

Skin Diver Skin Diver Sive

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- Find out how to participate in the Roatan Underwater Photo/Video Championship.
- Go live on location with Skin Diver contributors on Bonaire.
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advanced U/W camera systems

TEXT AND PHOTOS BY JACK AND SUE DRAFAHL

Simple point-and-shoot cameras are affordable, easy to use and produce great snapshots. But for the underwater photographer who wants to capture professional quality images, a substantial equipment investment is mandatory. If that's you, chances are you've seen divers with a host of different systems, some in housings, some with strobes, multiple lenses, synch cords, dome ports...the list goes on. Matching a camera system with your photo needs and your bank account is the first step. The second is easy: get in the water and shoot.

AMPHIBIOUS CAMERAS

Amphibious cameras are much like topside rangefinder cameras that have been sealed to go underwater. One of the primary advantages of amphibious cameras is com-

pactness. Their relatively small size makes them easy to carry and maneuver in fast-paced shooting situations, like capturing big animals on the move. Amphibious systems are versatile too, being used for everything

from wide-angle to macro photography. Macro setups require the use of a framer, so are best suited for stationary subjects.

■ HOUSED CAMERAS

The advantage of using housed, single lens reflex (SLR) cameras is they allow the photographer to take advantage of advanced features like autofocus, autoexposure, autobracketing, and they use a wide selection of lenses. With a short telephoto macro lens, you can capture fish on film from a safe distance, or use the motor drive to capture the high-speed action of a porpoise.

The disadvantage of underwater housings are their bulk and the drag they create when swimming. Housings also require additional maintenance, but modern designs are well-built and most even have moisture detectors to indicate any leakage problems.

THE DETAILS

So, which underwater system is right for you? Will it be an amphibious camera or an SLR in a housing? If you want to concentrate on capturing wide-angle or macro images and want a compact camera, then an amphibious camera might be the ticket. If you have already made a

> considerable investment in a land camera and want to take it underwater, then a housing is likely the best choice.

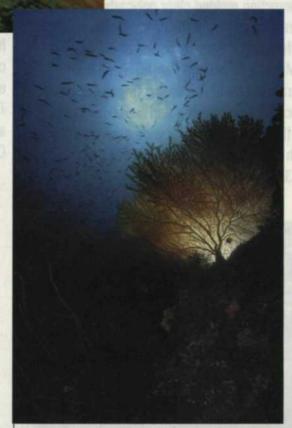
> Check out all the extra features offered to see if they match your requirements. And ask yourself the following questions: Which controls do you use the most? Does the housing have ports and controls for the lenses in your camera bag? Is the system compatible with the underwater strobes you will be using?

> > Will it accept auxiliary strobe arms?

If you decide to purchase a new camera housing, we strongly recommend that you pool test an empty housing. We also suggest running the same test at about 60 feet. Carefully examine the housing for any leaks or escaping bubbles. From then on, good maintenance and a watchful eye should keep you out of trouble.

Find the right

camera system, and the rewards will speak for themselves. The following is a rundown on the offerings from some of the more popular manufacturers.



👱 aquatica

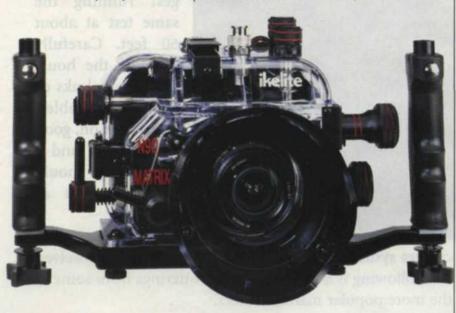
This popular housing manufacturer concentrates mainly on the Nikon line of high-end SLR cameras. At present, Aquatica makes housings for the Nikon F5, F100, N90 series, N70 series, N60 Series, 8008 series, F3 and Nikon F. In addition, it has housings for the Canon F, Pentax LX and the Mamiya RZ-67 medium format camera. The housings are cast aluminum, which includes the body, backplate and a wide assortment of lens ports. Depth-rated to over 300 feet, their ergonomic designs provide access to all the important camera features.

Contact: (514) 737-9481, www.aquatica.ca



≟iKeLite

Ikelite housings have been dependable performers for more than 25 years. Made of injection molded clear polycarbonate, all the camera controls are readily visible to the diver. Ikelite offers variations for over 40 different SLR camera bodies and 50 different lenses from Canon, Minolta, Nikon and Pentax. Each housing has a full range of camera controls at the diver's fingertips, an enhanced camera eyepiece for easy viewing and a working depth of 200 feet. In addition, Ikelite has created a wide assortment of adapters for lenses, flash connectors, handles and triggers. Contact: (317) 923-4523, www.ikelite.com



≟ igL00

The Igloo housing for the Nikon F100 camera is produced from a solid piece of aluminum that is machined and anodized. The housing has a hinge at the top and a unique helical locking clamp for positive closure. All of the important camera controls can be easily operated with the right hand. The optical viewfinder extends out from the back of the housing, allowing room for a regulator and still providing full frame viewing. Two TTL sync ports are available for electronic flash, and there are more than half a dozen ports for wideangle to long-macro. The Igloo is depth-rated to 300 feet. Contact: (858) 481-0604, www.marinecamera.com



4 Nexus

Nexus housings are sand cast aluminum and provide a compact fit for either the Nikon F4 or N90 cameras. The Master N90 housing can also be converted to accommodate the Nikon 8008s, 6006 and N50 camera bodies. Both housings feature a wide variety of camera controls and twin TTL sync ports. The Nexus housings feature an extensive line of ports to accommodate most any lens configuration. The Nexus F4 Pro housing also features an optional action finder to aid image composition.

Contact: (214) 368-3555, www.nexusamerica.com

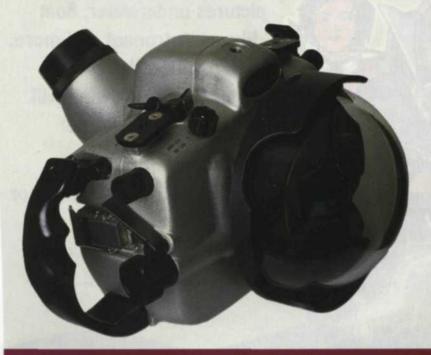


The current Nikonos V model is made of die cast copper silumin oxidized aluminum alloy, and all joints are sealed by O-ring gaskets for watertightness. This rangefinder camera accommodates five dedicated Nikon U/W lenses from wide-angle to telephoto and has a depth rating of 160 feet. Its 15 mm lens is considered one of the finest underwater wide-angle lenses made.

Macro images are possible with special framers and extension tubes that can be attached before the dive. Nikon discontinued their SLR camera (called the RS, not pictured) in 1996, but it is still so popular that a used one often draws a higher price tag than when it was in production. Contact: (800) 645-6687, www.nikonusa.com



Attention to detail is the hallmark of the precision-cast SeaCam aluminum housings. They are available for Nikon F5, F100, N90, N70, N50 and the Canon EOS 5, EOS 1n and EOS 1n hs/rs camera systems. Double O-ring seals are used around each camera control shaft, and an optional 45-degree swivel sportsfinder allows for flexibility in the viewing angle. Lens ports range from super wide to telephoto macro, and extension tube ports offer even longer configurations. The depth rating on the SeaCam is 240 feet. Contact: (714) 848-6919, www.seacamsys.com



Sea & Sea offers both amphibious and housed advanced level cameras. They make housings for the Nikon F5, F100, the new F80 and Canon Rebel 2000 camera bodies. The housings are made of a lightweight, non-corrodible aluminum alloy and are ergonmically configured for easy camera control. All models feature dual bulkhead connectors, large optical viewfinder and a wide selection of quick coupling bayonet ports. Depth ratings range between 200 and 250 feet.

The amphibious Motor Marine II-EX (not pictured) is constructed of non-corrodible polycarbonate with a depth rating of 150 feet. It features four shutter speeds, TTL, built-in close-up lens and four auxiliary lenses (2 wide-angle, 2 macro) that can be changed underwater.

Contact: (760) 929-1909, www.seaandsea.com



Subal's extensive line of marine grade aluminum anodized housings accommodate the gamut of Nikon cameras including the Nikon F5, F4, F100, N90 and 8008 bodies. The housings are rated to 210 feet and feature ergonomic placement of camera controls to allow for easy, one hand operation. They offer a bayonet mounting system for a comprehensive selection of ports that include full frame fisheye to 1:1 macro. Subal housings also incorporate snap-on lens gears that eliminate the hassle of special installation tools and reduce lens wear and tear. In addition, Subal makes a housing for the Canon Elan IIE camera that features Canon to Nikon strobe electronics and a depth rating of 180 feet. Contact: (805) 965-2290, www.subalusa.com



USUA FIRST UIT

Now that you have your certification card and a few dives under your belt, why not give underwater photography a try? But where do you start? What equipment should you buy? What is the best film? How much is it all going to cost? There are so many variables, that it may seem a bit overwhelming, but not to worry.

Underwater photography has evolved to a level that makes it easy to get good underwater pictures.

Before deciding which camera to buy, you first need to analyze what type of underwater pictures you desire—fish portraits, pretty coral, Mr. Big, prize winners or shots for the scrapbook. You'll need to have a plan, because this is all critical when selecting your underwater camera equipment and film.

BASIC UNDERWATER PHOTOGRAPHY

For this discussion we'll break photography into four broad categories: general, macro, wide-angle and fish photography. Each requires a different configuration of camera, flash and lens. You'll sometimes need to plan your dives to match your intended type of photography, but some of the newer equipment makes changing your game plan underwater easier. And most of all, you'll want your camera to be compact, easy to use, require low maintenance, and be capable of reliable results at a price that won't break the bank.

GENERAL UNDERWATER PHOTOGRAPHY

Most entry level underwater cameras are designed to shoot general photography. It is the most compact type of shooting because it doesn't require much more equipment than the camera itself. Many point-and-shoot cameras have the focus fixed at a specific distance from the camera and subjects are sharpest at that focus point. Subject matter covered in general photography is under-

water scenics, divers or both.

Since compactness is key to entry level cameras, most have an internal flash built into the top half of the camera. The maximum distance for most of these built-in flash systems is less than seven feet, but many manufacturers offer a more powerful flash as an accessory. With general photography it's usually a good idea to use the flash to bring out the details and colors of your subject.

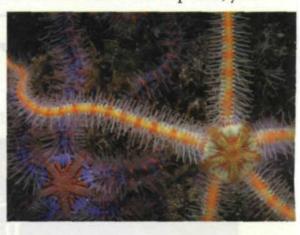
All of the cameras listed here will nicely fill your general photography needs.

MACRO PHOTOGRAPHY

The easiest and most colorful type of photography is macro (close-up) photography. There are several ways to capture small creatures on film, and the best method depends on the camera system you decide to buy. Most normal camera lenses have close focus limits that won't allow close-up focusing, so a special accessory must be attached, allowing you to photograph subjects closer to the lens.

Many point-and-shoot cameras have a close-up lens and framer system. When you want to take a close-up shot, you

merely attach the close-up system to your camera, place the framer around the subject and shoot. It's also important to note that a flash is required to bring out the sharp, bright colors often associated with macro subjects.



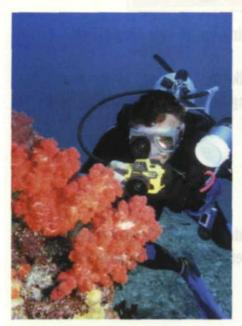
Some amphibious cameras have extension tubes and framers that must be changed topside before going underwater such as the Nikonos V. Sea & Sea offers camera systems that allow you to attach a macro framer while underwater. This is great if you are photographing a tiny hermit crab and a Manta Ray swims by. Simply remove the framer and you are ready to capture that Manta on film, if luck is in your favor. But for pure close-up shots, nearly all the cameras listed here can be configured for macro photography.

■ WIDE-ANGLE PHOTOGRAPHY

One of the most exciting aspects of underwater photography is capturing the panorama of a reef and its creatures, and wide-angle photography makes it possible. First and



derwater camera



foremost, a wide angle lens is necessary for wide angle shots. More powerful strobes also help because the field of view captured on film is so much greater and thus more needs to be lit. Among this group of cameras the Nikonos V with a 15 or 20 mm lens, the Sea & Sea Motor Marine II-EX (16 or 20 mm lens) or MX-10 (20 mm) and the RTS EWA-Marine are probably your best bets. Some simple wide-angle shots are possible with the

other entry level cameras, but the majority of the dynamic wide-angle photos are taken on the cameras with wideangle specific lenses.

FISH PHOTOGRAPHY

Everyone loves to look at fish photos, but in reality, fish photography is one of the most difficult to accomplish. Fish rarely sit still or let you get close, so a special approach is needed to capture them on film. To take fish pictures you'll need stealth, knowledge of the fish's habits and patience. Once you get the fish's cooperation, there are a couple of ingenious systems for entry level cameras that use gun sight

viewers (Bonica King II Snapper, Ikelight's Aqua-Shot & Auto 35, Pioneer Sealife reefmaster RC, Sea & Sea's MX-10 or MX-5) or light beams to tell you when the fish is in the frame and in focus. It is sort of a hit and miss oper-



ation, but as they say, practice makes perfect.

FILM

A great film for beginners is color negative film, which features a large selection of film speeds, and its wide exposure latitude makes obtaining good images easier. (Exposure latitude refers to how much leeway a film has in its ability to give a correct exposure despite varying levels of light. A wide exposure latitude allows you to get a good picture even if your exposure wasn't just right)

Once you start taking underwater pictures, every dive will become a scavenger hunt for the next great photo. And, a picture hanging on your wall will serve as constant reminder that you need to get back in the water soon. Don't get discouraged along the way, because it takes time to hone your skills. Enjoy the learning process.

Here's a list of some of the U/W cameras available so that you can review their features, restrictions and options.

cameras and specifications (alphabetical by manufacturer)





Camera type: Precision cast, non-corrosive aluminum alloy housing

for the Vivitar BV-40 35 mm camera

Lens: 28 mm, f/8

Focus: Focus-free from three feet to infinity

Shutter speed: 1/100 Built-in flash: Yes Viewfinder: Built-in

Film speed: ISO 100 to 400 auto Dx coding Film Advance: Motorized advance and rewind

Depth rating: 330 feet

Suggested retail price: Housing and camera, \$279.95

Accessories: Close-up kit, strobe light, handle and tray Complete system: \$ 489.95

Aqua Vision Systems, Inc.: (514) 737-9481, www.aquatica.ca



YOUR FIRST Under

Lbonica

Sea King II Snapper

Camera type: 35 mm inner camera with polycarbonate housing

Len: 30 mm, f/5.6

Focus: Focus-free from three feet to infinity

Shutter speed: 1/125 second

Built-in flash: Yes

Viewfinder: Built-in, oversized

Film speed: ISO 100 to 400 auto DX coding

Film Advance: Automatic motorized advance and rewind

Depth rating: 150 feet

Suggested retail price: \$149.00

Accessories: Close-up kit, neon strobe light, carrying case

Complete system: \$499.00

Bonica Precision Inc.: (800) 220-8463, www.bonicadive.com

2 POOUL ET-100

Camera type: 35 mm amphibious, high-impact plastic housing

Lens: 34 mm optical glass, f/16 to f/3.5

Focus: Focus free 2.6 to 10 feet Shutter speed: 1/125 second

Built-in flash: Yes

Viewfinder: Built-in sportsfinder is an optional accessory

Film speed: ISO 100 to 400 auto DX coding Film Advance: Motorized advance and rewind

Depth rating: 150 feet

Suggested retail price: \$275.00

Accessories: Auto-power strobe kit, sportsfinder, close-up lens

and color correction filters

Epoque America: (631) 361-8880, www.et101se.com or

www.epoqueamerica.com

4 illig Aquashot

Housing type: Polycarbonate housing for 35 mm single-use

disposable cameras

Cameras accepted: Kodak, Fuji or Ikelite AquaSnap single-use 35mm flash cameras, or Kodak single-use Funsaver APS camera

Focus: Focus-free three to six feet

Built-in flash: Yes Sportsfinder: Included

Film Advance: Manual advance

Depth rating: 125 feet

Suggested retail price: \$80 (includes one AquaSnap camera)
Accessories: Macro kit, water correction lens, substrobe AQ/S,

travel bag

Complete system: \$260



Housing type: Polycarbonate housing for the Superview

35 mm camera

Lens: Triple element 28 mm Focus: Focus-free two to eight feet

Built-in flash: Yes Sportsfinder: Included

Film Advance: Motorized advance and rewind

Depth rating: 125 feet Suggested retail price: \$160

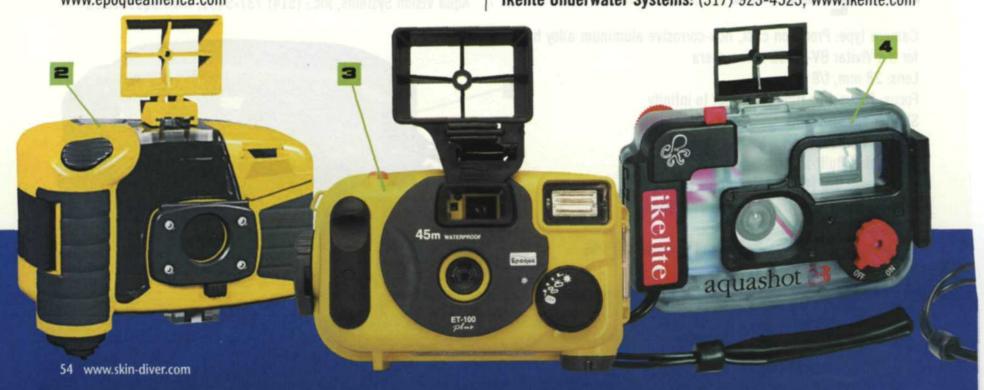
Accessories: Macro kit, travel bag, substrobe A35

Complete Auto 35 System: \$400

Auto 35 Underwater Photography book (suggested

retail): \$10.00

Ikelite Underwater Systems: (317) 923-4523, www.ikelite.com





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Motor

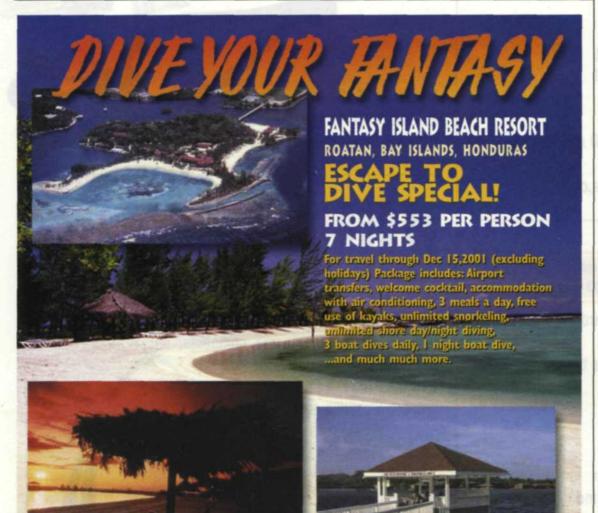
Camera type: Amphibious 35mm camera with ABS molded, polycarbonate housing

Lens: Four element 35 mm lens, f/3.5

Aperture range: f/3.5 to f/22 Focus: 3.3 feet to infinity; 18 inches with close-up attachment Shutter speed: Electronic—1/15, 1/30, 1/60 and 1/125 second Built-in flash: Yes Exposure Meter: Built-in Viewfinder: Built-in with 85 percent frame coverage, 0.5 magnification Film speed: ISO 50, 100 or 400 with automatic DX coding Film Advance: Automatic load, advance

and rewind Depth rating: 150 feet Suggested retail price: \$724.00 Accessories: Macro lenses, 20 mm lens, 16 mm lens, lens caddy, high evepoint optical viewfinder, YS-30, 60,

90 or 120 Strobes





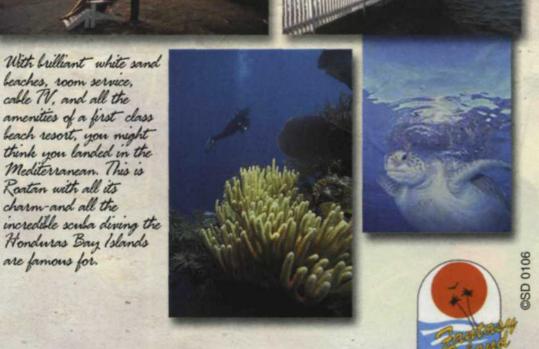
Camera type: 35 mm amphibious camera

Lens: Triple element 28 mm lens, f/9 Focus: Focus-free from 2.3 to 5.6 feet Shutter speed: 1/100 second

Built-in flash: Yes

Sportsfinder: Flip-up sportsfinder





BEACH RESORT

beaches, room service, cable TV, and all the

Mediterranean. This is Roatan with all its charm-and all the

Honduras Bay Islands

are famous for.

doubles as a lens protector Film speed: ISO 100 or 400 auto DX coding

Film Advance: Automatic load, advance and rewind

Depth rating: 120 feet Suggested retail price: \$189.95

Camera type: Amphibious 35 mm camera with ABS molded, polycarbonate housing

Lens: Four element 32 mm lens, f/4.5

to f/22

Focus: Focus-free from four feet to infinity

Shutter speed: 1/100 second

Built-in flash: Yes, with two aperture

settings, f/4.5 or f/11 Viewfinder: Built-in

Film speed: ISO 100 or 400

Film Advance: Automatic load,

advance and rewind

Depth rating: 150 feet Suggested retail price: \$429.00

Accessories: Close-up lens, macro

lens, 20 mm lens, lens caddy, YS-40A strobe

Complete kit includes camera and

YS-40A strobe: \$699.95

Sea & Sea Underwater Photography:



