

Simply effective

by Terry Crocker

In September 2012, with the price of slide film and its processing suddenly taking an upward turn, I reluctantly decided that I would have to convert to digital for my underwater photography.

I already had a Nikon D90 DSLR for my land photography, so I looked to putting that into an underwater housing, however, with a cost in excess of £4,000 for the necessary housing, ports and lenses, at the time, and, in addition, the fact that I was used to using the compact Nikonos V system, I decided that I would purchase a digital compact camera system. Another influencing factor, with the DSLR option, was the significant weight and “drag” in the water (plus the associated airline excess baggage charges).

What I wanted was a system that worked in a similar manner to my Nikonos system, i.e. I could set it to manual, meter the ambient light, set the aperture to give an exposure of around -1.0 and set the flash to sTTL to take care of the foreground, for wide angle – my favorite type of photography.

I read many compact camera specifications and reviews carefully looking for a camera that:



- a) Was capable of operating in manual mode
- b) Was able to control the flash output via sTTL, whilst in manual – with many of the camera specifications that I looked at, once in manual mode, everything was in manual mode, which was not what I wanted.
- c) 28 mm lens – 35 mm film equivalent
- d) Maximum of x 4 zoom

This latter requirement significantly “narrowed” my “field of choice”. I eventually decided on the system as shown below:

- Olympus XZ-1 compact camera
- Olympus PT050 underwater housing
- Sea & Sea YS-D1 underwater flashgun with fibre optic cable
- Sea & Sea, Sea Arm 7 tray & flash arm
- Inon UCL 165 M67 wet macro lens
- Inon UWL H100 M67 wet wide-angle lens



- 2 docking points for the above Inon lens

One of the major advantages, of this system, is the availability of 3 different lens (or more) underwater on every dive, i.e. the camera's native zoom lens, a wide-angle lens & a macro lens. This allows one to quickly change the focal length of the lens if one sees a completely different type of shot than the one you have just taken.

All the underwater photos, shown in this article, have been taken with the above camera system, which has proven to be very effective in the areas of underwater photography that I like to pursue; the camera's



specifications are given as an appendix to this article.

When I first bought my system, I would have liked to have purchased a Nauticam housing for the camera, but Nauticam had stopped production in June 2012 and hence none were available. However, whilst looking on eBay in April 2015, I found a new Nauticam XZ-1 underwater camera housing for sale by Reef Photo & Video in Fort Lauderdale, Florida; I turned out to be the only bidder and I have been using it ever since.

Also, at that time, I upgraded my tray, flash arms and clamps, as the new housing had 2 screw attachment points. In addition, around the



Reef at Batfish Wall, Sawa Island, Wakatobi, Olympus XZ-1, Nauticam XZ-1 Housing, Inon UWL H100 M67 wet wide-angle lens, Sea & Sea YS-D1, ISO 100, f 6.3, 1/60 sec, manual

same time I purchased a couple more secondhand Olympus XZ-1 compact cameras off eBay so that I had spares “should the worst happen!!”

With the Nauticam housing and the new tray etc., many of my frustrations with my previous set up disappeared, e.g. if I forgot to “pop up” the inbuilt flash on the camera, the Olympus housing had no facility to “pop it up” once the housing was



Green Turtle with Remoras, Wakatobi House Reef, Tolendono Island, Wakatobi, Olympus XZ-1, Olympus PT 050 Housing, Inon UWL H100 M67 wet wide-angle lens, Sea & Sea YS-D1, ISO 100, f 6.3, 1/60 sec, manual

closed. Usually the first time that you were aware of that was when you tried to take the first shot!! Also, the housing gave me direct access to all of the controls on the camera (with the exception of the touch screen), and the tray cannot rotate as it is attached by 2 set screws.

The one of the downsides, of the Nauticam housing, is the position of the main “O” ring grove, i.e. on the main housing body and not on the back (as in the Olympus housing); this means that part of the main “O” ring grove is obscured by the rotating locking mechanism. I have overcome this issue by acquiring long handled interdental brushes that fit into the grove to make sure that it is clear of particles; I also use a cloth to ensure the grove is dry.

The other, which is only down to when it was produced, is that there is no leak detection system available. However, to date, thankfully, I have not



Orbicular Damselfish, Table Coral City, Tomia Island, Wakatobi, Olympus XZ-1, Nauticam XZ-1 Housing, Inon UCL 165 M67 wet macro lens, Sea & Sea YS-D1, ISO 100, f 7.1, neutral density filter engaged, 1/60 sec, manual

had any leaks – you know what they say: “famous last words”.

The camera itself is easy and intuitive to set up, with a comprehensive, but quickly understood menu (unlike its successor, the XZ-2, whose menu is vastly over complex and its sTTL mode is exceptional poor in my experience). All the menu settings, that you might wish to change underwater, are accessible via the “OK” button and then the directional buttons. The upward directional button on its own, also allow you to change the shutter speed; the aperture is adjusted by a ring around the lens.

The following modes of taking the photographs are available and controlled via a dial on the top of the camera:

- Program
- Aperture priority
- Shutter priority



Wreck of the Lesleem M, Anse Cochon, St. Lucia, Olympus XZ-1, Nauticam XZ-1 Housing, Inon UWL H100 M67 wet wide-angle lens, Sea & Sea YS-D1, ISO 200, f 6.3, 1/60 sec, manual

Spine cheeked anemonefish, North Wall, Hoga Island, Wakatobi, Olympus XZ-1, Olympus PT 050 Housing, Inon UCL 165 M67 wet macro lens, Sea & Sea YS-D1, ISO 100, f 8.0, neutral density filter engaged, 1/60 sec, manual



- Manual
- Custom
- Low Light
- Scene – 18 different scene options, including 2 underwater options
- Art filters – 6 different filters are available.
- Auto

The auto-focus system on the camera works really well as can be seen with the accompanying photos. You have the ability to move the main focal point around the composition if you wish, however, I tend to set the focus with my subject in the middle and kept the shutter half depressed whilst I compose the shot.

When I acquired my first XZ-

1, my good friend Bryan Radford and I did some experimentation with respect to the settings of the sTTL flash control. The camera flash only guarantees to fire when the flash is set to “fill in”. Now when used for routine land photography, fill in flash typically gives around 1.5 stops of underexposure compared with the available light. Underwater where the flash is being used as the sole light source for the foreground, the subject matter was underexposed by approx. 1.5 stops. Happily, the XZ-1 has a flash compensation facility and we found that using a setting of +1.7 gave very good control of the flash output to achieve correct exposure.

Obviously, from time to time, I change this to get the desired results.

The camera also has the facility for 2nd (rear) curtain sync. – a setting that I tend to use most of the time. This is to avoid dark aberrations in front of moving fish, as a result of the fish continuing to move forward after the flash has fired and before the shutter closes. Using the 2nd curtain sync. Results in the dark aberration being behind the fish and giving an impression of forward movement.

I do tend to break the underwater photography “cardinal rule” of not pointing my flash directly at the subject, as with only one flash. I would not be able to illuminate the

whole scene using my wide-angle lens. I prevent most potential “hot spots” by using the 100° diffuser on the front of the flash, which happens to match the underwater angle of view of my Inon UWL H100 M67 wet wide-angle lens.

Of course, due to the quality of the optics that I am using, I can get a significant amount of chromatic aberration and blue and yellowish-green fringing, however, most of these issues can be overcome with judicious use of Photoshop CS5 extended.

I tend to take most of my pictures with the following settings:
ISO:100 – very occasionally I use 200
Shutter Speed: 1/60th second



Blue Girdled Angelfish, Fan 38 East, Sawa Island, Wakatobi, Olympus XZ-1, Olympus PT 050 Housing, Inon UWL H100 M67 wet wide-angle lens, Sea & Sea YS-D1, ISO 100, f4.5, 1/60 sec, manual

I tend to favour ISO 100, as values higher than 200, with a 10.1-megapixel sensor, tend to introduce an unacceptable level of “electronic noise” into the photo.

It results in apertures for wide angle shots of between 2.8 and 6.3 depending on the ambient light, however, I mostly “get away with this” due to the increased “depth of field” with the wide-angle lens and the reduced size of the sensor.

For the flash control, when I am using the Inon UCL 165 M67 wet macro lens, it tends to require the following settings:

Aperture: F 6.3 - 8.0 (maximum)

Neutral Density Filter: engaged

With the flash gun directly over the top of the centre of the top of the housing.

In the second paragraph, I mentioned my concerns with weight and excess luggage costs, well this system, minus the camera, batteries and chargers, in my Pelican case, weighs in at 6.85



Olympus XZ-1, Olympus PT 050 Housing, Inon UWL H100 M67 wet wide-angle lens, Sea & Sea YS-D1, ISO 100, f6.3, 1/60 sec, manual

kilograms, which means that Qatar Airways allow me to have it as my “carry on” camera case; the camera being in my ordinary “carry on” luggage; along with my spare camera, spare Olympus housing and battery chargers.

I have used the system, in the past 8 years, in Wakatobi, Indonesia, Red Sea in Egypt and St Lucia and Grenada in the Caribbean. Of those destinations, Wakatobi has stood out for me for



Soft Corals, Cornucopia, Sawa Island, Olympus XZ-1, Nauticam XZ-1 Housing, Inon UWL H100 M67 wet wide-angle lens, Sea & Sea YS-D1, ISO 100, f5.6, 1/60 sec, manual

both varied photographic opportunities at the many dive sites and the facilities that the dive centre provides. Also, a trip on the Pelagian liveaboard gives opportunities to photograph mandarin fish & blue ring octopus. The dive sites in Soufriere Marine Park, in St Lucia, also offer some of the best photographic opportunities in the Caribbean, especially the wreck of the “Lesleem M”.

At the end of the day, when deciding on what



Painted Warty Frogfish, Waitii Ridge, Tomia Island, Wakatobi, Olympus XZ-1, Olympus PT 050 Housing, Inon UWL H100 M67 wet wide-angle lens, Sea & Sea YS-D1, ISO 100, f 6.3, 1/60 sec, manual

underwater camera equipment you are going to buy, one has to ask oneself, “what am I going use my photos for?”. If you are an amateur like me, you probably will want to print them, possibly up to A3 size and be able to have a slide show on a 50” TV. Well I can achieve all of those aims with my 10-year-old design system and at a very affordable price!!

Olympus XZ-1 Digital Compact Camera

Product type: Digital camera (for shooting and displaying)

Recording system:

Still pictures: Digital recording (RAW), JPEG (in accordance with Design rule for Camera File system (DCF))

Applicable standards: Exif 2.2, Digital Print Order Format (DPOF), PRINT Image Matching III, PictBridge

Sound with still pictures: Wave format

Movie: AVI Motion JPEG

Memory: Internal memory

SD/SDHC/SDXC memory cards

No. of effective pixels: 10.1

megapixels

Image pickup device: 1/1.6” CCD

(primary color filter)



Queen Angelfish, Trou Diabale, Soufriere Bay, St. Lucia, Olympus XZ-1, Olympus PT 050 Housing, Inon UWL H100 M67 wet wide-angle lens, Sea & Sea YS-D1, ISO 100, f 2.5, 1/60 sec, manual

Lens: Olympus lens 6 to 24 mm, f1.8 to 2.5 (equivalent to 28 to 112 mm on a 35 mm camera)

ND filter: 3 EV equivalent

Photometric system: Digital ESP, center-weighted, and spot metering using the camera image sensor

Shutter speed: 60 to 1/2000 sec., Bulb shooting

Shooting range: 0.6 m (2.0 ft.) to (W), 0.6 m (2.0 ft.) to (T) (normal)

0.1m (0.3 ft.) to (W), 0.3m (1.0 ft.) to (T) (macro mode)

0.01m (0.03 ft.) to 0.6m (2 ft.) (super macro mode)

Monitor: 3.0” organic EL display, 610,000 dots

Connector: USB/AV-out connector (multi-connector), HDMI micro connector (type D), accessory port

Automatic calendar system: 2000 up to 2099

Operating environment

Temperature: 0 °C to 40 °C (32 °F to 104 °F) (operation)

/-20 °C to 60 °C (-4 °F to 140 °F) (storage)

Humidity: 30 % to 90 %

(operation)/10 % to 90 % (storage)

Power supply: One Olympus lithium ion battery (LI-50B)

Dimensions: 110.6 mm (W) × 64.8 mm (H) × 42.3 mm (D) (4.4 × 2.6 × 1.7 in.) (excluding protrusions)

Weight: 275 g (9.7 oz) (including battery, card, and cap)

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