

Sony Alpha A7R III and Ikelite 200DL housing

by Phil Rudin

My first review of a Sony A7 full frame mirrorless camera was in UWP issue #86 in Sept/Oct 2015 covering the A7 II followed by an A7R II/ Ikelite review in issue #90 May/June 2016. During the current release cycle Sony introduced the A7R III first on Oct. 25, 2017 followed by the A7 III which started to ship in April 2018. Sony has also released the High speed A9 sports camera and I am sure an A7S III video oriented body will be announced in the near future. All of these cameras have the same magnesium alloy body and the control placement is near identical, the A9 has an additional Drive/Focus mode dial on the left top of the camera. At this time I have both the A7R III and the A7 III in house. All three cameras work in the Ikelite 200DL housing which was shipped to me prior to the A7 III release.

Ikelite Underwater Systems is a USA based company which has expanded its distribution network to cover most areas of the world during its fifty plus years in business. Ikelite has a large and loyal customer base built on a foundation of excellent customer support and product reliability.

During DEMA in November 2015 Ikelite introduced a complete line of housings for the Sony Alpha A7 II, A7R II and A7S II Full-Frame mirrorless cameras. When these housings were introduced they used the traditional DSLR port mount and featured full TTL support for Ikelite's

complete line of DS strobes.

The newly released Ikelite 200DL housings future the greatly improved "Dry Lock" port mounting system. New lighter ports are also being added to the product line and a lighter and thinner back plate is being developed for shallow water applications like surf photography.

Sony Alpha A7R III camera

Sony's new flagship Alpha A7R III is one of the third generation Sony full frame mirrorless cameras and the second generation to include sensor based in-body image-stabilization or (IBIS). Sony debuted the first Alpha A7, A7R & A7S cameras during 2013 when they were the first mirrorless interchangeable lens cameras to feature a full-frame (36 X 24 mm) image sensor with a body the size of the current Olympus E-M1 II & E-M5 II mirrorless cameras.

Sony has made it quite clear that they intend to challenge Canon and Nikon in the pro and "Pro-Sumer" markets by focusing heavily on their full-frame lineup of mirrorless cameras. Many readers are familiar with the A7R II and I would like to point out some of the upgrades in the A7R III that will be useful for underwater shooters.

The ISO range on the A7R III has been



expanded to 100-32000 from 100-25600, the Electronic viewfinder is now 368K dot v. 235K, frame rate has been increased from 5 fps to 10 fps in continuous shooting mode, focus points have been increased from 399 to 425 and the LCD resolution has increased from 1229K dots to 1440K.

One of the biggest improvements for underwater photographers is a huge increase in battery life from a CIPA rating of 290/340 (EVF/

LCD) shots to a rating of 530/650 shots per charge. This is a figure that varies depending on the lens being used. With the Sony FE 90mm F/2.8 macro I was getting results in the 140-200 image range with the A7R II with the new A7R III that number has at least doubled. Dynamic range has also increased from 13.9 to 14.7 with a DXO rating of 100 up from 98 for A7R II. The A7R III has also added dual card slots with one supporting UHS-II ultra high speed cards.

The second large improvement for underwater photography is in auto focus speed and accuracy even in low light. The AF speed with the Sony 90mm macro was an issue with the A7R II. Thanks to the faster processing speed, improved circuitry and increase in AF points this is no longer an issue even at ten frames per second with wider lenses. The new body also has the same AF point joystick found on the Sony A9 which allows you to quickly move the focus points around in the frame.

Sony currently offers a verity of excellent lenses with weather sealing which are well suited to U/W photography. In addition several other lens manufactures make direct mount auto focus and manual focus lenses for the Sony FE mirrorless cameras. Lens adapters like the Metabones, Sigma and others have also opened up the ability to use Canon, Nikon, Sigma and many other lenses with full AF and/or manual control as well. Many photographers have made the move from Canon or added the Sony Alpha A7R III body to their bag and still use their complete line of Canon lenses with an adapter.

Most photographers when they hear the word mirrorless camera naturally assume that this equates to a much smaller and lighter overall underwater camera system compare to like quality DSLR



camera systems. This is not entirely the case with the Sony A7R III system and should not be the only consideration when moving to a full frame camera. While the 42.4MP A7R III body at 627G (22.11oz) and 126.9 x 95.6 x 73.7 mm is smaller than the Canon 50.6MP 5DR body at 845G (29.81oz) and 152 x 117 x 76 mm or the slightly heavier Nikon D850 the differences in systems for the most part ends there.

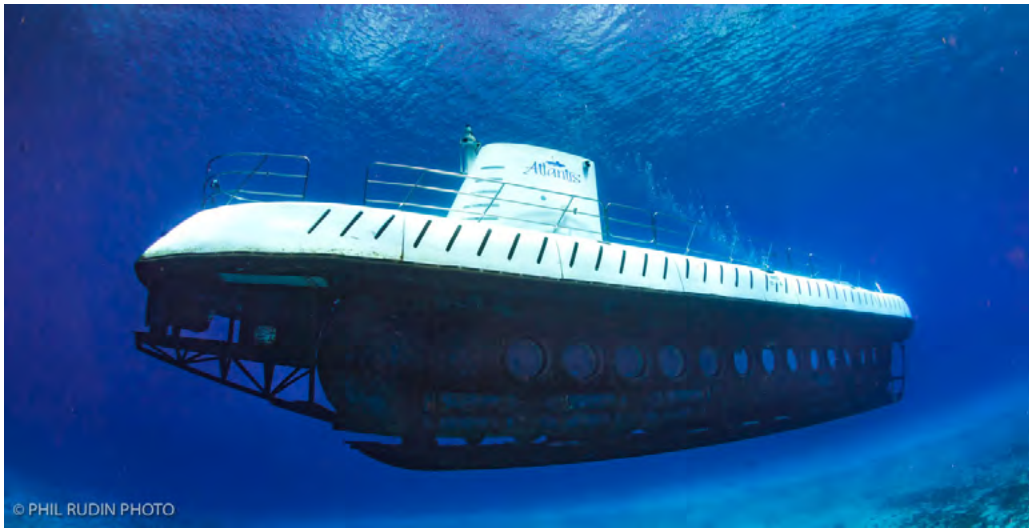
While mirrorless systems like Micro43 are able to incorporate much smaller lenses this is not the case with quality 35 mm full frame mirrorless lenses. Larger sensors mean bigger lenses with heavier glass to cover the larger full frame sensors. This is a simple issue of physics and while some mirrorless lenses for full frame can be designed a bit smaller and lighter than DSLR lenses those used for U/W photography remain about the same size and price as their full frame DSLR counterparts. As an example I shot the Sony A7R III with the Sony 16-35 mm F/4 zoom, Sony 90 mm F/2.8 macro and Canon 8-15 F/4 Fisheye with metabones adapter for this review. The 16-35 mm on release in 2015 retailed at \$1348.00 USD, weights 518G (18.27oz) and is 78x98.5mm (3.07x3.88 inches)



while the Canon 16-35 mm F/4L lens on release in 2014 retailed at \$1199.00USD, weight 615G (21.69oz.) and is 82.6x112.8mm (3.25x4.44 inches) not a great deal of difference.

The Sony 90 mm F/2.8 on release in 2015 retailed for \$1098.00USD weight 602G (21.23oz.) and is 79x130.5mm (3.11x5.14 inches) while the Canon 100 mm F/2.8L on release in 2009 retailed for \$1050.00USD weight 625G (22.04oz.) and 77.7x122.9mm (3.06x4.84 inches). Again not much difference between these lenses which both focus at 1:1. With wide angle lenses like the 16-35mm on mirrorless full frame you can get away with slightly smaller ports (say 200mm V230mm) and still get decent corners at F/13 and above.

Image quality with the A7R III is more than impressive at any ISO setting you would normally use underwater. The high resolution from the 42.4MP sensor allows a wide margin for cropping images. Be aware that high resolution full frame



Atlantis Submarine passing the C-53 Wreck, Cozumel Mexico, Sony A7R III, Canon 8-15mm Fisheye at 14mm, Ikelite 200DL housing, Two Ikelite DS-161 Strobes, ISO-400, F/13, 1/125th sec.

sensor cameras do not allow much margin for error when it comes to focus and depth of field. Any mistakes in focusing will be obvious in the high resolution images and no amount of post processing will correct for those problem images.

The Sony A7R III retails for around \$3198 / £3199 / body only.

Ikelite Alpha A7R III Housing and DL Port System

One of the nice advantages of the Ikelite A7 III, A7R III and A9 lineup is that all of the camera bodies use the same magnesium alloy frame with almost identical button placement so one Ikelite housing can be used with

all three cameras with only slight modification.

The Ikelite Alpha A7R III housing design features the opaque light gray ABS-PC polycarbonate material for the front section of the housing with a transparent DSLR style polycarbonate housing back. This attractive gray housing color matches the Ikelite DS strobe line and always drew lots of attention from other photographers.

It seems no matter where travel I am always being approached with Ikelite equipment questions and comments. The light gray housing color also shades the camera and provides extra protection from the sun during long boat rides. The Sony



Mask/Glass Goby, Casa Del Mar House Reef, Cozumel Mexico, Sony A7R III, Sony 90mm macro, Ikelite 200DL housing, Two Ikelite DS-161 Strobes, ISO-100, F/20, 1/250th sec

Alpha A7R III housing remains the only production housing I am aware of that supports TTL for the complete Sony A7 III/A9 series of cameras when paired with Ikelite DS series TTL strobes.

The housing can be purchased with a manual sync adapter or the optional ST1K Sony TTL kit with Hotshoe. The ST1K provides integrated TTL encoding specific to each camera model and tuned to Sony's exposure protocol. The TTL converter fits under the camera mounting tray and is a plug and shoot

unit which requires no maintenance or additional battery. Exposure compensation in TTL mode is supported using the cameras built-in controls which can be accessed in several ways and assigned to different function buttons to suit the users needs. Other TTL strobes from Inon, Nikonos and Sea & Sea can also be used with Ikelite electronic sync connections but only in manual exposure modes.

The housing includes a base with left-hand quick release handle and rubberized grip, mounting threads for



Cenote Guide Miki, Tajma Ha, Yucatan Mexico, Sony A7R III, Sony 16-35mm at 16mm, Ikelite 200DL housing, Two Ikelite DS-161 Strobes, ISO-3200, F/9, 1/100th sec.

an optional right grip, port opening cover which locks in place using the three threaded port locking screws, a waterproof bulkhead cap to protect the strobe cord socket when not in use, silicone O-ring lube and a one year warranty. A verity of optional gears are available which cover a wide range of both Sony FE and third party lenses. The Ikelite web site has a complete lens chart which is continually being updated as new lenses are released.

For this review I used three lenses the Sony FE

90 mm F/2.8 macro G OSS, the Sony Vario-Tessar T* FE 16-35 mm F/4 ZA OSS and the Canon EF 8-15mm F/4L Fisheye USM lens with Metabones IV adapter. All three lenses are quite good and were able to handle the high resolution Alpha A7R III (42.4 MP) sensor with outstanding results. The 90 mm macro is without question the sharpest macro lens I have ever used with any camera. Ikelite also supports a virtual laundry list of other excellent lenses from a verity of manufactures.



Palancar Gardens, Cozumel Mexico, Sony A7R III, Canon 8-15mm Fisheye at 8mm, Ikelite 200DL housing, Two Ikelite DS-161 Strobes, ISO-400, F/10, 1/200th sec.

Field Testing the Ikelite 200DL Housing

The Sony FE 16-35 mm zoom produced sharp images using the Ikelite modular eight inch acrylic port and lens extension. I found best results with the Sony 16-35 mm zoom fell within the F/13 to F/20 range but I was not disappointed with wider aperture settings down to F/5.6. I have found that large acrylic ports tend to reflect the front of the lens back onto the sensor in direct sun light near the surface a bit more consistently than optical glass ports. This was the case using the Ikelite port at or near the surface in bright overhead sunlight with the

Sony 16-35 zoom.

With the Canon 8-15mm Circular Fisheye lens results are best when you remove the shade from the eight inch dome prior to the dive. The 8mm circular fisheye end of the lens will vignette badly in the corners when the shade is left in place. This is an issue with all of the dome ports I have tried with this lens from 100mm to 230mm so you need to be aware that if your dome shade does not come off you will have issues with this lens.

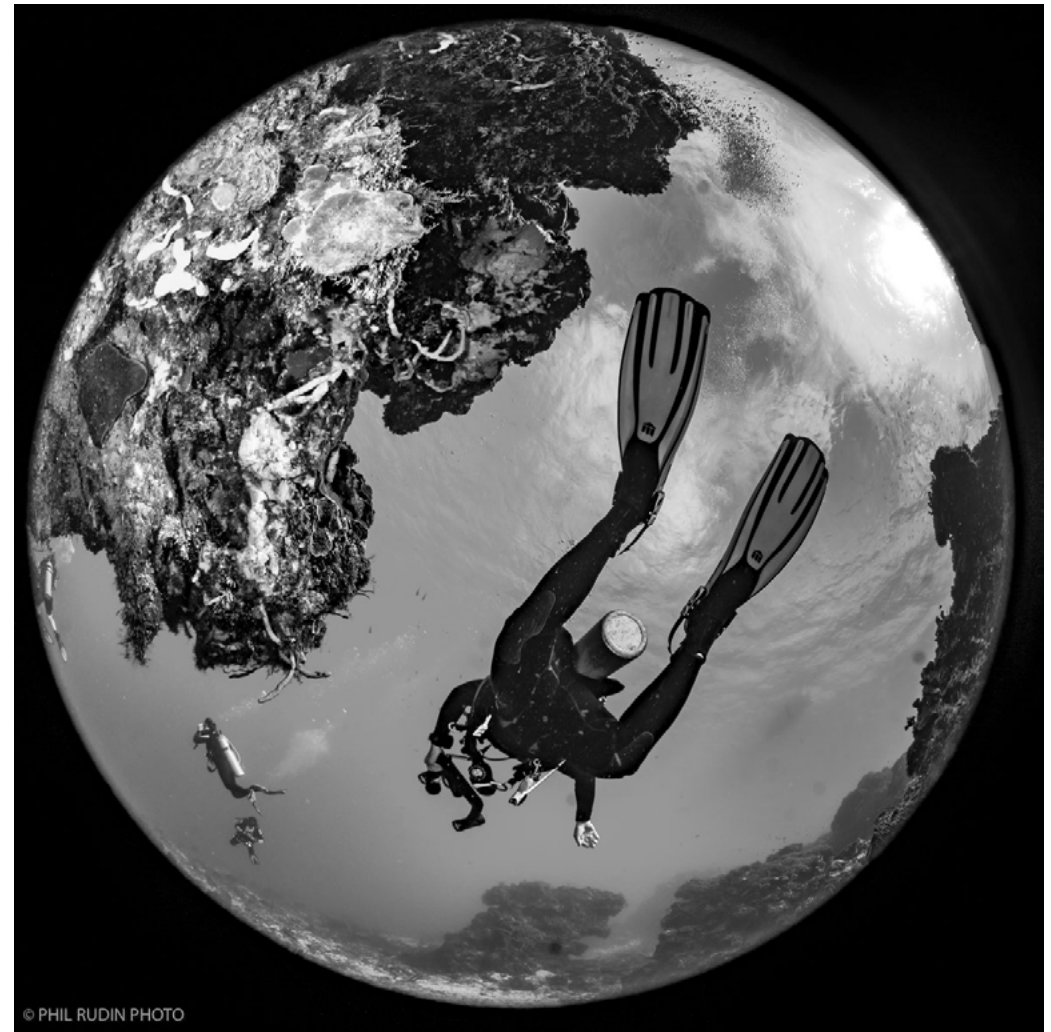
The 8-15 fisheye lens has excellent depth of field from F/8 on the full frame sensor and I controlled exposure using shutter speed and ISO to balance lighting. The Ikelite eight inch dome with both the 16-35 zoom and 8-15 fisheye has a tendency to turn dome port up once in the water. The system is in fact completely buoyant in both fresh and salt water. Over time this can become quite fatiguing to the wrist and forearm especially while holding the entire system with one hand. A fix for this issue is in the works that involves a counter balance using a soft weight pocket with a small amount of dive weight added to balance the system. My prototype housing was not equipped with this feature so I can not comment on how well it will work.

To install both of the wide angle lenses the camera first needs to be mounted inside the housing.



Spinyhead Blenny, Casa Del Mar House Reef, Cozumel Mexico, Sony A7R III, Sony 90mm macro, Ikelite 200DL housing, Two Ikelite DS-161 Strobes, ISO-64, F/18, 1/250th sec.

This requires that you mount the assembled camera (formatted card, fresh battery, etc.) onto the camera tray using the simple tripod screw and slide the camera into the mounting plate inside the housing. Be aware that the mounting plate has no lock so the best way to prevent the camera from moving is to point the front of the housing with the port side down until the housing is fully closed.



Palancar Gardens, Cozumel Mexico, Sony A7R III, Canon 8-15mm Fisheye at 8mm, Ikelite 200DL housing, Two Ikelite DS-161 Strobes, ISO-400, F/10, 1/200th sec.

The hotshoe then needs to be pushed ALL the way forward into the camera hotshoe, next align the control levels over the controls on the camera. Once this is done the three lid-snaps can be secured using even pressure on

all three at the same time for an even seal of the rear O-ring.

After the housing is closed the camera will not move and the lens and port can be mounted from the front. I keep the front cap on the camera until

I am ready to mount the lens to prevent the rather large sensor from collecting any dust bunnies. Make sure that the gear is properly mounted to the lens before it is installed on the camera again to prevent dust or worse from entering the camera body.

Once the lens is mounted and the gear sleeve is aligned rotate the zoom control on the left hand side of the housing to be sure the gear is rotating properly. The port is then installed over the lens and pushed into place over the housing O-ring.

Three small port locking screws are provided to hold the port in place on the housing mount. The housing comes with a vacuum valve already installed. I recommend that purchase the optional vacuum pump (\$60.00 US) to add an additional layer of protection from flood damage to the system. The pump simply attaches to the valve, the vacuum is drawn and the system is ready to go. Be aware that some lenses (including the 90mm macro) have a push/pull manual focus ring near the front of the lens which needs to be pushed forward for auto focus to work. If you bump the focus ring into the manual focus possession while mounting the port the AF will not work so be sure to test AF before going into the water along with test firing the strobes.

The 90mm macro modular port system I used has three sections, the flat port, an extension ring and the base mount which seals to the housing. All three should be mounted together before being sealed to the housing. The flat port has the 67 mm threads common for use with accessory close-up lenses and flat port can also be used with other lenses and extensions.

During my review I used two Ikelite DS-161 strobes with four Ikelite seven inch double ball arms, an Ikelite dual sync cord and two Ikelite



Cenote Guide Miki, Tajma Ha, Yucatan Mexico, Sony A7R III, Sony 16-35mm at 16mm, Ikelite 200DL housing, Two Ikelite DS-161 Strobes, ISO-3200, F/9, 1/100th sec.

dome diffusers. The dome diffusers widen and soften lighting much like a small soft box for land photography. The dome diffusers worked well for both wide angle and macro shots. These dome diffusers eat up about a half stop of light which I did not miss.

My prototype housing was not equipped with TTL circuitry so I was shooting with a manual sync cord during my three weeks of diving in the Cenotes of the Yucatan and then the wonderful reefs of Cozumel Mexico. I find Ikelite's DS-161 strobes to be among the best in the industry and they did not disappoint when used with Sony's Alpha A7R III camera and lenses.

The controls on the Ikelite housing are ergonomic and intuitive. While testing this system I shot using the LCD screen and for the first time the optional 45 degree viewfinder. Auto focus was fast and accurate using both the LCD and the accessory viewfinder. I preferred using the Sony A7R III's



Cenote Car Wash, Yucatan Mexico, Sony A7R III, Canon 8-15mm Fisheye at 8mm, Ikelite 200DL housing, Two Ikelite DS-161 Strobes, ISO-200, F/8, 1/250th sec.

excellent electronic viewfinder with the accessory enlarging viewfinder especially when shooting macro.

The housing ships with a useful pickup finder but it does not do justice to the outstanding EVF found on the A7R III. I would recommend adding an optional Ikelite 45 or 180 degree optical viewfinder to the housing if you intend to use the EVF frequently. I found that the Sony 90mm macro would still hunt in some cases but the problem has been much improved over the A7R II I reviewed in 2016.

I have programmed back focus as my main shooting configuration for high end cameras

Bridled Goby , Casa Del Mar House Reef, Cozumel Mexico, Sony A7R III, Sony 90mm macro, Ikelite 200DL housing, Two Ikelite DS-161 Strobes, ISO-64, F/18, 1/250th sec.

shooting both above and below water. I am happy to report that Ikelite has added a trigger control to support back focus on the new 200DL housings. The zoom/focus control on this housing is smooth and easy to reach with one finger. I controlled many setting like ISO, focus area, frame rate, focus point array and more from the large control display on the LCD accessed through the Fn button. Control changes are very easy to see and it is easy to navigate through a number of control functions using the arrow pad buttons on the rear of the housing.

For shutter speed and aperture control I used the front and rear control wheels. A complete housing manual describing all of the controls can be found on the Ikelite.com web site in the housing information area. Since I am not much of a video shooter you will need to look elsewhere for reviews of video performance using the A7R III. All signs point to excellent video features.

If you are seeking the very best full frame image quality with Pro level lenses the Sony Alpha A7R III system should be at or near the top of your wish list.

All of the Ikelite Alpha A7R III and other Alpha A7/A9 series housings retail in the US for \$1695.00 USD, the eight inch DL port is \$380.00 USD and the DL macro flat port is \$315.00 USD, port extensions are in the \$150.00 to \$200.00 range depending on the lens being used. The Ikelite system is attractively priced and a great value considering the retail \$3200.00 USD price of the camera body



alone.

Thanks to the Ikelite team (ikelite.com) for their assistance with the underwater equipment used for this review. I would also like to thank Miki Kurimoto Owner of Scuba Freedom in Playa Del Carmen, Mexico. Miki is an excellent guide for all Cenote diving needs while in the Yucatan. Miki can be reached at scubafreedom.com, jp.scubafreedom.com for Japanese and at her Miki Kurimoto FaceBook page.

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