

Anyone who ventures even a casual

glance at Fathoms realizes our commitment to extraordinary photography. I mean, if visual imagery wasn't important, there wouldn't be defog. And while most of the images we publish are shot on film (at least for now), that world is rapidly going digital. More pro photographers are diving into pixels each day.

To keep our readers on the cutting edge of this revolution, we've scoured the photographic universe, interviewed photographers, visited camera manufacturers, spoken with housing makers, emailed computer geeks and paid for a palm reading with a psychic from Brooklyn – but that's another story.

From TV to Diving in One easy step

My days as a kid body-surfing at the Wedge in Newport Beach, California to becoming a diver was an easy segue, but it was years before I tried diving. When I finally did, the experience changed my life for good. I remember telling the woman I was dating at the time, "I see my future, and it's underwater..." She thought I was being kinky. I became a dive instructor exactly one year and 300 dives after I had received my Open Water certification.

I spent the next five years as a dive instructor and guide and began to hone my skills with a Hi-8 video camera and a Gates housing. I had fun with

THE DIGITAL REVOLUTION RAGES ON

Article and Digital Images By Rod Klein

In our search, one name kept popping up: Rod Klein. An extremely talented photographer/videographer with a background in art and design, Rod pumps out stunning images, web design and videos. Now we offer, for your education and entertainment, his knowledge to you in a series of articles. We hope you enjoy them. If not, let us know and we'll send him on a long assignment to the Persian Gulf. ■ Fred Garth

A few years ago I was getting my gear organized for an upcoming dive trip and I pulled out my trusty Nikonos V. No, wait, I never had a trusty Nikonos V. Maybe it was my N90 and my Sea & Sea housing. No, that's not it either. I never even owned a film camera to use underwater. I guess what they say is true – it's the memory that goes first.

Oh yeah, I remember now... I was packing my dive gear and my digital camera, my first one in fact. If my bad memory serves me, an Olympus 3030 3.3 megapixel camera and my first Light & Motion Tetra housing.

I actually started out in film – above water. My study of photography at the Art Center College of Design in Los Angeles proves that. I also have a Master of Fine Arts Degree which propelled me into the television industry for almost 20 years as an editor, special effects designer, and finally a director of commercials and music videos. I also worked with some of the very first computerized editing and digital effects equipment and picked up a couple of Emmy nominations along the way – all building blocks for my new digital passion.



Olympus E20 & Titan

the system but James Cameron never called and asked me to film the underwater scenes for *Titanic*. Seems Al Giddings already had the job locked up.

Then in 1997 the first video streaming software was developed opening the door to desktop video editing, film scanning and image manipulation. That year, I got my first job streaming video clips for Rob Barrel of the *Nai'a* liveaboard in Fiji.

When Rob asked if I could stream video to his website, I immediately said, "Sure I can do that," even though I'd never done it before. I guess my white lie worked out because Rob is still using that promo.

About that time, digital still cameras hit the scene and I jumped in head first, immediately falling in love with the simplicity and instant gratification of shooting digital stills underwater. Along the way, I picked up work from numerous clients, many in the liveaboard circuit. One of



those was Wayne Haddon of the Aggressor Fleet. Not only did Wayne hire me for Aggressor projects and his nonprofit organization Oceans For Youth, but he and I also came up with the idea of digital still and video workshops on the Aggressor vessels. In 2002 I taught courses aboard the *Cayman*, *Belize*, *Kona*, *Palau* and *Truk Aggressors*, helping guests with the nuances of digital imaging as they shot underwater each day for a week. This year my schedule has expanded.

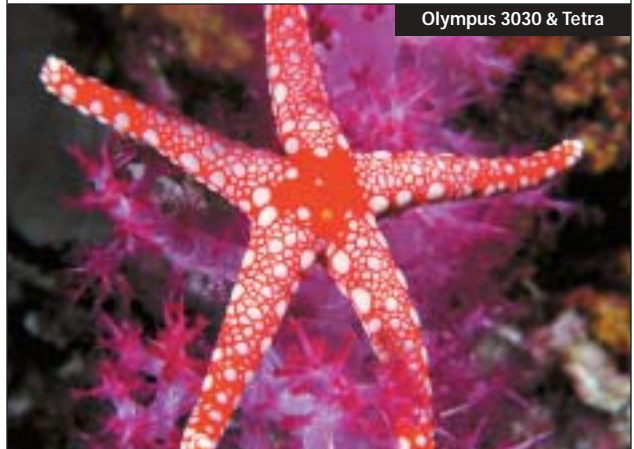
Digital Stills: What are they good for?

The first question I ask in my digital workshops is, "How many of you are going to be shooting for *National Geographic*?" So far no one has raised their hand. For most recreational divers their goals are generally simple: shoot some pictures they can put on their wall, email to their friends and family, and finally (and certainly most importantly) have fun.

With film cameras, the learning curve is just so steep and so expensive that getting good results and having fun often gets squeezed out. On the other hand, I can almost guarantee that after the first dive with a digital camera, most people are hooked and are already planning to buy some type

of system when they get home. Why is this? In two words: Instant Feedback. With digital "what you see is what you get" and this is super important in the learning process.

There are many other aspects of digital imaging I love: you don't have film or processing costs since the cameras use a reusable storage card; you'll never run out of film; you can delete your images underwater (this is my personal favorite since I never have to show anyone all the lousy pictures I take and my image as a "digital guru" stays intact) and, of course, you can make



exposure and composition changes based upon the ability to view the image as soon as you take it. And, keep in mind, all these advantages don't even take into consideration the vast capabilities of computer manipulation available after you get home. But we'll save that subject for future articles.

One of my favorite features is lenses that can be changed underwater. With my Light & Motion Tetra and Titan housings, for example, I use their "wet mate" lens system. The housing has a flat port which accommodates the standard lens on the camera. The wet mate system allows you to add either a 100-degree, wide-angle lens or a macro lens directly onto the flat port while you're underwater. So when I dive, I have a little pouch attached to my BC and usually carry both the wide angle and macro lenses to change them as needed. When I use these housings you'll never hear me say, "Damn, I just ran out of film." Or, "I would have gotten a great shot of that whale shark but I was shooting with my macro lens and framers."

The Future is Yesterday

This time next year everything I say in this article will be ancient history. But, the good news is, the cameras that have been out for the last couple

Olympus E20 & Titan



of years are still extremely viable products today, such as the Olympus 4040 or the Nikon Coolpix series. So you don't have to worry about being left behind the curve. Today's cameras will serve divers for years to come, even though new and improved cameras will continue to be developed.

Right now the Nikon D100, 6 megapixel SLR (and similar models by Canon and Fuji) are pretty much state of the art. Many well-known photographers like Eric Hanauer and Jim Watt are going all digital with that system. One advantage: their above-water Nikon lenses fit the D100. Kodak is soon releasing a 14-megapixel camera for about \$7,000 but no housing is available and Canon has the EOS-1Ds 11-megapixel camera. However, at some point, it's just pouring more water in a full glass. Most recreational divers don't need that many pixels and will be happy for a long time with a 3-to-6 megapixel camera.

My first digital camera was the Olympus 3030, a 3-megapixel unit. This wasn't the first Olympus digital but was really the first in the generation of small, consumer digital cameras that had the ability to make images that could almost compare with film. Certainly for web use, and prints up to 8 x 10 the quality is amazing.

I put my 3030 in Light & Motion's Tetra housing which is made of extremely durable cast aluminum. But more significant, the Tetra has a true strobe bulkhead that allows a variety of commonly available strobes to be used, such as the Nikon 105 or the Sea & Sea YS90DX. It's possible to use either single or dual strobes and achieve excellent results.

Within a year Olympus had introduced the 4-megapixel 4040, then came the 5-megapixel SLR E20, and they now have a 5-megapixel 5050 with the same basic design as the 3000 and 4000 series cameras. Housings are also available for the Nikon Coolpix Pix 5000 and 5700.

But it was the Olympus E20 SLR and the Light & Motion Titan housing that profoundly changed the nature of my work and my total commitment to digital. The E20 is a full Single Lens Reflex (SLR) camera with a built in manual zoom and great auto focus. Because this camera accommodates up to a 1-gig microdrive, I could shoot 65 uncompressed 15-megabyte images before I had to download to my laptop. The quality of the images and the flexibility of the camera and housing combination was just what I was looking for.

The L&M Titan housing has its own wet mate lens system and a revolutionary strobe control system called ROC. Rather than setting the strobe's output power manually (the Nikon 105 has three

Aquatica

Housing	Camera	Megapixels	Price
Coolpix 995	Nikon Coolpix 5000	3-4	\$849
Coolpix 5000	Nikon Coolpix 5000	5	\$1099
AD100	Nikon D100	6.1	\$1899
S2 Pro	Fuji S2 Pro	6.1	\$1899

For detailed info: www.aquatica.ca

Ikelite

Housing	Camera	Suggested Price
Ike #6130	Olympus' Camedia Line	\$600
Ike #6190	Nikon Coolpix 5000 w/ROC	\$950
Ike D-100	Nikon's D100 w/ROC	\$1800
Ike S2	Fuji S2 Pro	\$1300

For detailed info: www.ikelite.com

power settings: full, 1/4 and 1/16), the ROC system works like a dimmer switch and gives 12 power settings that can be changed from the handles on the housing, similar to a car stereo with volume controls on the steering wheel. That way you can keep your hands on the "wheel" and eyes on the subject while changing the strobe settings. With the instant feedback of digital, if an image is a little too dark or light, all you have to do is adjust the strobe output remotely from either handle without ever moving your hands from the housing.

So, for the last year, the E20 and the Titan housing have been my system of choice. But alas, digital moves at warp speed for professionals, and I have moved on too. Most recently, I moved up to the Nikon D100, 6-megapixel SLR, currently in a Sea & Sea housing. While the E20 is a great choice for the serious amateur and even some professionals, I was forced to change by the demands of the industry. Over the past few years I have produced a very large body of work and was looking for stock footage representation. The feedback I received was very positive but virtually all of the companies who were accepting digital images needed a minimum of 6 megapixels.

This change has been a mixed blessing. The Nikon D100, when compared to the E20 and other similar cameras, is a true professional rig. The D100 itself is just a camera body. It accepts all compatible Nikon lenses, has extremely fast and accurate auto focus, matrix metering and other advanced features. The quality of the image is excellent, and for the moment anyway, I feel this is the professional level camera (along with Canon EOS and Fuji S series) of choice. A number of housing manufacturers have jumped on the D100 bandwagon so there's a good choice available (see chart).


The only downside for me in moving from the E20 to the D100 is the fact that I can no longer change my lenses underwater. As with traditional housed cameras I have to decide before I go in the

water which lens I will shoot. Having the ability to change lenses underwater provided incredible flexibility but as technology moved forward I adapted to the benefits as well as the downsides.

For the bulk of the students in my digital photo classes, the D100 may be too pricey and advanced to tackle. Yet, as I've mentioned, cameras like the Coolpix and Olympus series are affordable and perfect for printing out wall hangers, emailing to friends, giving slide presentations and having lots of fun.



Author Rod Klein

For future articles, I'll discuss photo techniques, lighting, how to print or send your images as well as the myriad applications digital offers. I also welcome your questions about digital imaging. In upcoming issues, I'll answer selected questions so that we can all learn together. Until then, keep diving and keep shooting. In the end, that's the best way to learn. 

Rod Klein is a digital photo guru located in Southern California. Samples of his work can be found at www.rhkuw.com. Direct email questions to Rod at rod@rhkuw.com.

Housings How; Buy Now

The camera housing market is a little like the Dallas Cowboys - lots of players but only a few stars. The big-timers now are Canadian-based Aquatica, the 30-year veteran Ikelite, Californian Light & Motion and full-line camera maker Sea & Sea. Sure, there are other excellent companies out there like Subal and Gates that make fine products but the big four provide most of the housings and have stayed on the cutting edge as new cameras become available. For example, all of these guys have housings for the D100. *Below on pages 108 and 109 are samples of the key housings available and the approximate retail prices.*

Light & Motion		
Housing	Camera	Suggested Price
Tetra	Olympus' Camedia line	\$1199
Tetra 5000	Nikon Coolpix 5000 w/ROC	\$1499
Titan D100	Nikon's D100 w/ROC	\$2699

Sea & Sea		
Housing	Camera	Price
D100	Nikon D100	\$1995
D30/60	Nikon D30/60	\$1800
S2	Fuji S2	\$1995
Coolpix 5000	Nikon Coolpix 5000	\$1195

For detailed info: www.lmionline.com

For detailed info: www.seaandsea.com