

Sony FE 14mm F/1.8 GM lens

by Phil Rudin

Sony has a new compact ultra wide-angle very bright 14mm F/1.8 GM lens with stunning corner-to-corner resolution at all apertures.

This ultra-wide rectilinear lens is designed for the Sony series full-frame sensor cameras and can be used with sensor stabilized cameras or without stabilization on Sony E-mount cameras.

The 14mm F/1.8 has a 114° fixed angle of view on full frame Alpha series cameras making it an excellent ultra wide angle lens for underwater photography. Using the 14mm F/1.8 with the E-mount APS-C mirrorless cameras the equivalent focal length is 21mm. While this is a useful focal length the Sony-E series 10mm to 18mm F/4 OSS zoom lens would be more appropriate for underwater use with APS-C cameras using a smaller dome size.

With a minimum focus distance of just 25cm (9.8 inches) the 14mm lens will focus all the way to the Zen Underwater DP-230 dome glass with a maximum reproduction ratio of 0.1X.

The optical design includes 14 elements in 11 groups including two XA (extreme aspherical) and one

standard aspherical element to control astigmatism, field curvature, coma, distortion and additional spherical aberrations for a high degree of sharpness. One super ED element and two extra low dispersion elements help reduce chromatic aberration and color to improve clarity and color neutrality.

Nano AR coating is applied to reduce surface reflections, flare and ghosting for increased contrast. Color rendering is excellent even in bright lighting conditions. The nine rounded diaphragm blades offer excellent bokeh for a lens this wide even wide open at F/1.8. This lens features two advanced inner-focus XD linear motors for super fast and accurate auto focus lock-on as well as smooth, quiet operation.

The lens also weighs a mere 460 grams (1lb) with dimensions of 83mm X 99.8mm (3.3 X 3.9") including the built-in hood. By comparison the Sigma 14mm F/1.8 DG HSM art lens for Sony weighs in at 1170 grams (2.6 lb) and 95.4 X 126mm (3.76X4.96").

The Sony FE 14mm also has advanced moisture sealing and dust proofing along with a customizable



focus hold button above the AF/MF switch. It also has an aperture ring on the body of the lens for those shooting above water.

The front glass element is rounded so a filter can't be directly mounted to the front of the lens. The lens does however have a mounting point on the rear of the lens for mounting gel filters and includes a plastic template for cutting the filters. After market kits also allow fixed glass filters to be added to the rear of the lens.

Sony has supplied an excellent lens cap that slides over the lens hood and locks securely in place. This is one of the best caps I have used for a lens with an integrated hood and is much like the cap for the Sony FE 12-



24mm F/2.8 zoom.

The lens is excellent for U/W work and I have also been very impressed with this lens for travel, landscape, architecture and astro. NiSi makes an excellent filter holder and a verity of filters designed for the this lens if you are interested in travel and landscape.

The Sony FE 14mm F/1.8 GM ships with front and rear caps, a built in lens hood, plus a quality padded lens bag for storage and transport. The Sony FE 14mm F/1.8 GM has a retail price of around \$1588.00/£1349.00 and the lens is available from your local authorized Sony dealer.



Zen Underwater DP-230 port

Zen Underwater was founded in 2007 with the single goal of designing and building the highest quality optical glass dome ports available.

I chose to pair the Sony 14mm F/1.8 with the outstanding Zen-DP-230-N-120-1124D Optical Glass Port for Nauticam housings.

The DP-230 (230mm/9 inch) is the largest dome port in the Ft. Lauderdale, Florida based Zen dome port lineup. This 100 meter rated port is designed for the Nauticam N120 port mount and features a large inner diameter to accept ultra wide zoom lenses like the Canon 11-24mm F/4, Sony FE 12-24 F/4 and Sony FE 14mm F/1.8 which all have fixed lens hoods.

Zen Underwater dome ports are state-of-the-art made from the highest quality materials using cutting edge optical technology. Like all of the Zen ports I have reviewed for UWPMAG.com the fabrication process begins with BK7 dome glass for outstanding optical performance.

I chose the DP-230 port for its large 120mm radius of curvature because it is excellent for full

frame cameras using ultra-wide rectilinear lenses. For shooting over/under images the large glass surface minimizes water beading and creates a smooth transition from air to sea. Annoying reflections off the camera and lens often seen in the final image while shooting with acrylic ports at or near the surface have been all but mitigated.

Zen Underwater uses a magnesium fluoride broadband antireflective coating on the interior dome element which minimizes the camera/lens reflections.

The Zen DP-230 weights in at 2.2kg (4.8 lbs) the exterior diameter is 250mm (10") with an overall height of 110mm (4.3"). The port ships with a quality neoprene protective cover which is secured over the two lens shade blades. The two blades are held in place by eight allen screws which are removable for shooting with fisheye lenses that have the 8mm circular (360 degree) image.

The Zen Underwater DP-230 dome port retails for \$2099.00/£1860.00 (inc VAT). Nauticam's recommended port configuration includes the N100 to N120 35.5 mm port adapter II with zoom/focus knob which retails for \$543.00/£443.00 and the N-120 30mm extension ring with port lock which retails for \$345.00/£256.00.

The N100-N120 port adapter II allows the 120mm dome port mount to be mated with the 100mm port opening on all Nauticam housings for Sony full frame cameras from A7R IV and newer. The older N100-N120 35.5mm port adapter type I is used for older cameras.

Nauticam's N-120 30mm extension ring with lock has an improved inner locking device and installs between the N100-N120 35.5mm port adapter II and Zen DP-230 dome port. The extension moves the port glass away from the front



Loggerhead Turtle, Teardrop Reef, Palm Beach, Florida, Sony A1, Sony 14mm FE F/1.8 lens, Nauticam NA-A1 housing, Zen 230mm dome port, two Inon Z330 flashes, ISO-320, F/14, 1/160th sec

of the lens to achieve the sharpest image quality possible.

Nauticam does extensive testing to select the very best dome and extension combination for each new lens, I recommend that users consult

Nauticam's port charts and use the recommended combinations for best results. This is not a DSLR lens adapter that sits between the camera and lens.

As a sidebar Megadap is now shipping a Nikon Z autofocus mount adapter that allows Sony mirrorless E mount lenses like the FE 14mm F/1.8 to be used with the Nikon Z line of camera bodies. This adapter allows the Z-cameras to take full advantage of the Sony mirrorless lens system.

Field Testing The Lens And Port Combination

I tested the Sony FE 14mm lens and Nauticam DP-230 dome port combination during trips to the Flower Gardens in Freeport Texas and a few local Florida dive sites.

My test system included the Sony A1 camera body, the Nauticam NA-A1 housing and the additional equipment items listed above. For lighting I also used two Inon Z-330 type II flashes fired with the UW Technics TTL flash trigger for Sony I reviewed in the last issue of uwpmag.com. I also used Nauticam fiber optic cables and four Nauticam arms.

The large interior volume of the DP-230 port was more than buoyant enough to negate the need for my ten inch Nauticam float arms. With the eight inch arm configuration the housing was balanced to my liking and I had no wrist fatigue even after several dives per day.

With the air pocket captured by the DP-230 the port had a tendency turn the port glass up a bit this was overcome with little difficulty. You can refer to my full review in uwpmag.com issue #120 for more information about the complete A1 camera and

James, Flower Gardens West Bank #2, Freeport, Texas, Sony A1, Sony 14mm FE F/1.8 lens, Nauticam NA-A1 housing, Zen 230mm dome port, two Inon Z330 type II flashes, ISO-640, F/13, 1/30th sec

housing system used for this review.

The Sony 14mm lens can be directly mounted to the A1 body and installed into the housing from the rear while the dome port and extension are in place. With larger lenses like the Sony FE 12-24mm F/2.8 zoom the lens and gear need to be installed from the front of the housing and then the port and extension are installed over the lens.

Be sure that you have a fully charged battery and one or two formatted cards in the camera. Slide the camera and tray into place inside the front half of housing and lock the tray with the locking lever. Then mount the flash trigger in place on the camera hot shoe making sure that it is pushed all the way forward.

If you are preparing the system for a dive make sure the moisture alarm in the back half of housing is turned on then secure the back of the housing to the front using the two locking levers. Next turn on the camera and flashes, then test fire the flashes to be sure everything is working properly. Finally remove the vacuum valve cover, draw the vacuum using the Nauticam pump and replace the cap.

The Sony 14mm G Master lens earns the GM badge as a top professional lens performing very well behind the DP-230mm dome port below water and while shooting over/under images.

I shoot split images at F/11 to F/16 (the highest F number) for greatest DOF in overhead sunlight keeping the sun to my back when possible. I also use the Inon Z-330 Type II flashes for lighting on



the underwater side in some cases. I found the lens and port combination excellent for wreck scenes, reef scenes, model photography and close focus work.

The lens will focus at or near the port glass and will work well as a close focus wide angle lens for larger subjects like octopi, scorpionfish, turtle portraits and more. I prefer to use the Canon 8-15mm fisheye lens with a smaller 100-140mm fisheye dome port for smaller CFWA subjects.

The auto focus is fast and very accurate using the A1 body in both AF-S and AF-C modes. With all of the 35mm full frame sensor cameras I have used the best results for both depth of field and corner sharpness come at F/13 or above. Most non-pixel peeping underwater photographers will be more than happy shooting this lens in the F/8 to F/16 range but for maximum corner sharpness F/13 to F/16 renders the best results. divers and other.

When shooting a lens this wide with on-sensor image stabilization you can get away with shooting at a flash sync speeds as low as 1/15th of a second with static subjects. Unless I am trying to create image blur I keep the flash sync in the 1/30th to 1/400th range since everything underwater is in motion making image blur common at slower shutter speeds.

With the excellent high dynamic range and low noise levels of the A1 bumping the ISO to 640 and above to maintain higher F/numbers is a breeze.

I prefer auto white balance which seems most effective when shooting stills and AF-C focusing using the focus area tracking spot at the medium setting. I also use multi metering and center metering modes with wide lenses.

I also at times use the Inon 4600K warming filters on the Z-330

type II flashes to accentuate warm subjects while enriching blue water backgrounds. Inon also offers a 4900K warming filter which is good for enriching skin tones. The tradeoff for these filters appears to be about a one stop loss of light output, a small price to pay for a verity of color output choices. I also keep the front of the Z-330 type II flashes well behind the dome keeping them parallel to each other. This helps to prevent backscatter and harsh side lighting and flare from entering the frame.

For wider shots with greater camera to subject distances I turn the strobes about thirty degrees outward but still in line with the grips this helps to reduce backscatter.

When shooting subjects very close to the dome the flash heads need to be pulled in close to the dome. When using a lens as wide as 14mm (114 degrees) backscatter and flare are common if flashes are not properly positioned for every shot. Just like with fisheye lenses looking into the corners of the EVF or LCD while composing the image is important. Items like your fin tips, strobe cables, unwanted diver parts, sun flare and more can sneak into the corners of your image and ruin an otherwise excellent composition.

Because the lens can open all the way to F/1.8, I of course took a few shots wide open. As you would expect



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Bill Dutton image, The Author holding the Sony A1, Sony 14mm FE F/1.8 lens, Nauticam NA-A1 housing and Zen 230mm dome port.

this setting is great for above water use but behind a dome port corner sharpness falls off dramatically while the center remains tack sharp.

If you use Sony or Nikon full frame mirrorless cameras I would highly recommend this lens and port combination for its ease of use, total image quality, cost v. quality and more. The Sony 14mm mirrorless lens is ideal behind a 230mm port while most DSLR 14mm lenses need the 250mm port for best results.

Thanks to the Nauticam USA team for assistance with equipment used for this review. Visit your

authorized Nauticam, Sony and Zen Underwater dealers for local pricing and further details.

Phil Rudin
Instagram



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