

TTL in 2007

by Alexander Mustard

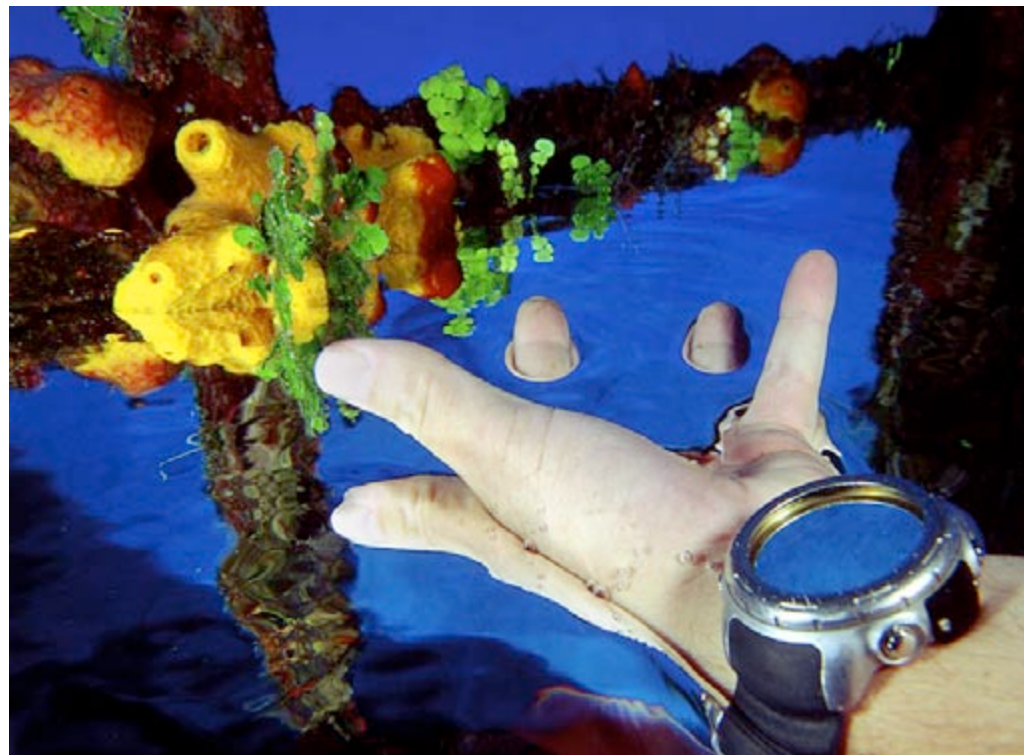
Looking back several years to the early days of the proliferation of digital photography underwater it is surprising what we worried about. One of the biggest concerns for many of us in the transition from shooting film to shooting digital was being without TTL flash metering. (TTL is a system where the camera measures and controls the output of a strobe Through The Lens, quenching the light when the correct exposure has been reached.)

We have come a long way since then. At the time, underwater strobe designers had a technological mountain to climb to make TTL available for the wide variety of cameras we were using underwater. Not only were the likes of Nikon, Canon and Olympus very secretive about the electronic protocols used for their various flavours of TTL, but it also seemed as if they varied the TTL recipe with each of new model of camera. And yet a handful of years later we find ourselves sitting on the top of that mountain. Thanks to innovators and engineers throughout the world of underwater photography digital TTL solutions are now widely available.

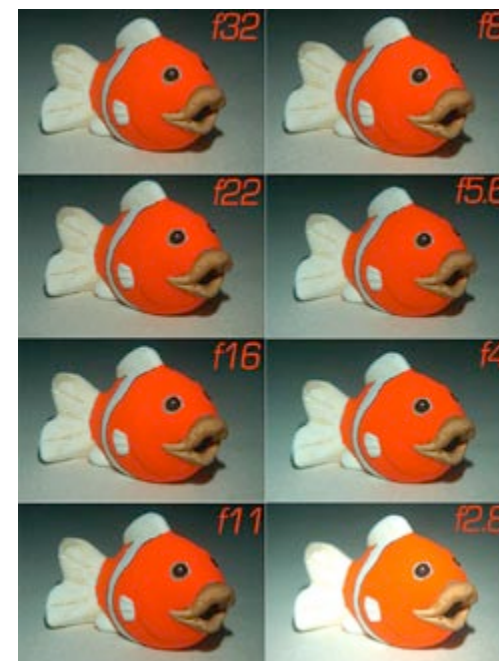
But do they work and do we want them? I have regularly written articles over the last few years saying that there is really no need for TTL in digital underwater photography. And if you will excuse the personal bias of this article, now at the start of 2007 I wanted to look again at my opinion on this subject and find out if it is still relevant or whether my views are as dated as a Nikon D1.

But first a bit of history. The reason that this issue exists at all is that TTL worked so well with film SLRs, particularly in macro photography where you could almost guarantee 36 out of 36 correctly exposed images on a roll of film. The problem with digital was and remains that film camera TTL protocols do not work on digital SLR cameras (Fuji's S2 aside), and at the time existing underwater strobes were only capable of these film TTL protocols. Many of us were scared to commit to exploring the world of digital photography without the support of something so fundamental to our technique.

Back in 2002 when I took my first DSLR underwater I dealt with this hurdle by buying a strobe housing and a digital land flashgun (and



On film TTL was de rigeur for most of our shots. Even unusual lighting situations such as this reflection shot of an air pocket in a wreck was easily dealt with. Nikon F100 + 17-35mm, Subal housing. 2 x Subtronic Alphas on TTL. (Right) TTL has been possible with housed strobes since the early days of digital SLRs, but this solution is not without drawbacks – often limiting us to a single strobe, or the low coverage and cool colour temperature of land strobes. This image, originally from UWP 16 shows TTL correctly adjusting strobe output over 7 stops. Nikon D100 + 60mm, Subal housing. 1 x SB80DX in Subal housing on dTTL.





For several years now manufacturers have been introducing innovative products bringing digital TTL more and more into the mainstream. This image was taken two years ago with Inon's D2000 strobe, which produces TTL exposures with many digital compact cameras. Olympus 5060, PT-020 housing. Inon UWL 165 and D2000 on sTTL.

SB80DX) so that I could continue to shoot with TTL. In early 2003 (UWP 16) I proudly showed off my digital TTL images. This solution was far from ideal. I was restricted to a single strobe and it meant spending more money. At the time I was so preoccupied with whether I could get TTL to work, I didn't stop to think of whether I should.

In reality this reliance on TTL was more dogma than necessity. The hurdle was more mental than physical, but this made it no easier to overcome. Personally I could not be told –believing necessitated seeing. I had to be shown the way, and those who educated me were not the old masters of the film age, but the young turks of the digital revolution, who



A photo of a parrotfish from my first dive with the Ikelite D80 combo. With the camera on F8 and aperture priority (-0.7 exp. comp.) and the strobe on TTL (no comp.) the system produced shot after shot of correctly exposed images. Nikon D80 + 60mm, Ikelite housing. 1 x DS125 on iTTL.

approached this issue without the intellectual baggage of underwater analogue photography.

What I and many, many others found was that shooting without TTL was easy, and with a bit of practice it soon produced a hit rate almost as high as TTL had on film. And far more than just 36 correctly exposed pictures per dive! Shooting without TTL works so well on digital because of the instant feedback on exposures

provided by reviewing images in the LCD screen, allied with the fine-tuning possible in a RAW converter and perhaps most importantly, the fact that most underwater photos are taken from very similar camera to subject distances and therefore require very similar if not identical exposures. For all those years on film TTL circuitry had simply been churning out near identical amounts of light.

I had learned my lesson, and in



Fast moving subjects and a blue background were produced very easily with the same settings as before, despite rapidly changing exposure values. The Ikelite system and standard settings made most images point and shoot simple. Nikon D80 + 60mm, Ikelite housing. 1 x DS125 on iTTL.

an effort to save other people making the same mistakes I wrote about it and even I started a discussion on the Wetpixel forums in summer of 2004 called “TTL Anonymous”. The aim of this discussion was to allay the fears of those scared to go digital because TTL was not available to them, by collecting together examples from people who had had the same worries and through experience had learned they were misplaced.

Anyway that is history. It

is now 2007 and the technology of underwater photography has progressed massively. First, nearly everyone has switched from film to digital and second many manufacturers have cracked the TTL codes producing reliable converting electronics and/or TTL compatible strobes. It was clearly time for me, such an outspoken believer in manual strobe control, to take the plunge and try one of these cutting edge digital TTL systems properly in the ocean.



This image was taken by my girlfriend during her first few minutes of underwater photography ever. Ikelite’s system is perhaps most impressive when it is given to someone who has never taken an underwater photo before and they finish their first dive buzzing with excitement about the images they have got. Nikon D80 + 60mm, Ikelite housing. 1 x DS125 on iTTL (photo by Eleonora Manca).

My weapon of choice was Nikon’s latest DSLR, the D80, in an Ikelite housing with iTTL circuitry and a single TTL compatible Ikelite DS125 strobe (thank you to Ikelite and Cameras Underwater in the UK for trusting me with this kit). And three minutes underwater was all it took for me to realise how wrong I had been.

To keep matters simple on my first dive with the camera, housing

and strobe I stuck the camera on F8, aperture priority (with –0.7 of a stop exposure compensation) and put the strobe on TTL with no compensation. I even shot JPGS. Looking back over the pictures from that first dive I shot about 50 images in the first 25 minutes and 48 of them are correctly exposed. The Ikelite/D80 combo just took everything I threw at it and produced pleasing image after pleasing image. I was sold.



While TTL can increase your hit rate with one off photo opportunities, it still has a working distance range for any given F-stop. The range is much wider than if shooting on manual strobe settings, but this shot is a rare example of TTL failing to produce a good result, probably because I was a little far away from this angelfish. Nikon D80 + 60mm, Ikelite housing. 1 x DS125 on iTTL.

The system became possibly even more impressive when I let my girlfriend try it on the next dive. This only seemed fair, as it was her D80! She had never taken an underwater photo before and leaving the settings as they were in their fully automatic state she produced a large number of impressive underwater images. Several of the images that illustrate this article were taken by her during her first three photographic dives.

One of the often-quoted arguments in favour of TTL is that it enables you to get an image even when you only have one shot at it. Shooting with the Ikelite system I found that this was only true to a certain degree. The downside is that accurate TTL strobe metering has a working camera to subject distance range for any given F-stop. Get too close



Reflective subjects often confuse TTL, but I feel that the D80 and Ikelite's system have done an impressive job on the very reflective scales of this tarpon. Nikon D80 + 60mm, Ikelite housing. 1 x DS125 on iTTL (photo by Eleonora Manca).

and the strobe cannot be quenched fast enough to stop over-exposure, shoot from too far away and even at full power the strobe cannot produce enough light. So while TTL will certainly increase your chances it is still vital to consider your choice of F-stop, as you would when shooting manually.

The main problem I have with TTL strobe control is when we are using two strobes, which will often be the case in underwater photography. With standard TTL control both strobes will produce the same amount of light – which will not always be desirable. Of course one or the other strobe could be set on a manual power, aimed away from the subject or moved backwards and forwards to vary the power, but all of these approaches are more complicated than simply starting with both strobes on the same manual power and varying

them manually from this point.

On the positive side, it is now clear that these systems now work reliably. I was left in no doubt that they are perfect for anyone new to underwater photography, who will be able to produce many pleasing images right from their first dive. Armed with TTL any new photographer will have an enthusiastic introduction into this hobby driven by their successful images.

But what about the more experienced shooter? Would I want TTL on my underwater strobes? Quite simply, yes! The bottom line with all these TTL protocols is that you can always switch them off. And there are always times underwater when the subject or the action is fleeting, currents are ranging or narcosis is clouding our judgement where point and shoot automation will greatly enhance anybody's hit rate. And at other times an experienced photographer would quickly learn to distinguish TTL friendly situations from those when it won't work and adjust their settings accordingly.

I believe that the technology has now reached the point where I would like to have TTL as an option again on all my dives. Unfortunately with Ikelite's current system it is not possible to have TTL with their strobes, unless you also own an Ikelite housing. So I will be investigating other brands. Digital TTL has matured - to dive without it is simply to deny ourselves another tool for creating images underwater.

Alexander Mustard
with photos from Eleonora Manca

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