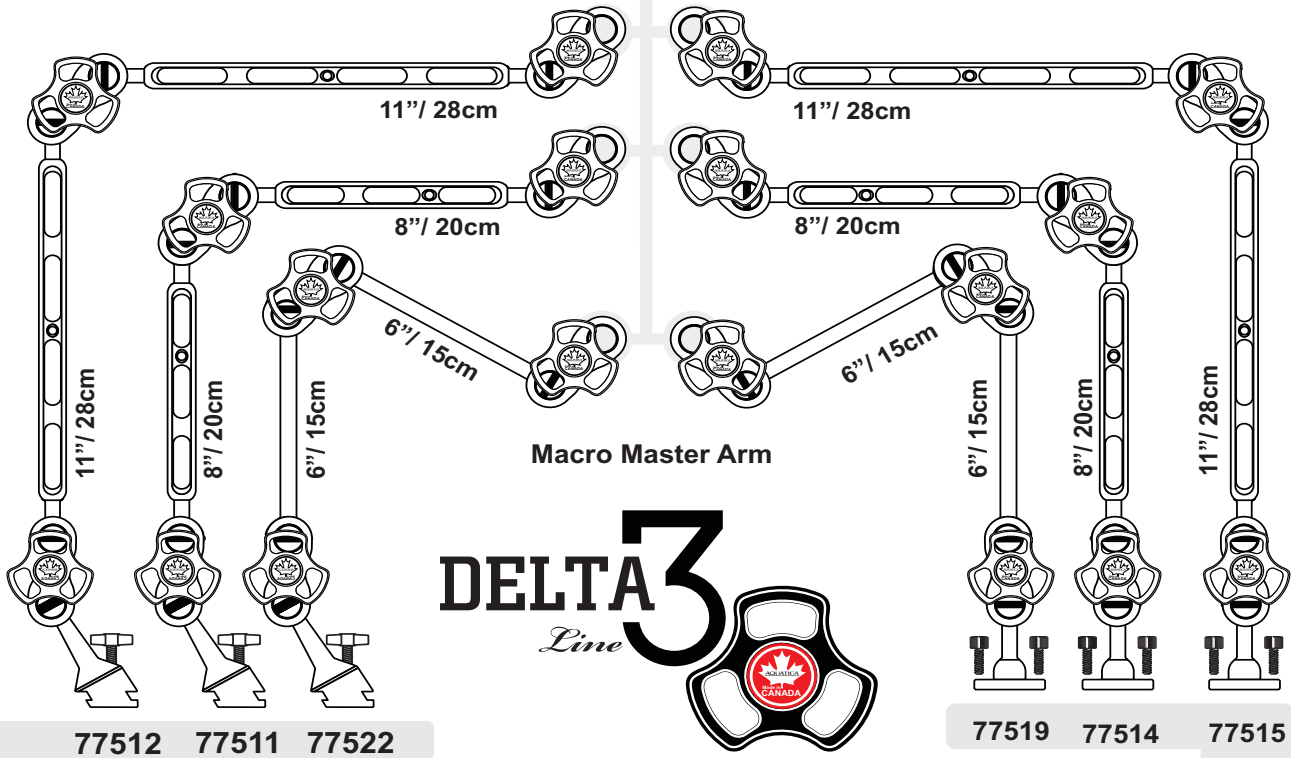
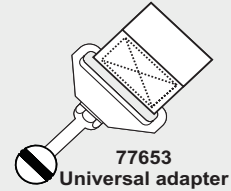
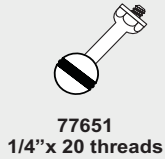
Technical Lighting Control



A Division of:
AQUATICA
Digital

ARM SETS WITH BALL HEAD ADAPTER CHART

BALL HEAD ADAPTERS



A Division of:
AQUATICA
Digital

For Aquatica housing
Supplied with two 1/4"-20 cap screws
and 3/16" hexagonal key wrench

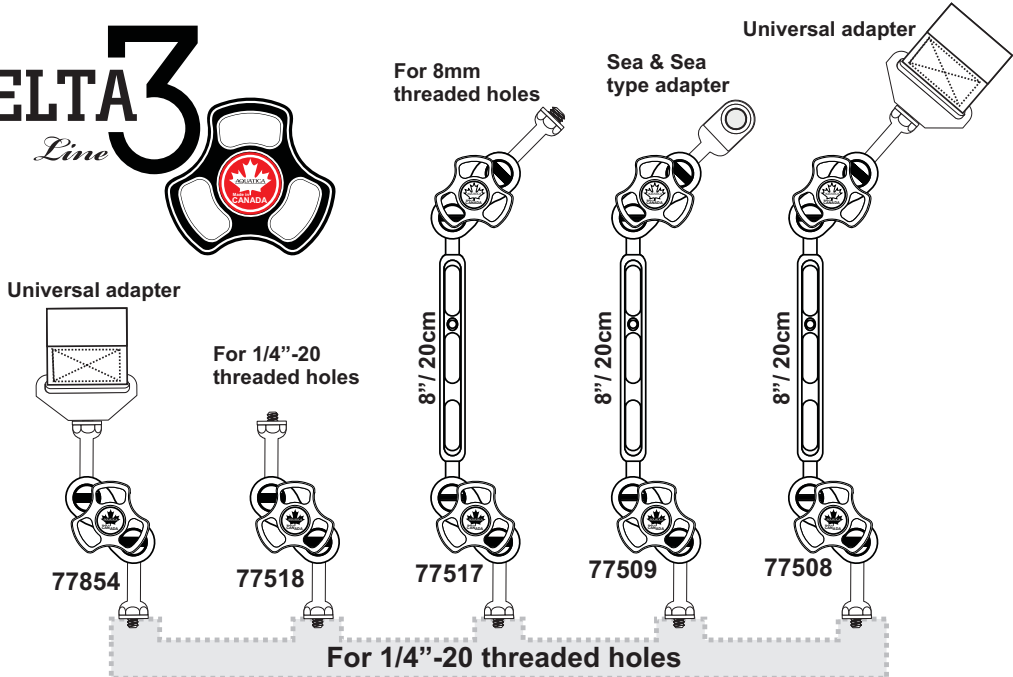
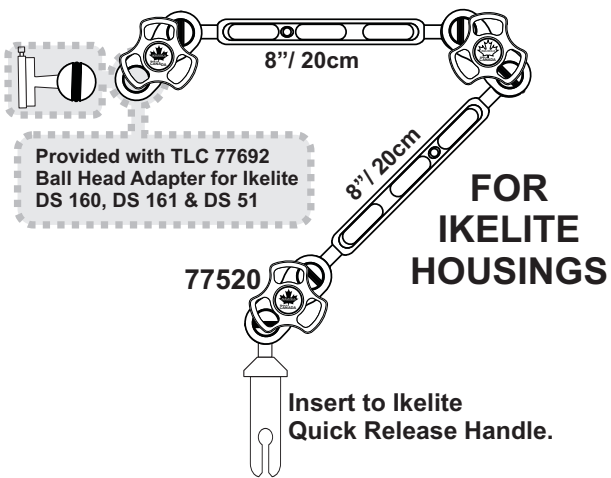
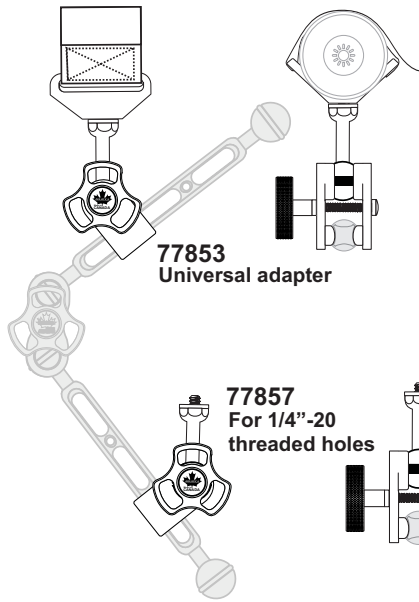
www.aquatica.ca

Technical Lighting Control



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Digital

FOCUS & VIDEO LIGHT SUPPORT CHART



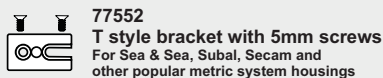
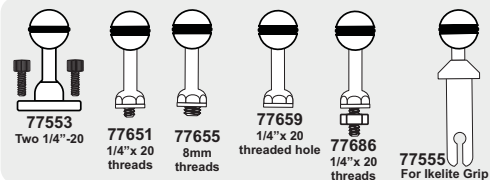
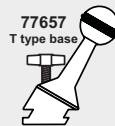
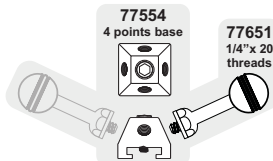
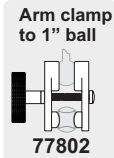
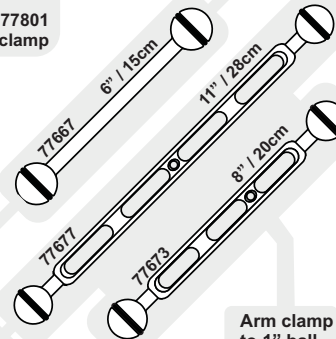
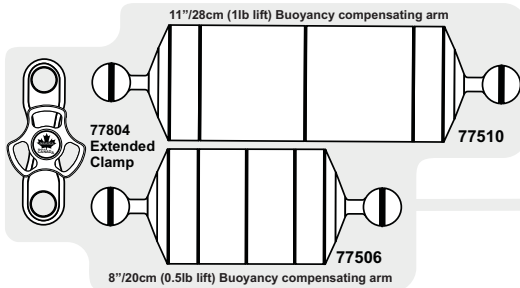
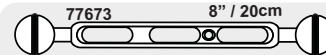
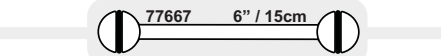
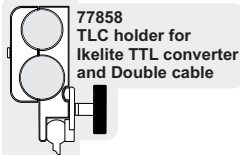
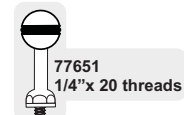
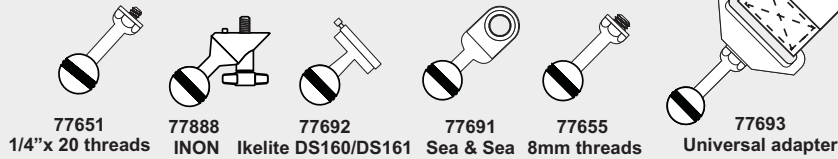
Technical Lighting Control



A Division of:
AQUATICA
Digital

INDIVIDUAL COMPONENTS CHART

BALL HEAD ADAPTERS



Technical Lighting Control



The Delta 3 line offers two buoyancy compensating arm segments, the # 77506 with a length of 8"/20cm and the # 77510 with a length of 11" 28cm, both feature a standard 1"/25mm ball on each end of the arm segment, making them compatible with most existing strobe and lighting support systems used for underwater imaging.

These buoyancy compensators are rated and tested to a depth of 330ft/100m, and are made of sturdy hard anodized marine grade aluminum. The use of this robust material means, that unlike carbon fiber, the Delta 3 line arm segments will not crack, delaminate or become unglued by the ambient pressure and workload exerted with this type activity. If our Technical Lighting Control division has learned something in its 30 years plus of making underwater lighting support for the working professional, it is that product reliability is the key issue. Our Delta 3 line buoyancy arm segment are made to offer you years of service, even in the harshest of conditions.

77804 is an extended ball joint clamp available for additional freedom of movement when using buoyancy compensating arm segments. Made of marine grade aluminum and hard anodized, it features our three lobed knob design with a tensioner spring for the ultimate control in tension adjustment.

77506: Is a 8"/20cm arm segment providing .5lb/.225kg of lift

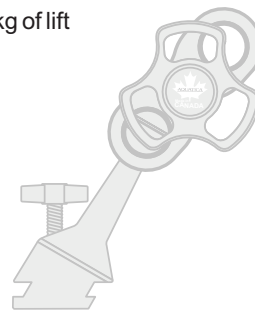
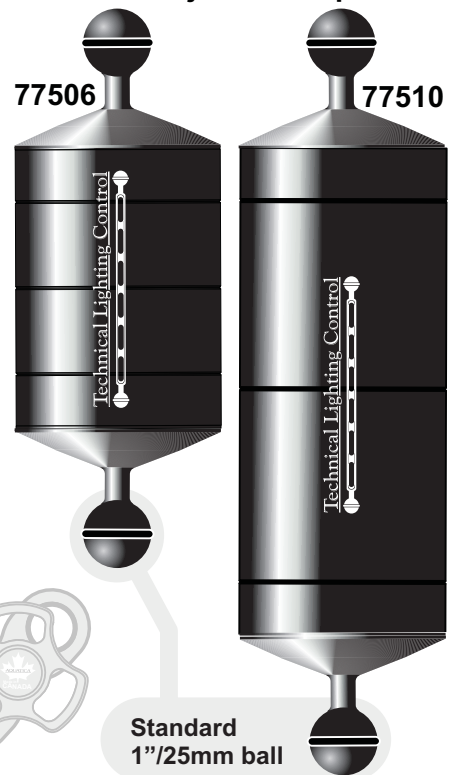
77510: Is a 11"/28cm arm segment providing 1lb/.45kg of lift



A Division of:
AQUATICA
Digital



77804
Extended ball joint clamp



www.aquatica.ca



3025 De Baene, Montreal, Quebec, Canada, H4S 1K8
Tel.: 514-737-84 info@aquatica.ca