



Text and photos  
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# Photography

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## Digital Underwater Photography:

# Cameras And Housings



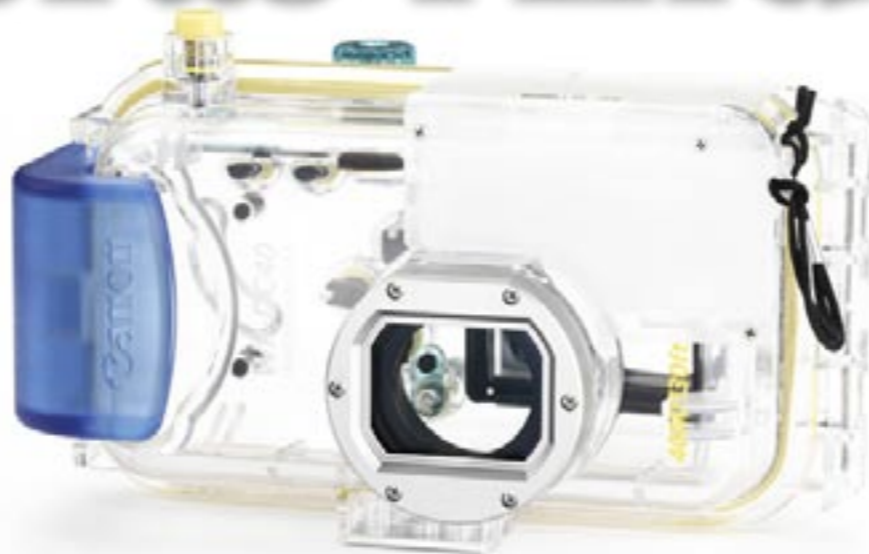
In the last issue we looked at the advantages and disadvantages of digital underwater photography compared to traditional film systems. Now we're going to look at what kind cameras and housings are available on the market today, the costs involved, and which one is right for you.

To help simplify matters, we're going to group cameras into four different categories, these are;

- Compact Cameras and Housings
- Digital Underwater cameras
- Entry Level DSLR's and Housings
- Professional Level DSLR's and Housings

### Compact Cameras and Housings:

The production of cheap poly carbonate housings for consumer level cameras such as the Olympus C7070 and Canon S70, has made it inexpensive for the first time to submerge camera's which offer features which in the past were only available on more expensive SLR's. Housings for compact cameras are produced by the cameras own manufacturer, and also appeal to the outdoors market, making them much cheaper than if they were just being used by divers.



WP-DC40  
Compact cameras and housings are now so popular that nearly all divers carry them

Because compact's offer so much flexibility at a fraction of the cost, they occupy a large part of the market, and nowadays nearly all divers have a camera and housing, often small enough to fit into a BCD pocket.

Using a compact camera and housing means you can use the same camera that you use on land, whilst diving. This saves costs, and means you only have to travel with one camera. There's also a huge range of accessories available for compact's, including filters, external flash units, and supplementary wet-lenses that can be removed and replaced underwater to suit your subject. Another great thing about compacts is that the LCD screen can be used for composition, not just



reviewing images and navigating menus like an SLR.

Compact cameras are easy to travel with; we hear more and more about divers in disputes with airlines over fares for excess baggage, and underwater pho-

tographers are often caught out whilst struggling to get their heavy equipment to and from their destination. A complete compact camera system can weigh as little as three or four kilos, which means it is easily transported in a rucksack.

There are many cameras and housings on the market at the moment, but most people agree that Olympus are the most versatile systems available. Filter threads are



D70 housing with 70-180mm macro zoom lens

D70 housing with fisheye As you can see with a camera and housing you can use a wide range of 'ports' to accommodate a range of lenses, from a 10.5mm fisheye lens for photographing large subjects such as wrecks or scenic's, right through to a 70-180mm macro zoom lens for photographing small shy subjects from a distance.





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a standard feature on the Olympus range, which leaves you much more choice in the range of accessories that you can attach in the future. This also stops you having to use adapters to add accessories, which can be expensive and often introduce many more parts into the system.

Whichever system you choose to go for, check that the camera offers you aperture and shutter priority modes; the majority of compact cameras only have fully automatic exposure systems, which do not offer enough flexibility for use underwater. Also check that the housing will accept any accessories you may need to use in the future. For example, if you plan on photographing very small critters such as nudibranchs or pygmy seahorses, then you'll need to make sure the system you're looking at will accept a close-up or macro lens, otherwise it will not be appropriate for you.

### Disadvantage

The main disadvantage of a compact camera is shutter lag. This is a small delay between pressing the shutter release button, and the camera actually taking the picture. When you first use a camera with shutter lag it can be very distracting, especially if you're used to the instant shutter release on an SLR. If the camera is very slow it can stop you getting the picture you wanted. If you plan on photographing fast moving subjects, a compact may not be the best route to take.

Compact's suit most peoples needs, they can be carried on every dive for a quick snapshot if the opportunity presents itself, or they can be kited out as a complete system for more serious photography.

One of the hot cameras at the moment is the Olympus C-7070. A 7 megapixel compact which offers you plenty of control, excellent image quality, and a housing which will accept a range of accessories. The camera and housing together should cost you around £500 (US\$875).

### Digital Underwater Cameras

Also known as amphibious cameras, these are systems which are designed specifically with underwater photography in mind. Cameras such as the newly released Sea and Sea DX8000G, offer an 'all in one' solution to an underwater camera, and often include handy features such as built in colour corrective filters.

Amphibious cameras generally offer the same sort of functionality as a camera in a housing, in fact that's exactly what an amphibious camera is, a normal digital camera built into an underwater housing. There's nothing special about the camera which makes it more suited to underwater photography.

Compact cameras and amphibious cameras share many of the same advantages and disadvantages, they both suffer shutter lag, yet they both offer you the versatility of being able to change lenses underwater.



The Nikonos V is probably the best known amphibious camera and the model which many famous photographers started. It went out of production 4 years ago but left a lasting legacy



Sea & Seas newly released DX8000G



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Which brand? The Canon versus Nikon debate is stronger than ever at the moment.

## DSLR's and Housings

Modern DSLR (Digital Single Lens Reflex) cameras such as the Nikon D70s and the Canon EOS 350D are now so cheap on the high street that more and more photography enthusiasts are using them on land, unfortunately the cost of getting one underwater is very high. For this reason DSLR's generally appeal to very enthusiastic photographers who want to utilise the unique features that a DSLR offers the user over an amphibious or housed compact camera

Beside costs there are some other major differences between SLR's and compacts, as well as differences in the housings. As previously discussed, housings for compact cameras are produced for the mass market, and as a result are very cheap. SLR housings are a completely different ball game. Some housings are so specialised and appeal to such a small market that they are made in batches of 20 or less, hence the cost.

Unlike a compact, when using an SLR you must select which lens you plan on using before you begin the dive. When working with an SLR you travel with a range of 'ports', these accommodate different lenses. You use flat ports for macro lenses, (for shooting small sub-

Glove housings fits the camera very snugly



Enlarger for a view finder



jects) and dome ports for wide angle lenses (for shooting large subjects). The lens quality and final image quality on an SLR is generally much better than that of other systems. Depending on where and how you use your pictures, this may make an SLR more suitable for you.

Some high end housings also offer the option of a viewfinder magnifier. These can be especially useful with modern DSLR's that generally have very small viewfinders, which appear to be even smaller when viewed from inside a housing and from behind a dive mask. Magnifiers significantly increase the cost of a housing, but also massively increase functionality. Many professional underwater photographers simply will not work with a housing which does not offer this feature.

There are many different housings available for DSLR's, ranging in price and functionality. There are two main types of SLR housing; these can be referred to as box, and glove housings. Brands tend to specialise in one or the other.

## Glove Housings

When a new camera is released, a company such as Subal, Seacam, or Nexus will design a brand new housing from scratch. This means the body of the housing has a very snug fit around the camera, with very little dead air space inside.

When you pick up a glove housing all the controls fall in the same position on your hands as if you were using the camera on it's own. This offers you the highest level of functionality. Because the housing is designed from scratch, they are a lot more expensive. A housing body can cost more than £2000 (US\$3500), and a system fully kitted out with ports and flash units could easily cost more than double that.

## Box Housings

As a general rule, box housings tend to be a lot larger and heavier than glove housings. This is because manufacturers use the same basic hull for many different cameras, and adjust the placement of controls for different models. This means there is a lot of wasted air space inside the housing, making it buoyant, and so additional weight must be added to get it under the water. This also means that the controls are not positioned very conveniently on the housing, and you can be distracted by your equipment

rather than being able to concentrate on getting the image you want.

Box housings tend to be available much sooner than glove housings, simply because they do not take as long to develop, if you're in a rush to get one of the

newer cameras under the water, a box housing may be a better choice for you.

Box housings are also great if you're working to a tight budget. You can normally get a system up and running with a range of lenses for less than half the cost of a top of the line housing. However do bear in mind that because the system will be heavier than a glove housing, there could be potential costs in transporting your equipment on a dive trip.

DSLR's offer excellent level's of flexibility, resolution, image quality and control, but this all comes at a price. There is no cheap way to get an SLR under the water, all housings are expensive (some a lot more than others), and you also have to invest a lot of time into the maintenance and preparation of your equipment.

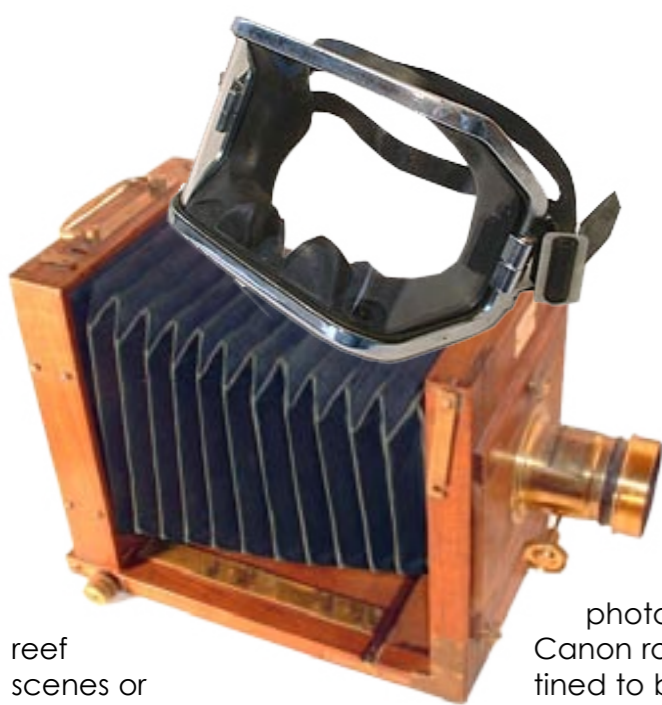
The most popular cameras at the moment are the Nikon D70s and the Canon 20D. The D70s currently costs around £600 (US\$1050) and the 20D around £950 (US\$1650) (camera body only). Many divers are choosing to go with the Nikon, this is because there are two different wide angle lenses available, a 12-24 mm zoom lens and a 10.5mm full frame fisheye. This offers the user more flexibility when choosing which lenses to use underwater.

Fisheyes are very popular, allowing you to capture large subjects such as wrecks,



Seacam housing





Underwater photography is nothing new. This is the Rolleiflex housing that the legendary Hans Hass used



reef scenes or whale sharks. The Canon 20D is a better camera in terms of resolution, speed and build quality, but at the moment there is no fisheye available.

**Professional level DSLR's** Cameras such as the Canon EOS IDS mk II, and the Nikon D2x are the tools of professionals, and carry price tags which are way outside most peoples budgets. With a system fully kitted out, a photographer could be entering the water with more than £10,000 (US\$17,500) worth of cameras equipment. Professional level DSLR's offer the handling, build quality, and speed that many were used to with top of the line film cameras, as well as resolution and image quality that meets the needs of professionals.

With regards to high end cameras, the Canon versus Nikon debate is stronger than ever at the moment, it seems that the majority of underwater photographers are taking the route of the Nikon D2x, a 12 megapixel camera which renders excellent image quality and carries a price which is very competitive to the top of the line Canon cameras. Many divers are taking this route because they owned Nikon's in

the past and so they have a lot of money invested in lenses, however most professional land photographers are taking the Canon route. The IDS Mk II is destined to become a cult camera, many people believe it was the first camera which allowed us to say that digital is actually better than film, and the results that it is producing underwater are truly stunning.

Most underwater photographers need not consider professional level DSLR's, lower end cameras such as the Nikon D70 offer more than enough in terms of control, flexibility and resolution. There are however a select few, mainly professional underwater photographers, who can justify the expense of getting these sys-

tems up and running. Hopefully we've now cleared up a few of the questions about the questions that you may have had about the pros and cons of some of the cameras which are available on the market today. ■

In the next issue:  
**Let there be Light**

Remember all the stunning colours you've seen in countless underwater photograph's, and now wonder why it's not in yours? We'll look at how to get colour in your shots through the use of flashguns and filters.



Where the pros go, camera tables tend to get a little cluttered

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