

Sony FE 90mm F/2.8 Macro G OSS

by Phil Rudin

My most frequently used Sony lens is the FE 90mm F/2.8 Macro G OSS. This is a full-frame telephoto macro with 1:1 (life size) magnification that allows you to get very close to the subject.

This lens has an aperture range from F/2.8 to F/22 with a 27 degree angle of view and a minimum focus distance of 28 cm (11.02 inches). The optical design has fifteen elements in eleven groups with a front filter size of 62 mm. The direct drive super sonic wave AF motor internal auto focus system is fast, quiet and extremely accurate especially with the most current A7r III/IV and A9/II cameras.

The lens is 79 x 130.5 mm (3.11 x 5.14 inches) and weighs 602 g (1.3 Lb). It has exceptional image sharpness and the nine rounded diaphragm blades and specialized lens elements create a very smooth out-of-focus bokeh when shooting both macro and portraiture.

The fast F/2.8 aperture at or near life size allows for extremely shallow depth of field and a Nano AR lens coating helps to eliminate flare and ghosting associated with similar lenses.

The OSS designation stands for Optical SteadyShot image stabilization which works alone or in tandem with the IBIS (in body image stabilization) found in the Sony A7 and A9 series cameras. It features a focus limiting system with three options - Full which is 0.28 m (1:1) to infinity, 0.5 m to infinity (most useful above water) or 0.28 m to 0.5 m a very useful range for underwater macro and super macro because it reduces the amount of hunting the lens does especially with older versions of the A7 series.

The lens also has a large manual focus ring that slides back and forth to quickly shift between auto focus and manual focus. I have found this feature very useful above water, underwater you can easily shift from AF to manual in the camera's super menu when using a manual focus gear. The push pull focus ring is a feature of several Sony FE lenses

Juvenile Highhat, Sony A7R III, FE 90mm macro, Nauticam housing, S-Turtle in TTL, Two Inon Z-330 Strobes, ISO 50, F/4, 1/250th sec.



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and it can be bumped from the AF to manual position when installing a lens into any housing with a dome or macro port. Be sure to do an AF test once the camera and lens are installed if you intend to use auto focus. The lens also has a focus hold button on the left hand side which can also be reprogrammed for things like Sony's stellar eye auto focus.

The lens also has professional quality weather sealing and ships with front and rear caps, a lens hood and a storage pouch. I prefer the slightly wider 27 degree angle of view and slightly shorter minimum focus distance of 28 cm on full frame to the 100mm 24 degree 30 cm and 105mm 23 degree 31.4 cm macro lenses.

Because the Sony 90mm macro can also be directly mounted to APS-C cameras such as the Sony A6100, A6400 and A6600 series the lens also has an equivalent focal length of 135mm with an AOV of 18 degrees. I have found this particularly useful with the new Sony A7R IV when switching between the full frame 61MP and 26.2MP APS-C modes. This gives me both a 90mm and 135mm macro on every dive by simply toggling between the two. You can find further details of how this works and sample images in my Sony A7R IV/Nauticam NA-A7RIV review in this issue of uwpmag.com.



Field testing the Sony 90mm F/2.8 Macro

I have tested this lens with Sony A7R II/III/IV camera bodies along with Acquapazza, Ikelite and Nauticam housings under a verity of shooting conditions including blackwater dives.

The newer Sony A7 III, A7R III/IV, A9, A9 II, A6400 and A6600 cameras have by far the best auto focus systems. With the current A7R IV I have been using the newest auto focus features.

I configure the 90mm macro lens with the focus limiter set from 1:1 to infinity in auto focus. On past Sony A7 cameras I always set the focus limiter from 1:1 to 0.5 meters 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 that shooting range.

As I have said in past reviews it takes a few



(Left) Polka-Dot Batfish, Sony A7 II, FE 90mm macro, Nauticam housing, Two Inon Z-240 Strobes, ISO 200, F/11, 1/125th sec.

(Above) Yellow Headed Jawfish, Sony A7R II, FE 90mm macro, Nauticam housing, Two Inon Z-240 Strobes, ISO 200, F/14, 1/250th sec.



Greater Blue-Ringed Octopus, Sony A7R III, FE 90mm macro, Nauticam housing, two Inon Z-330 Strobes, ISO 200, F/18, 1/125th sec.

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 set from 1:1 to infinity. With the A7R IV set to AF-C with tracking flexible spot the camera does not hunt like it did with prior versions set to infinity.

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 if I want 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 regaining focus in the viewfinder. I also use the SMC-1 with AF but some subjects are easier to acquire with manual focus.

The A7R IV has a new imaging processor and autofocus algorithms which include realtime tracking in AF-C. This auto focus system works so well that I have abandoned back button focusing used with the A7R II & III and AF-S relying instead on the Lock-on AF Expanded Flexible Spot in AF-C mode. This combination



Pelagic Zoea, Blackwater dive, Sony A7R III, FE 90mm macro, Nauticam housing, ISO 200, F/13, 1/250th sec.

allows me to lock focus with a half press of the shutter and then drag the focus point around the frame while maintaining the original focus area. This means I can focus on an animal's eye in the center of the frame then drag the eye around the frame for the best composition without losing the tack sharp focus on the eye. Lock-on expanded flexible spot also allows you to adjust the speed that you drag the focused point around the frame. I have changed the factory default setting and sped up the movement to meet my needs. The A7R III with the latest firmware update and Sony A6400

and A6600 cameras also offer similar features.

I find blackwater diving to be one of the most challenging types of diving for an underwater photographer because of the near black lighting conditions and the constant movement of the subject, diver and camera. On my last blackwater dive in 680 to 700 feet of water we drifted over seven miles in an hour and a half dive. Trying to keep a one or two centimeters wide subject in view and in focus while drifting at over four MPH is more than a bit demanding!

I shoot most of the macro at F/11



Bubble Coral Shrimp, Sony A7R III, FE 90mm macro, Nauticam housing, two Inon Z-330 Strobes, ISO 200, F/18, 1/125th sec.

to F/22 at ISO 50 to 200 and shutter speeds from 1/60th to 1/250th. I like using F/2.8 to F/4 for very shallow depth of field and to separate subjects from a dull background. I have seen complaints on the internet about Sony FF cameras only shooting as high as 1/200th sec. This has not been the case for me I have found the 1/250th setting to be very reliable using a flash trigger and fiber optic cords. Perhaps issues with wired strobes or unsupported strobes may have caused these issues. I have also found the 5.5 stops provided by the IBIS in the Sony FF cameras to be very useful for

macro.

All of the housing systems I have used with the 90 macro have a direct mounted port system and offer manual focus gears to custom fit the lens. They also offer the 67mm port threat for mounting flip-adapters, closeup lenses, filters and more. I often use +5 to +15 C/U lenses to increased magnification. These closeup lenses should only be used to achieve super macro going beyond the 1:1 (life size) that the lens can do on its own. I frequently see photographers shooting from distances far beyond 1:1 while using a C/U lens which to me is



Mexican Tetra, Sony A7R II, FE 90mm macro, Ikelite housing, two Ikelite DS-161 Strobes, ISO-125, F/8, 1/250th sec.

defeating the idea of having a lens that focuses to life size in the first place.

For macro I am always using two strobes unless I am using a snoot and even then I may use more than one strobe. I have also used continuous light sources some with colors and a ring-flash. I find the lighting possibilities with two or more strobes to offer the highest number of lighting configurations.

If you own a Sony full frame camera system and have an interest

in macro photography the Sony FE 90mm F/2.8 is a must-have lens. Sony also offers a FE 50mm F/2.8 Macro in the \$550.00 range if larger fish portraiture are of interest.

The Sony FE 90mm F/2.8 Macro G OSS lens now retails for around \$1098.00 to \$999.00 on sale £1079.00 to £799.00 on sale at your authorized Sony retailer.

Phil Rudin

www.instagram.com/philrudinphotography

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