

Nikonos 13mm Conversion for Sony Mirrorless

By Matthew Sullivan

I imagine many of those reading this are familiar with the preview I did for the Nikonos RS 13mm conversion for Sony mirrorless cameras. If you haven't, fear not! Everything covered there will be covered in this full review—and much more.

Originally released for the Nikonos RS film camera in the 1990s, the Nikonos RS 13mm has a cult following in the underwater photography realm—and with good reason. The lens was one of the very first water-contact optics and is legendary for its phenomenal image quality. However, with the rise of mirrorless cameras, it seemed the 13mm might have reached the end of its life for underwater photography with the exception of some DSLR stalwarts. Fortunately, my friend Isaac Szabo came to the rescue.

Isaac took it upon himself to give the Nikonos RS 13mm new life in the mirrorless realm. He figured out how to take the optics of the 13mm fisheye, install them in the body of



Blistering detail from the Nikonos RS 13mm lens: A manatee hovering in the crystal-clear waters of a North Florida spring (Sony a9, Nikonos RS 13mm f/1.8 fisheye, Seafrogs housing, dual Kraken Sports KS160 strobes, f/10, 1/50s, ISO 160)

a native Sony lens, and rehouse the underwater optics into custom ports. The Nikonos 13mm now performs exactly like a native Sony lens, with full aperture control and autofocus, since it is, in fact, a native Sony lens but with introduced optics.

Even on a DSLR, the Nikonos RS 13mm was known for its phenomenal overall image quality. The fact it came in a very small package was a welcome bonus, but the optical performance is why this lens is still so highly regarded. As with all the best

underwater optics, the Nikonos 13mm was originally designed specifically for underwater use. It is a water-corrected optic, meaning it corrects for optical issues that can plague a “land” lens behind a dome.

Isaac's conversion still uses all of



Clockwise from top: The optics of the 13mm mounted in the Sony 50mm body with accompanying distance optimizing “focus” gear (left) and the custom Nauticam port with RS 13mm glass (right); top-down view of the port with the distance optimization ring on the lens set to 10”; the Nikonos RS 13mm converted lens mounted on a Nauticam NA-A7II housing

the original optics—both the water-contact dome and the inner lens elements—so there is no hit to the image quality. In fact, Isaac has spent months fine-tuning his conversion and has not only improved the overall image quality, he has allowed the lens to perform even better and at significantly wider apertures than previously. The sharpness and detail

rendered by the Nikonos 13mm is truly staggering. It has become a fun pastime to pixel-peep the files I shoot with the lens just to revel in the ridiculous clarity.

The Nikonos 13mm gives a 170-degree field of view, wide enough for just about everything, and it is a true fisheye lens. It is well known that “land” fisheye lenses perform better

A freediver (Ariana Paone) exploring a spring in Florida, USA: Believe it or not, this image was shot at f/2! Bottom: As this 100% crop shows, the detail is incredible for any aperture, much less such a wide aperture (Sony a9, Nikonos RS 13mm f/1.8 fisheye, Seafrogs housing, f/2, 1/1000s, ISO 400) (Right 100% crop)





A meaty goliath grouper hangs out with some baitfish on a deep wreck, Florida, USA: The conversion allows the Nikonos RS 13mm to be shot at wider apertures without an image quality hit, meaning lower ISOs can be used and faster shutter speeds. Despite being at 90-plus feet, I was able to shoot ISO 100 and still get blue backgrounds thanks to shooting a wider aperture than I normally would (Sony a9, Nikonos RS 13mm f/1.8 fisheye, Seafrogs housing, dual Retra Flash, f/8, 1/50s, ISO 100)

behind large dome ports than small ones. Small domes are convenient, cheaper, and better for close-focus wide-angle photography, but often these come at the expense of image quality compared to a big dome, especially in the corners of the frame. The Nikonos 13mm, despite its tiny size, does not suffer these same shortcomings.

The Conversion

Isaac could explain the technical aspects of the conversion far better than me, but essentially, he removes all the optics from the 13mm lens itself and installs them into a Sony 50mm lens. It's coincidence that the 50mm houses the new elements perfectly. He also removes the water-contact glass element from the body of the Nikonos



A fall leaf, Florida, USA: The original Nikonos 13mm could not focus right onto the front glass. Now it can! It makes for exceptional close-focus wide-angle capabilities. This leaf is only about 1.5–2 inches across. It is also wonderful being able to shoot at very wide apertures; it gives a unique look to wide-angle underwater pictures (Sony a9, Nikonos RS 13mm f/1.8 fisheye, Seafrogs housing, f/3.2, 1/1600s, ISO 800)

13mm and mounts it in a custom-built port, designed for whichever housing is being used. Nauticam and Seafrogs are currently available, and Isotta will be soon. Other brands such as Marelux will potentially be made available, based on demand.

While it may be difficult to believe for those who are familiar with the Nikonos 13mm lens on DSLRs, Isaac has made some tweaks to the

performance of the lens to make it even better. I touched on the improved image quality earlier, but that is not all. Post conversion, the lens is capable of focusing right down onto the glass of the port, which the original Nikonos 13mm lens could not do. This is extremely useful for close-focus wide-angle shooting, as the difference between a subject right on the port versus two inches away, at such wide



The small overall size means you can get up nice and personal with your subjects like this huge American alligator, Florida, USA (Sony a9, Nikonos RS 13mm f/1.8 fisheye, Seafrogs housing, dual Kraken Sports KS160 strobes, f/8, 1/20s, ISO 800)

The largest fish in the sea, a whale shark, cruises the blue waters off Isla Mujeres, Mexico: The Nikonos RS 13mm is the perfect big-animal lens—wide, small, and exceptionally sharp (Sony a7RII, Nikonos RS 13mm f/1.8 fisheye, Nauticam housing, f/5, 1/320s, ISO 320)

focal lengths, is dramatic in terms of how large it appears in the frame.

I have yet to be able to induce any flaring or ghosting. Both of these are known to plague water-contact optics, so not having to worry about them is fantastic, especially for my work, a lot of which is done in bright, shallow water. There have been a few instances when friends have

found an example of flaring in one out of several hundred images, but personally, I have not encountered this in my personal shooting.

By removing all the optics and creating his own ports, Isaac has managed to further shrink the already small footprint of the Nikonos 13mm. A removable shade is also a welcome



A huge, prehistoric-looking longnose gar beneath some spectacular sun rays, Florida, USA: Some water contact optics have a tendency to suffer from flaring. I have yet to encounter even a bit of flare with the Nikonos 13mm on Sony mirrorless. Sunballs, sunbeams, backlight, and so on, nothing has yet to produce a flare (Sony a9, Nikonos RS 13mm f/1.8 fisheye, Seafrogs housing, dual Kraken Sports KS160 strobes, f/6.3, 1/100s, ISO 500)

addition for those special occasions when you may need to get just that tiny bit closer to a subject on the bottom.

An interesting change Isaac made to the lens is the ability to maximize image quality for the distance at which you are shooting your subject. For example, if you are shooting a subject a foot from the front of the lens, you can actually set that distance on the lens to maximize the image quality

at that distance. It does not degrade image quality at other distances; it just maximizes it at your set distance. A key printed on the lens provides a guide to setting the proper optimal distance. For Nauticam shooters, full control over the distance adjustment is now available underwater. For my own rig, I currently have to preset the distance optimization ahead of time.

Final Thoughts

The mirrorless realm is still waiting for a native fisheye lens. The big three—Canon, Nikon, and Sony—all have neglected this niche lens, and those who want to use fisheyes have been forced to use an adapter. At least for Sony users, this is no longer the case: The Nikonos RS 13mm is the best fisheye that has ever been made and being able to use it flawlessly on Sony mirrorless cameras has given new life to a legendary optic.

The Nikonos RS 13mm is objectively better than other fisheye options available to underwater shooters. Fisheyes are arguably the most important lens in an underwater photographer's gear bag, so why not get yourself the best fisheye available? Keep in mind, however, that the lenses still pop up on eBay but are being snapped up faster and faster now that they can be used again.

If you'd like your own conversion, please email Isaac. Note that he charges US\$1,000 for the conversion—Nikonos RS 13mm and Sony 50mm not included. The latter can regularly be found for less than \$200.

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Matthew is a Florida-based wildlife photographer who has been diving since he was 10 years old. He has traveled extensively, visiting well-known dive destinations such as Guadalupe Island, Indonesia and the Philippines, but he also likes to dive closer to home in Florida. When not taking pictures underwater, he can be found trekking mountains, or exploring national parks and rainforests in search of new adventures and wildlife encounters.

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