# Sony Alpha A7MKIII & Nauticam NA-A7III

by Phil Rudin



Sony has recently introduced what they are calling their "entry level" $2000.00 A7MKIII mirrorless camera body. This camera rides in on the heels of the highly successful $3200.00 Sony A7RIII introduced in Oct. 2017 and reviewed by me in the past two issues of uwpmag.com using Acquapazza and Ikelite housings. This camera is part of the third generation of Sony full frame mirrorless cameras.

The Sony A7, A7r and A7s released in early 2013 were the first mirrorless interchangeable lens cameras to feature a full-frame (35mm) sensor in a mirrorless camera body the size of the current Olympus E-M1II & E-M5II mirrorless cameras. Sony has made it quite clear that they intend to surpass Canon and Nikon in the Pro/Prosumer markets by focusing heavily on full-frame mirrorless cameras and high quality lenses. Evidence of Sony's progress since 2013 is that the A7RIII is tied with the Nikon D850 at the top of the DXO Mark full frame sensor ratings with an overall score of 100 and the A7III is not far behind at an overall score of 96. Those rankings are higher than any of the current Canon cameras and in the case of the A7III ahead of any camera in its price range.

The Sony A9 sports camera can shoot 20 frames a second and has higher DXO marks than any other manufactures high speed sports camera. All three of these Sony cameras have also been awarded DPReview's Gold Award when tested. The latest line of Sony G-master lenses like the new 400 mm F/2.8 GM OSS are also receiving rave reviews for both quality and innovation.

Another sign that Sony has arrived is the fact that many lens manufactures like Sigma, Zeiss, Rokinon, Tamron, Venus Optics and more have all jumped on the Sony bandwagon with Sony FE full frame direct mount lenses.

The final sign that the big two DSLR companies are feeling the heat is the recent announcement by Nikon of a high end mirrorless system and rumors of a Canon release by the end of the year. I think Sony has a ways to go before they meet the goal of toppling one of the big two but by all accounts they appear hungry and very motivated.

## Sony Alpha A7MKIII camera

Sony is calling the A7MKIII their "Entry Level" camera but it is much more than that. The A7III combines the most compelling features of the Flagship Sony A9 and A7RIII cameras into a very well balanced system perfect for all but the most extreme underwater photo needs. I would like to point out some of the most useful improvements over the Sony A7II which I reviewed for UWPMAG in the Sep/Oct 2015 issue #86.

The Sony A7III is the second generation in the Alpha line to offer 5-axis sensor-based image-stabilization on a full-frame 24.2MP CMOS sensor. The new A7III uses a back-illuminated sensor with a gapless on-chip lens design which is similar to the one used in the A7RIII. This allows twice the readout speed and a 1.8 higher data processing capability than the design found in the A7II. Sony claims 15-stops of dynamic range or 1.5-stops more than the A7II with a 40% faster startup time.

The expanded ISO range for stills photography is 50-204800 compared to 50-25600 in the A7II making the A7III a low light monster for both stills and video. Like the other A7-series bodies a big advantage of the A7III, A7rIII and A9 lineup is that all three cameras appear to be built with the same magnesium-alloy chassis. All three have almost the same button placement so one housing can used for the A7 III and A7R III cameras.

Nauticam offers an NA-A9 housing for those interested in the high speed sports camera. The A7III has a significant update to the auto focus which is much like the one in the A9. The AF system features 693 phase detection points and 425 contrast detection points for much faster and more accurate auto focusing. This is up from the 117 and 25 found on the A7II. The A7III has a continuous shooting speed of 10fps with AF/AE tracking up from 5fps for the A7II and works with both mechanical and electronic shutter. The buffer is also greatly improved holding up to 177 JPGs, 89 compressed RAW or 40 uncompressed RAW files.

The video capability of the A7II was at best average by todays standards while the A7III brings a great deal of improvements. The A7III can record 4K video with no sensor crop in 24/25fps while preforming full pixel readout, which equates to 6K of capture downscaled to 4K. At 30p you have a 1.2X crop with 5K of information. Picture profile additions include S-Log3 and HLG for HDR compatible TV's. In 1080p the A7III can record up to 120fps for slow motion.

The new bigger NP-FZ100 battery also used in the A7RIII and A9 is perhaps the greatest improvement for underwater use. By far my biggest grip with the A7II and A7RII was battery life. Sony claims the new battery allows 710 LCD shots or 610



with the EVF. I found the number to be even greater far exceeding the A7II battery life.

The EVF OLED panel remains at 2.3M dots but has higher magnification than the A7II EVF. The menu system has also been improved over the A7II but still remains challenging because of the deep and diverse feature set.

If you are moving over from a DSLR I am sure it will take many trips through the menus to fully understand how programmable this camera can be. The A7III has a weather resistant body and many W/R lenses. Weather sealing for the cameras bodies is an area where Sony still needs to improve.

## Nauticam NA-A7III / A7III Housing

For the purpose of this review I will refer to the test housing as the Nauticam NA-A7III, it is actually branded and sold as Nauticam NA-A7RIII but works equally well with both Sony cameras.

Like whisky, friends and wisdom, Nauticam has always continued to improve with age. My first Nauticam NA-NEX5 housing review for uwpmag.com dates back to 2010 and I am always amazed to


see the subtle improvements introduced with each new generation of housings and accessories. The latest N120 port extensions are just one example with an improved longer and easier to access locking device.

The NA-A7III housing has a second M16 mounting point not found on the NA-A7II housing. These subtle improvements help the user focus less

on the equipment and more on the creative process.

The Nauticam NA-A7III housing is designed to accommodate the deeper grip on all of the MarkIII camera bodies. The NA-A7III housing has the same features as the excellent lineup of Nauticam DSLR housings but is built using an N100 port mounting rather than the N120 DSLR mount. This places the housing size squarely between housings like the Nauticam NA-EM1II M43 housing with its N85 port mount and the NA-6DMKII and NA-D750 DSLR housings with the N120 port mount. The weight for the Olympus NA-EM1II housing is 1.95k, the Sony NA-A7III is 2.43k and both Canon and Nikon DSLR housings are 3.05k.

The NA-A7III housing has the same excellent twin locking system used on all Nauticam DSLR housings. This secures the front half of the housing to the rear by turning the locking device 90 degrees. To unlock push in the two red safety locking buttons and turn the locks. The housing has corresponding levers, push buttons, control dials and switches for every function on the camera body. These controls are very well placed and should be easy to use even with thick gloves.

The rear half of the housing has a large LCD window and a quality optical glass pickup finder for viewing the EVF. I have replaced the pickup finder with Nauticam's excellent 45 degree optical viewfinder. This is at least the sixth Nauticam housing I have used with the same optional 45 degree viewfinder. Switching between the pickup finder and the 45 degree viewfinder takes me less than a minute and does not require tools. Once installed the larger viewfinder really helps those of use with aging eyes who are seeking better critical focus and composition.



Nauticam also offers an optional 180 degree optical viewfinder. Both of the viewfinders have a plus & minus diopter control which can be adjusted underwater. The signature Nauticam red port locking lever is on the front left hand side of the housing and the lens release button is on the right viewed from the front of the housing. These allow you to remove the port and install lenses without removing the camera or even opening the housing. This is a very useful feature because larger lenses like the Sony FE 12-24mm F/4 zoom must be mounted from the front of the housing.

An M14 accessory port is located on the top of the housing for the integrated vacuum system check and leak detection valve. The switch to turn on the vacuum system electronics is located in the rear half of the housing along with the audible alarm, LED warning light and battery mount. The vacuum system is an accessory I highly recommend since the housing already comes with all of the electronics and flood alarm built in. The M14 or M16 vacuum valve kit with the vacuum pump and tool for user installation cost around $220.00.

Two M16 accessory ports are located on the front and rear halves of the housing. These two ports can be used for electronic bulkheads to connect with the Sony hot-shoe allowing manual flash connection with Nikonos, Ikelite and S-6 sync cords. The ports can also be used for HDMI cables, surface monitor cables to connect devices like Atoms Ninja2, small monitor housings like the Nauticam NA-DP4, hydrophones, remote triggers and more. The included rubberized handgrips are removable and include stainless mounting plates to reinforce the stability of the handgrips. The handgrips are very comfortable, they adjust depending on your hand size and the thickness gloves you may be wearing. The grips include standard ball head mounts for strobe and video support arms as well as other accessories. Two additional ball mounts can be added to the housing over the support brackets for the handgrips.

The top of the housing also features two threaded fiber optic ports with caps for optical sync cords. Compatible strobes are triggered using the optional Nauticam flash trigger for Sony Alpha 7-series cameras and Nauticam universal fiber optic cables. The Nauticam Mini flash for Sony Alpha-7 ($220.00 US) triggers a verity of strobes with fiber



optic compatibility including Inon Z-330, Z-240 type4, S-2000 and D-2000 type4 as well as Sea & Sea YS-250, YS-D1 and YS-01 strobes (will not trigger S&S YS-D2). The Mini flash trigger is a manual flash and has NO TTL function. The Mini flash ships with two batteries that provide thousands of flashes per battery set. The Mini flash trigger recycles much faster than an on-board camera flash allowing you to shoot at 10 frames a second or higher it your external strobes can keep up.

Nauticam offers an N100 to N120 by 35.5 mm port adapter for the NA-A7II and NA-A7III series housings. Nauticam and Zen Underwater have a verity of port options for the NA-A7III housing using both the N100 mm and N120 mm DSLR port mount options. This will allow owners moving over from Nauticam DSLR housings to use some of their ports and to migrate some DSLR lenses by using the Metabones EF or Sigma MC-11 lens adapters. Make sure that if you are migrating from an A7 housing to an A7III housing that you check the new and expanding A7III port chart as some lens configurations differ.

The Nauticam NA-A7III housing retails for $2850.00 or £2634.00 (inc VAT). Compared to DSLR housings the Nauticam NA-A7III housing is $550.00 less than the Nauticam NA-6DMKII housing for Canon's 26.2MP 6D MKII full frame DSLR camera and $650.00 less than the Nauticam NA-D750 housing for the Nikon 24.3MP D-750 which uses an older 24.3MP Sony sensor. The reason I mention these cameras is that they are the only two full frame cameras that both retailed for the same $1999.00 price point as the Sony A7III when introduced. The only other mirrorless full frame cameras are the Leica rangefinder cameras that start at about $6000.00 and top out at over $10,000.00. As of this writing Nikon is about to ship their first full frame mirrorless body.

It is not hard to imagine that an A7sIII emphasizing video is in the works and that it will be built on the same chassis as the A7III and A7RIII. Having one housing, one lens set and one port set that will work with all three of these quite different and quite tiny camera bodies will be a remarkable advantage for working photographers.

Let me start by say that it appears Sony has arrived and that the A7III system is no longer a work in progress. While the A7III is a huge improvement over the A7II I reviewed in 2015 Sony is still filling in its lens lineup which is incomplete compared to Canon, Nikon, Olympus and more. Sony has been concentrating on the full frame premium lenses line and each new release has been very well received. I hope to see a pro macro in the 60mm range and a fisheye or fisheye zoom by the end of 2019.

For this review I selected the Sony FE 90mm F/2.8 macro G OSS lens which easily handles the larger A7RIII 42.4MP sensor and is without question the best macro lens I have ever used with any camera. The 90macro was paired with the dedicated Nauticam N100 macro port with 67 mm threads for the Nauticam flip adapter and closeup lenses.

This is the first review where I have used the super wide (122-84 AOV) rectilinear Sony FE 12-24mm F/4 G zoom. This lens was paired with the Zen Underwater N120 mount 230 mm optical glass port and the Nauticam N120 40 mm port extension. All of the N120 ports require the N100 to N120 35.5 port adapter I referenced above. Simple physics require full frame lenses to be made larger than lenses for sub full frame cameras, this is true for both mirrorless and DSLR cameras. But while lenses like the Sony 12-24mm F/4 zoom may be about the same size, the weight difference can be noticeable.

The Sony 12-24 F/4 weighs in at only 565g while lenses like the Canon 11-24 F/4, Nikon 16-35 F/4 and Nikon 14-24 F/2.8 weigh-in at 1180g, 680g and 1000g respectively. Sigma's 12-24 F/4 "art" lens for Canon and Nikon weights in at 1150g. Not apples to apples but about as close as I could get within the AOV range.

In addition the Nauticam port charts indicate that the 230 mm port gives the most well optimized results for the Sony 12-24 F/4 zoom while the Canon 11-24 F/4 and Nikon 14-24 F/2.8 zooms need to be used with the Nauticam N120 250 mm dome port


***Blue Planet Diving Center Boat, Dubrovnic, Croatia, Sony A7 III, Sony FE 12-24mm F/4 at 24mm, Nauticam housing, Two Inon Z-330 Strobes, ISO-320, F/14, 1/250th sec***


***Nudibranch, Puerto Galera, Philippines, Sony A7 III, Sony FE 90mm macro, Nauticam housing, Nauticam SMC-1 Closeup Lens, Two Inon Z-330 Strobes, ISO-100, F/14, 1/160th sec.***

for the most optimized results. These two lenses also require longer port extensions. Sony's 12-24mm F/4 zoom is a great investment, providing excellent image quality and a more useful zoom range for underwater work than the 16-35mm F/4 and F/2.8 offerings. This lens would be my first choice hands down for super wide rectilinear work.

Sony has yet to announced any FE fisheye lenses so I have been using the Canon 8-15mm F/4L Fisheye with a Metabones IV lens adapter. The Canon Fisheye zoom is paired with a Nauticam N120 140 mm Fisheye port with removable port shade and an N120 30 mm port extension. I am also experimenting with a port solution for the just released Rokinon AF 24mm F/2.8 FE lens. This lens is quite tiny as full frame lenses go and an excellent travel lens. I am also using the Nauticam SMC-1 closeup lens and Nauticam flip adapter with the 90mm macro setup.

I use an RGBlue System02-2 video light on low power as a focus light when needed and for night dives. I also use two RGBlue System02-2 lights for video. As some of you may remember I am by no means an accomplished videographer but this camera begs to be used for both stills and video. I have review the RGBlue video lights for this issue and a short example video is linked in that review. My recommendation is to shoot video using manual focus or back focus in AF then shoot without the AF.

I own two Inon Z-330 strobes and all of the stills for this review were captured with the Z-330's using 4600K and 4900K dome filters. I now have over 100 dives with the Inon Z-330's and they have exceeded my expectations for recycle times, quality of light, battery life and ruggedness in the field.

I configure the 90mm macro lens with the auto focus limiter set to the 1:1 to 0.5m focus distance which renders everything from life size, 1:1 to about 1:10 in focus. I find that most of the macro/closeup subjects I want to photograph fall well within this shooting range.


***Model on the Baron Gautsch Wreck, Rovinj, Croatia, Sony A7 III, Sony FE 12-24mm F/4 at 12mm, Nauticam housing, Two Inon Z-330 Strobes, ISO-320, F/10, 1/200th sec.***


***Giant Feather Duster Worm, Dubrovnic, Croatia, Sony A7 III, Sony FE 12-24mm F/4 at 24mm, Nauticam housing, Two Inon Z-330 Strobes, ISO-320, F/14, 1/125th sec.***

As I have said in past reviews it takes a few dives to get the hang of shooting within this rather short focusing range. By using the focus limiter I find that the lens is less likely to hunt and that the lens acquires focus more quickly than when it is

*Ring Pipefish, Puerto Galera, Philippines, Sony A7 III, Sony FE 90mm macro, Nauticam housing, Two Inon Z-330 Strobes, ISO-100, F/22, 1/250th sec.*

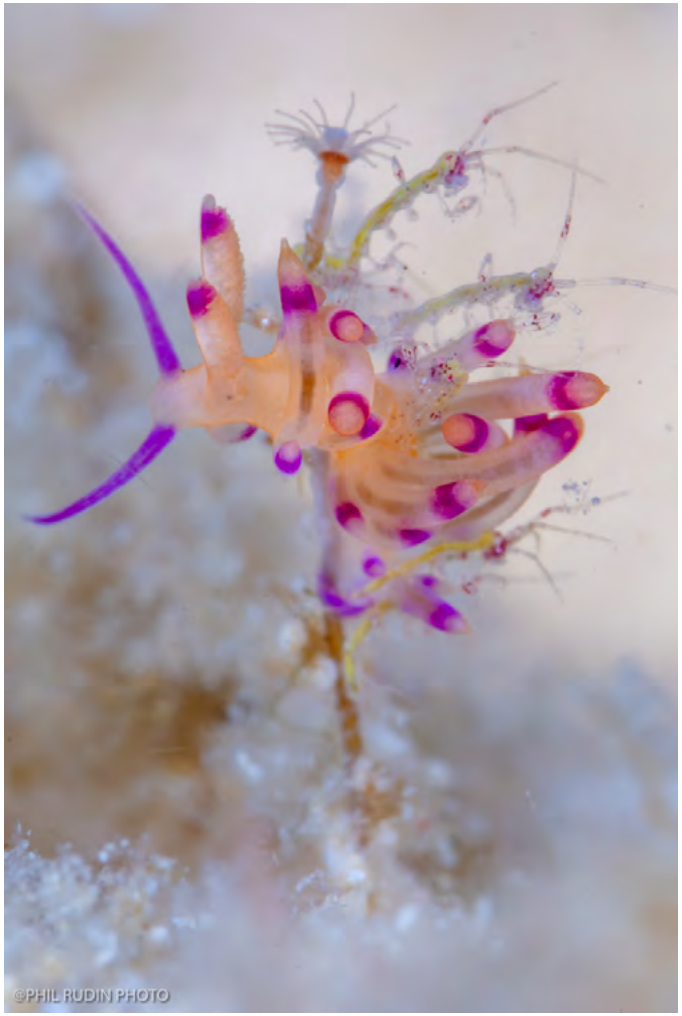

set from 1:1 to infinity. I also find that if I am more than half a meter from the subject I am probably using the wrong lens for the subject size. I have also equipped the macro lens with a focus gear and switch from AF to manual in the super menu. This allows me to rack the lens out to 1:1 and just leave it there when I want to use the SMC-1 for greater magnification. Once I have a subject in focus at 1:1 I can add the SMC-1 and just move the port closer to the subject to regain focus in the viewfinder. I also use the SMC-1 with AF but some subjects are easier to acquire in manual. I shoot macro with the AF-Continuous setting for blazing speed and accuracy.

The A7 III with the 90mm macro is much faster and more accurate than with the A7R III. The included photo of the Ringed Pipefish is a great example of the AF quality. This fish is about three millimeters in diameter and constantly moving, in AF-C the focus locked on the eye area of the moving fish and never strayed to the background.

With the Sony A7II battery life and focus speed were frustrating using the 90macro lens this is no longer the case for me with the A7III. I still believe the Nikon D5, D500 & D850 have the best focus speed with most macro lenses but the A7III has greatly closed the gap between these cameras and will not disappoint.

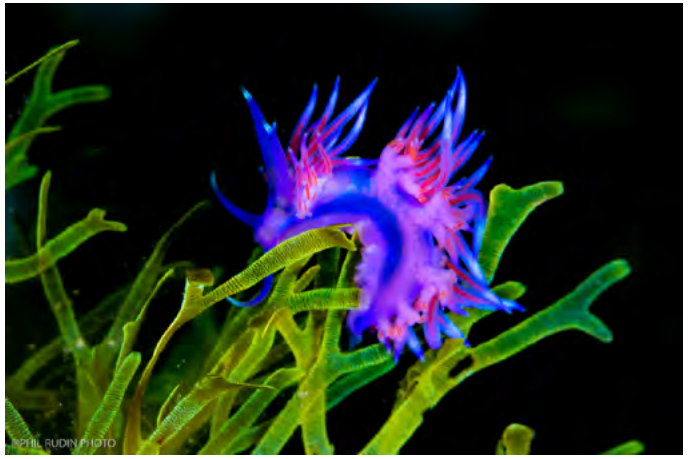
The Sony 12 to 24mm F/4 with the Nauticam zoom gear has a buttery smooth zoom action and outstanding auto focus all the way to the dome. I found the best results for both depth of field and corner sharpness at F/13 or above. Most photographers will be more than happy in the F/8 to F/16 range but for best corner sharpness F/13 or greater renders the best results. The F/13 and above settings are the case not only with Sony cameras but with all of the FF cameras I have used with like AOV lenses. For stills I used my two Inon Z-330 strobes with two Nauticam 10 inch carbon fiber float arms and two 8 inch double ball arms. The carbon fiber arms and the 230 mm port were a bit to buoyant for my taste and I ended up using four 8 inch double arms when shooting with the big port.

For those of you thinking about moving from a sub-full frame system to full frame system the reduced depth of field at any given F/stop over sub-full frame can present a few issues. First high megapixel cameras including the A7III and




*Flabelina With Skeleton Shrimp, Puerto Galera, Philippines, Sony A7 III, Sony FE 90mm macro, Nauticam housing, Nauticam SMC-1 Closeup Lens, Two Inon Z-330 Strobes, ISO-100, F/22, 1/250th sec.*

especially the A7RIII tend to highlight flaws associated with budget lenses, so chose wisely when making lens purchases. Second the shallower DOF associated with full frame cameras requires more critical focus so taking a machine-gun approach to


***Flabelina Affinis on algae, Dubrovnic, Croatia, Sony A7 III, Sony FE 90mm macro, Nauticam housing, Two Inon Z-330 Strobes, ISO-100, F/18, 1/250th sec.***

***Colman Shrimp, Puerto Galera, Philippines, Sony A7 III, Sony FE 90mm macro, Nauticam housing, Two Inon Z-330 Strobes, ISO-100, F/22, 1/250th sec.***

shooting may result in high numbers of poorly focused images.

In the water the NA-A7III is well balanced and a dream to use. All of the controls fall easily at your finger tips and after a few dives I did not find myself having to look away from the viewfinder to change my settings at all. The back focus control falls under the right thumb and works easily. I did bump the lower video record control on the back focus lever once or twice while shooting stills and ended up recorded unwanted videos. While I have attempted to move the video start button for the A7III to work only when the mode dial is set to video I have had no success. I can't seem to find a way to reassign the video button in the manual control mode either. As I said above the camera menu is a bit daunting to deal with but I am sure I will get this issue figured out at some point. After a few dives I learned to keep away from the video start control so this is no longer an issue for me.

The A7III/NA-A7III combo is an excellent balance between image quality, size, weight and cost. I now have over 100 dives using both the A7III and the A7RIII and I find the upsides for the more expensive A7RIII only out weigh the A7III if you are making extremely large prints. I'm talking forty inches (100cm) or more on the long side. While the EVF on the A7RIII is much crisper I would be hard pressed to see many other big differences for underwater photography. The difference in AF speed when using the 90mm macro with the A7 III makes it the better choice for me as a macro enthusiast.

While 20MP seems to be the sweet spot for M43 cameras and 24MP for APS-C cameras image quality between these two formats is all but the same to me. The under $2000.00 24.2MP A7III full frame cameras offer a clear jump in overall image quality and low light ability versus any of the sub full frame offerings at very close to the same overall cost depending on lens selection.

If you are seeking the very best in image quality and a full frame camera with quality lenses is within your budget the Sony Alpha III series cameras should be at or near the top of your wish list.

Thanks to the Nauticam USA team for assistance with equipment used for this review. I would also like to thank Asia Divers and El Galleon Resort in Puerto Galera Philippines. Also Blue Planet Diving Center in Dubrovnik Croatia and Diving Rovinj in Rovinj Croatia for the excellent diving experiences to compile this review.

Phil Rudin

www.nauticamusa.com