

Nikon's Creative Lighting System Underwater

by Don Silcock

Prior to the digital revolution, in the days when we were all shooting film, the ability to use Nikon's Through The Lens (TTL) flash system for macro underwater photography was a major bonus and in over 90% of circumstances it would deliver extremely accurate exposures.

All that changed when Nikon released the D100, the DSLR camera that convinced most underwater photographers using Nikon equipment that it was time to "go digital". TTL compatible third party strobes would no longer work with the new DTTL flash system and it looked like we had no option but to use manual for both wide-angle and macro.

Not that I did not try though, and my SB80DX flash housing acquired more frequent flyer points than I had, on its return flights to its manufacturer, as I tried to get it to work reliably.

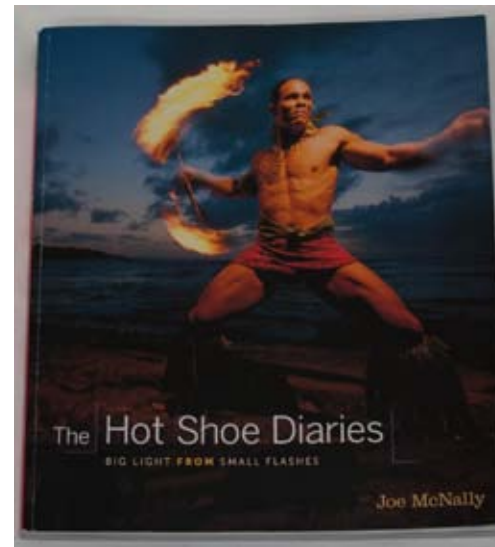
I eventually gave up and moved on to using manual only, figuring that I was over TTL.... then a couple of months ago I bought Joe McNally's fantastic book, the Hot Shoe Diaries.

Joe is a New York based photographer who manages to combine superb people photography with some of the funniest writing you are likely to ever find in a "how to" photography book. His images are simply stunning and he gets the results he does by pushing the boundaries of Nikon's Creative Lighting System – CLS.

Joe's book and his DVD with Bob Krist on the Nikon CLS literally turned the lights on for me with the use of flash and have made a huge difference to my travel photography images.

So... having come to realize the potential of Nikon's flagship flash, the SB900, above the waves I was naturally drawn to its use below them!

Of particular interest was the ability to adjust the light beam emitted from the SB900, using its custom settings menu, and the Flash Value (FV) Lock functionality that I had found so useful in difficult lighting situations with my travel photography.



SB900 Illumination Pattern

Nikon provides three options for this in the SB900's Custom Settings menu:

- Standard: Whereby the light emitted from the flash matches the image circle of the camera, providing even lighting across it but with some light fall-off at the edges.

- Center Weighted: Here the light emitted is stronger in the center of the image and falls off more at the edges and Nikon recommends this lighting for portrait type shots.

- Even: This lighting minimizes the light fall-off at the edges, making it good for situations where you need "even" lighting across the whole image.

For macro underwater photography I was really interested



to see how the center weighted light pattern would affect close up portrait type shots, particularly the ones where the subject is surrounded by reflective matter such as bright sand.

I was hoping that the functionality would allow me to isolate the subject more easily than I can do with my Inon 240Z strobes on manual power. I have long sought an easy way to do this, including homemade "snouts" that would direct

the light, but all to no avail...

SB900 Flash Value (FV) Lock

With photography, every so often I have an “aha moment” when it suddenly dawns on me how other people manage to get some of the results they do.

Flash photography above water has always been something of a dark art to me (pardon the pun, but it’s literally true...). I have rarely been satisfied with my results and when I was, I never really understood what I had done to get them!

Yes.... I tried reading the Nikon flash & camera manuals, but rarely have got past the first few pages before being overcome with an irresistible urge to drink beer or have a wee nap - I mean who writes that stuff?

FV Lock was such an aha moment and my investment with Mr McNally was paid back instantly – it’s the best thing since sliced bread!

Basically what FV Lock does is allow you to position the camera focus point on the area of the potential image you want perfectly exposed, press a button on the camera that you have assigned the function to, and the SB900 emits a pre-flash to establish the light required.

You then recompose the overall image, press the shutter and bingo you

have the result you wanted! This even works if you change the aperture or shutter speed, because the smart stuff inside the SB900 compensates for the changes.

So Which Housing?

A quick email to the Australian distributor of my camera housing left me with heart palpitations at the cost for their version of a strobe housing, so I turned to the underwater photography oracle and posted a question on the Wetpixel forums...

Sure enough, the very next day several responses had come back and I was put on to the Korean manufacturer Patima, who made what appeared to be a very slick looking housing for about 60% of the price of the European one I had previously been quoted.

An Internet search revealed Fun In Taiwan, which I at first thought must be some kind of massage parlor, had the Patima housing in stock & were very responsive, managing to get me everything I needed and shipped to me two days before I departed for 2.5 weeks diving at Tufi in Papua New Guinea.

The wharf & house reef at Tufi has a great selection of critters in amongst all the flotsam & jetsam laying on the slope of the main fiord, so I figured I would have all the



subject matter I needed to test out the SB900.

But What About The Shadows?

Conventional wisdom is that the big potential downside of using a housed strobe is that because it’s only possible to fire one unit on iTTL, harsh shadows are created which detract from the overall effect of the image.

This was the same with DTTL (when it worked...) so I was familiar with the issue, but decided to give it a try anyway by using a remote slave. I have some Sea & Sea YS90 & YS30 strobes I keep as back-ups and I reckoned the YS30 should provide the additional light to reduce the harsh

shadow associated with the use of a single strobe.

I tried this set-up quickly at home before leaving for Tufi, with the Patima & SB900 wired in to the housing, which requires the connectors in the Subal housing to be set to the TTL connection on the small circuit board inside the housing, and it seemed to work.

I set the YS30 on to its slave mode and I seemed to get good exposures, but when I tried the same set-up underwater at Tufi wharf it did not work.

What seemed to happen is that when the FV Lock function on the SB900 is initiated, the pre-flash also fires the YS30 slave and it fools Nikon’s CLS system into calculating

the wrong overall exposure. The same thing happens when I did not bother with the FV Lock and just fired the shot, so I quickly retired the YS30 again and went with the single SB900 to see what the results would actually be like.

The Roger Steene Approach

About 6 years ago I did a Milne Bay trip on Ron Vanderloos boat MV Chertan and on the same trip was Roger Steene – an incredible character and the godfather of Australian underwater photography.

Roger's images are something else and I learned two big things from him on that trip. First of all I found out about the Nikkor 70-180mm macro zoom that Roger swears by and I have subsequently become a great fan of...

Secondly, Roger only used one strobe – a Nikon SB102 on TTL, which he also swears by. At that point in time he was shooting film and given the results he gets I suspect he probably still is! He mounted the strobe at zero degrees above the port, laying almost parallel to the port but angled slightly down.

He was adamant that this was the best way to take fish & critter portraits, so when I hit the problem with the YS30 I decided that it was time to see if the same approach

would work for me.

Above Water Test - FV Lock

The set-up I used for the various tests was a Nikon D300 mounted in a Sam Chae modified Subal D200 housing, Nikkor 70-180 macro zoom & composite EXR port and SB900 & Patima housing mounted a la Roger Steene as shown in Image 1.

I assigned the FV Lock function to the AE-AL button on the back of the D300 using the Custom Settings menu – the Subal housing has an external control for this button.

I used the D300's Custom Setting's menu and the AF-S setting on the camera to set the auto-focus so that I could half-press & hold the shutter button to lock the focus point while composing the overall image.

Before I took the rig underwater at Tufti wharf I did some test shots in my room and Test Shot_01 shows the FV Lock activated on the white area of the Wet Wipes container right next to the Made in Australia logo, whereas the Test Shot_02 images was with FV Lock activated on the metal cap of the O Ring grease container.

It's very clear that the exposure on the first shot is perfect for the selected area and the rest of the bright white plastic is also virtually spot-on, but the O Ring grease container is under-exposed.



Test Shot_01 with FV Lock on the area circled in red

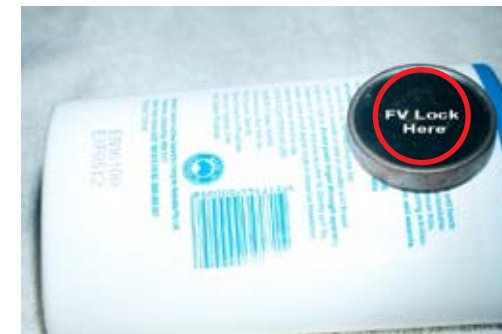
On the second test image the top of the O Ring container is perfectly exposed, but the white plastic of the Wet Wipes container is quite badly over-exposed.

Underwater Tests - FV Lock

Using the same set-up I looked around the wharf area for two objects that would offer similar contrast to the ones in the above water tests, but the best I could find initially was a Coke can.... So I did two test shots, UWTest_01 with FV Lock activated on the dark area of the can above the Coca Cola logo, which exposed that area well but over-exposed the rim of the can.

UWTest_02 was taken with the FV Lock set on the rim of the can, which resulted in a perfect exposure for that area.

I think these two shots illustrate the value of FV Lock underwater &



Test Shot_02 with FV Lock on the area circled in red



UWTest Shot_01 with FV Lock on the area circled in red



UWTest Shot_02 with FV Lock on the area circled in red

replicate the above water test shots and demonstrate the key point of being able to quickly select the area of the image you want perfectly exposed – all achieved by the press of one button while composing the overall image.

Underwater Tests - Illumination Pattern & FV Lock

Then I found two contrasty objects and arranged them side-by-side to test the SB900's Standard & Center Weighted Illumination Patterns.

Image UWTest_03 uses the Standard pattern with no FV Lock at all, while UWTest_04 has the FV Lock set on the dark object to the left and UWTest_05 has FV Lock set on the light object.

Image UWTest_06 uses the Center Weighted (CW) pattern with no FV Lock at all, while UWTest_07 has the FV Lock set on the dark object to the left and UWTest_08 has FV Lock set on the light object.

I think that what these shots show is that iTTL works very well overall, even when not using FV Lock, and the Center Weighted Illumination Pattern creates a much nicer effect than the Standard Pattern.

Real Photos

I then went in search of subjects that would suit the approach I believe iTTL and the Nikon CLS can offer underwater and found some nudibranchs doing their thing and a nicely positioned scorpion fish.

In both cases I used the CW pattern and FV Lock on the area of



UWTest_03 uses the Standard pattern with no FV Lock at all



UWTest_06 uses the Center Weighted (CW) pattern with no FV Lock at all

the image I wanted perfectly exposed. I was particularly pleased with the nudibranch image as it has a really nice look to it (in my opinion....) and makes the nudis stand out against the background.

With the scorpion fish, notice how the edges of the image are subdued and the light colored shell thing in front of the fish's face does not detract from the image – if I had been using my Inon's for this shot I



UWTest_04 has the FV Lock set on the dark object to the left

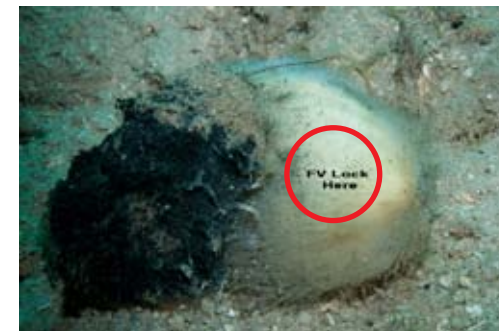


UWTest_07 has the FV Lock set on the dark object to the left

would have almost certainly over-exposed that part of the image!

Conclusion

I was so busy at Tufi diving and photographing the offshore reefs, which are at there very best in October & November when I was there, that I did not get time to do more testing of the SB900 and iTTL/CLS, but I really do think there is significant creative



UWTest_05 has FV Lock set on the light object



UWTest_08 has FV Lock set on the light object to the right

potential with it.

Just take a look at Joe McNally's site & blog if you want to see what the same basic set-up can do above water...

I have not used any of the iTTL converters available on the market, so I cannot offer a comparison, but the ability to quickly & easily select the area of the image to perfectly expose does work ... But assuming a Standard Illumination Pattern is used,



D300 in modified Subal D200 housing, Nikon 70-180 macro zoom, SB900 in Patima housing ISO 200 - f16 @ 1/60, SB900 @ center weighted and FV Lock @ light patches of nudis.

which seems logical, then a housed SB900 takes iTTL to a higher level of potential creativity – subtle maybe, but significant overall.

Of course, the Center Weighted Illumination Pattern effect can probably be done quite well in Photoshop, Lightroom or Capture NX.... but I much prefer to get the image as close to “final” in the camera. Plus having & understanding the functionality available underwater will make you much more creative when looking for subject matter.

The “shadow issue” of using a single strobe was not particularly noticeable, using the Roger Steen approach, but I have an idea on how to deal with it in circumstances it could be a problem. I’ll leave that for a future article, as I will for how iTTL & CLS could be used for wide-angle....

In summary I would say that the upside of a housed SB900 is additional functionality & creativity, but the downside is size & price – probably twice what a conventional



D300 in modified Subal D200 housing, Nikon 70-180 macro zoom, SB900 in Patima housing, ISO 200 - f16 @ 1/60, SB900 @ center weighted and FV Lock @ space between the eyes.

strobe costs by the time you have bought the SB900 and housing.... But you do get to use the SB900 above water, which needs to be taken into account.

Finally the Patima housing is really nice and worked perfectly, offering full access underwater to all the functions of the SB900

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