

TEST REPORT

THE CAMERA THAT WORKS ON LAND AS WELL AS IT DOES UNDERWATER.



NIKONOS-V

BY JACK AND SUE DRAFAHL

Nikon's newest amphibious camera, the Nikonos-V, is more than an improved version of a prior camera; it's a whole new way of thinking. Previous models of the Nikonos were considered by most to be underwater cameras that could be used on land, but only in pinch. Not so any more! This camera works on land as well as it does underwater. Its newly improved through-the-lens (TTL) metering system, and the addition of land lenses, allow the photographer versatility not possible before.

At first glance the Nikonos-V, its sleek black finish streaked with a rich orange, is a handsome camera that could easily win "The Best-Dressed Camera of the Year Award." Not only does this camera look great, it also has some impressive features that make life easier for the amphibious photographer.

The Nikonos-V's anatomical grip and shutter release compare favorably with those of the best land cameras. The top of the camera displays two basic controls—the shutter-speed dial on the right and the film-speed dial on the left. The shutter-speed dial contains the standard R (rewind), B (time exposure), A (autoexposure), M90 (mechanical flash speed for battery failure), and manual quartz-controlled shutter speeds from $\frac{1}{1000}$ down to $\frac{1}{30}$.

With most cameras, if you forget to take the lens cap off when advancing to the first frame in the automatic mode, there will not be enough light for a proper exposure, and the camera will hold the shutter open until it receives enough light. Nikon solved this problem by having the Nikonos-V ignore the auto mode and fire at $\frac{1}{1500}$ until it reaches the first frame.

The Nikonos-V's viewfinder is designed so the photographer can see the entire field while wearing a diving mask or goggles. The viewfinder can be seen 40 mm from the back of the camera. LED lights at the base of the viewfinder are designed to tell the photographer several things: battery power, shutter speed, over- and underexposure, and flash ready light.

The metering system in the Nikonos-V is unique. It has two silicon photo diode sensors for accurate available light exposures, as well as the new TTL flash exposure control. The center-weighted upper sensor is used for available light and reads off the gray card in the back of the camera. The lower sensor is used for the TTL flash and reads directly off the film plane.

Loading the Nikonos-V is as simple as loading any land camera. Press a safety button on the side of the camera, turn the release, and the back of the camera pops open. Upon inspecting the inside of the camera you will begin to understand how this camera can withstand so much abuse. Thick metal walls and corrosion-resistant parts inside the back of the camera demonstrate Nikon's attempt to make a camera for all seasons. The pressure plate is hinged to the camera body rather than to the back, and for new Nikonos camera owners this may take a little getting used to.

The base of the camera has a tripod socket, battery chamber, and a somewhat unusual sync socket. When you remove the O-ring cover, you will find three permanent pins and two spring-loaded pins. All five pins are used to operate the Nikonos SB-102 and SB-103 flash units. When you use flashes other than the SB-

102 or SB-103, the two spring-loaded pins move out of the way and are not used.

(Warning: If you use an underwater flash from another manufacturer, check to make sure the sync plug fits properly.)

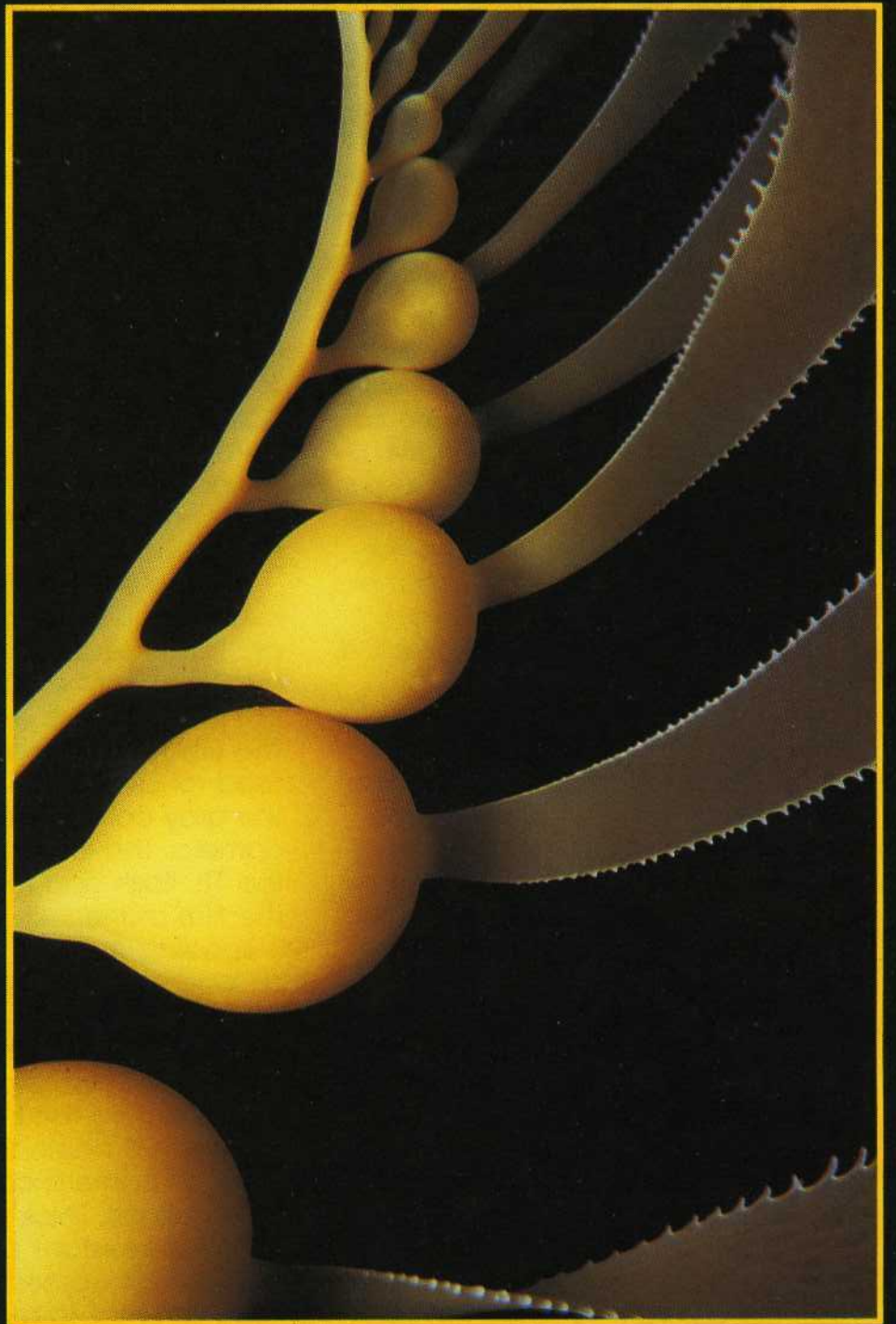
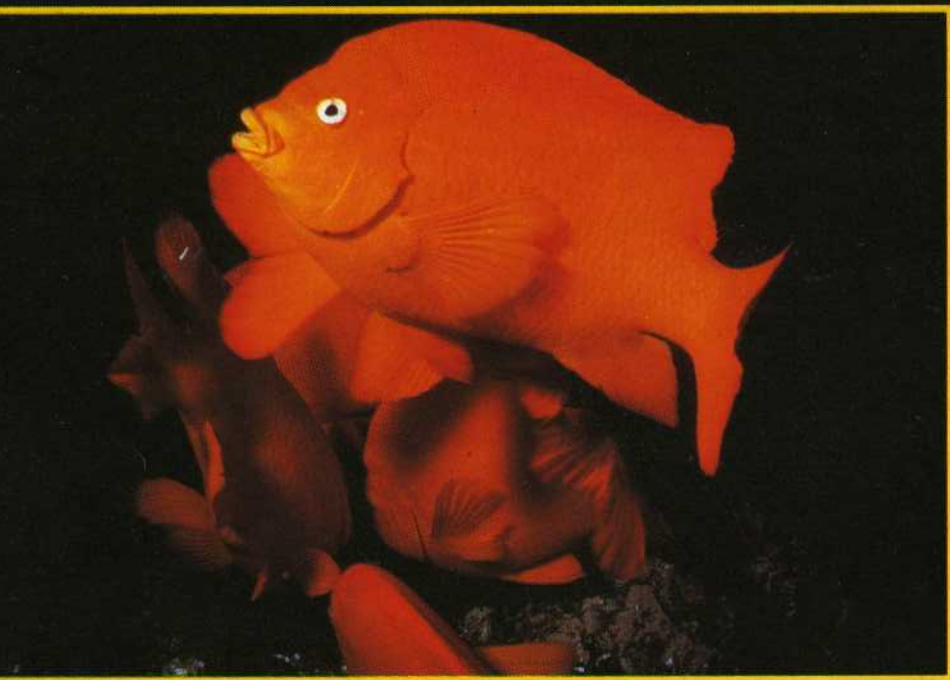
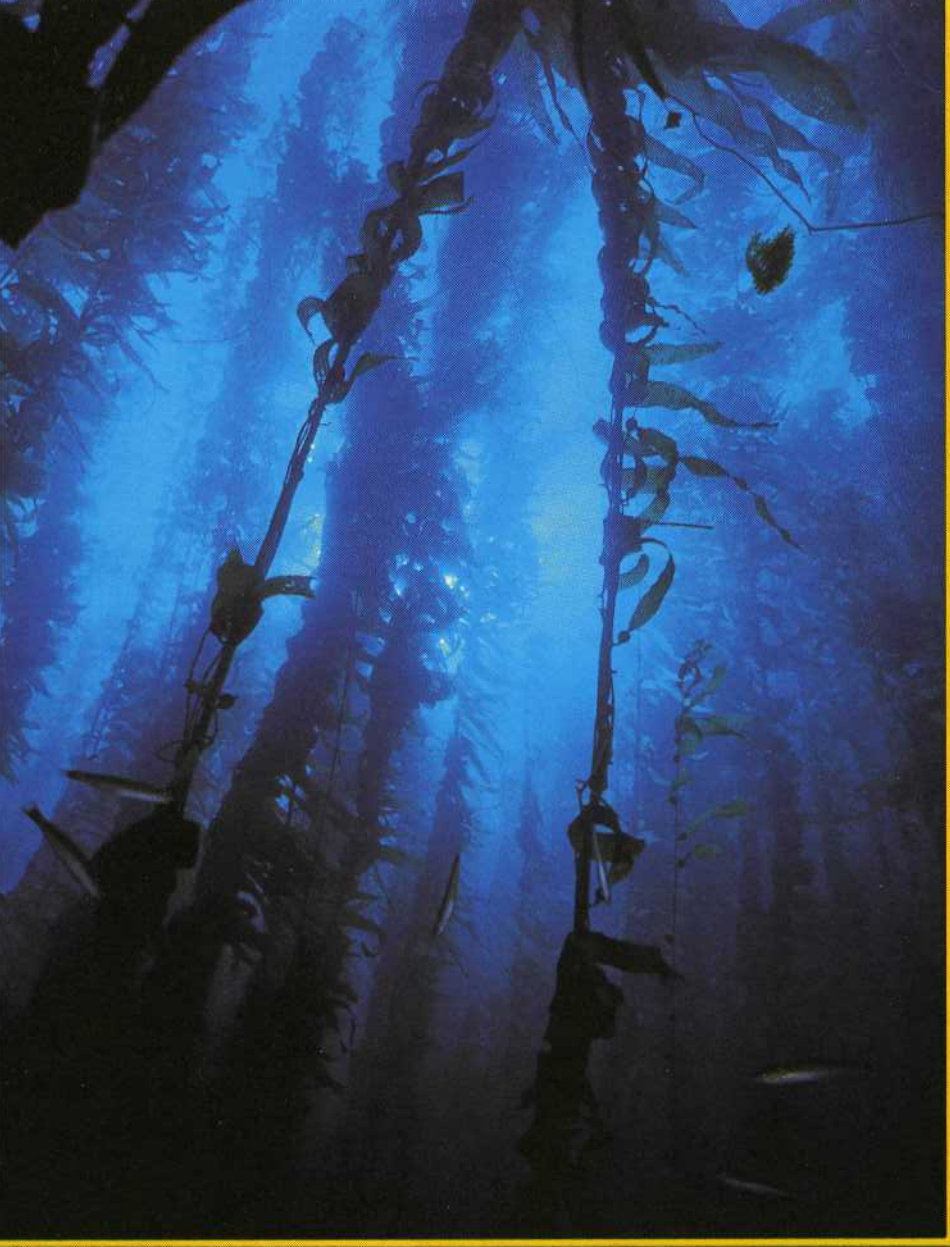
The Nikonos-V comes with a 35mm Nikkor lens that can be used on land and underwater. Its angle of view on land is 62° while underwater it is reduced to 43°. It is the most versatile of all the lenses and can be used for normal shots, close-ups and macro work. Other lenses available for the Nikonos-V include the 80mm (land and underwater), 28mm (underwater only), 15mm (underwater only), and the new 28mm (land only).

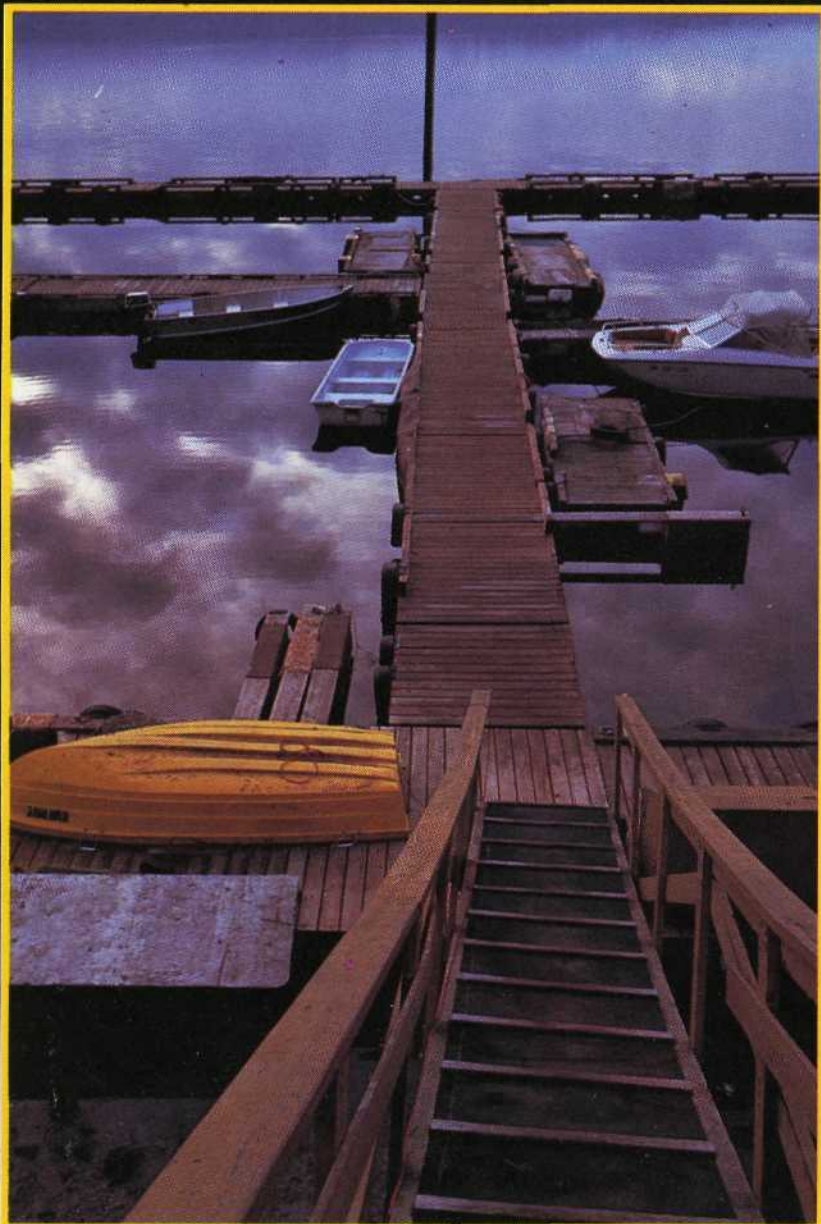
This new 28mm lens looks just like any other land camera lens except that it has several special seals that allow photos to be taken in hazardous weather. The instructions for this unusual lens state, "When dirty, rinse the lens quickly in fresh running water without removing it from the camera body; however, avoid soaking it in water."

Other accessories for the Nikonos-V include a close-up kit, viewfinders for all the lenses, the two new underwater flash systems, and special sync cords for use with land flash units.

The final accessory that comes with the Nikonos-V is one of the most important—the instruction manual. This manual is well written and easy to understand. Each part of the camera is described and illustrated and its use explained. The manual includes a short course on underwater photography and can be very helpful, assuming the new owner reads it!

Opposite: Close-up or long shot, natural light or flash, the Nikonos-V can do it all at depths to 160 feet.







1. Interior of Nikonos-V shows sturdy construction. Pressure plate is hinged to camera body, rather than to camera back.

Opposite: The Nikonos-V's versatility extends above the surface as well as beneath.

NIKONOS SB FLASH SYSTEM

Nikon has come up with the most incredible underwater flash system ever conceived in the SB-102 and the SB-103. Both units are TTL controlled and make underwater flash photography a dream.

The powerhouse SB-102 can be used for wide-angle, close-up, and macrophotography. It is powered by six C batteries which fit into a special battery tray. The circular O-ring back is held in place by two snaps and two safety snaps.

The base of the SB-102 has two sync ports. The first is for the autosensor when used with older Nikonos cameras, and the second is for full operation of the SB-102 and the Nikonos-V. The flash is mounted to the Nikonos-V with a special flash arm assembly made up of a camera baseplate, flash arm, joint lever, and joint collar at the base of the flash.

The sync cord for the SB-102 is the best design yet. The cord has a plug at both ends. The camera plug has an oversized collar with a 90° turn to prevent damage to the cord when the camera is set down. The opposite end of the cord also has a heavy-duty collar, and is coded for easy mating with the strobe body. The cord is coiled to minimize tangling and maximize length when needed.

On the back plate of the SB-102 flash is an exposure calculation dial displaying a variety of information. When using TTL, the dial tells you the

f-stop range allowable with a certain film speed. It also tells the underwater photographer using older Nikonos cameras which auto f-stops are available for a certain film speed. For manual flash use, the dial gives exact f-stops to use for a certain distance and film ISO. The film speed dial has two settings for each speed—land (mountain) and underwater (fish).

The control panel on the SB-102 is the key to its various uses. There are three control knobs. The back knob turns the power on and test fires the unit. The middle knob turns on the target light or slave, or both. In the slave position other photographers can take your picture and remotely fire your flash. The target light is projected through a lens system and out through the front of the flash. This light can be used to align the flash with the subject, gauge distance and center the subject in the finder. This is especially helpful on night dives.

The front knob selects TTL, full power, 1/4 power, 1/16-power, and Auto. The Auto selection is for the autosensor attachment when using older models of the Nikonos camera. The 1/4 and 1/16 power settings are handy when using two flash units and a lighting ratio is desired. These settings also work well when the strobe is in the slave mode. Full manual power is for the situations where TTL and Auto are not possible and full power is necessary.

The TTL position is the heart of the SB-102. In this position the film speed is set on the camera, and the camera and flash calculate the correct exposure. Simple, but very efficient.

The SB-102 has a 79° angle of coverage on land, and covers the 35mm and 28mm lenses underwater. A special wide-flash diffusor can be added to the front in order to cover the 15mm lens.

Accessories for the SB-102 include an autosensor for the Nikonos III and IV, a double flash bracket, a double sync cord for twin flash, and an extension arm.

THE SB-103

The SB-103 is a smaller unit designed for the macro and close-up buff. If power and versatility are not as important as size and cost, then the SB-103 is the answer. This unit operates off four AA batteries that

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SPECIFICATIONS

NIKONOS-V

CAMERA TYPE: Amphibious (to 160 feet) 35mm
FILM TYPE/FORMAT: Standard 35mm cassettes/
24×36mm

VIEWFINDER: Inverted Galilean-type Albada with bright frame lines showing 85 percent of area covered by standard 35mm lens; high eyepoint allows viewing with eye 40 mm away from finder; parallax correction marks provided; LED's show shutter speed and over/under-exposure warnings, thunderbolt-shaped flash ready light. Accessory optical viewfinders or frame finders available for optional lenses

METERING: Through-the-lens center-weighted stopped-down metering in normal and flash modes via SPD's; aperture-priority automatic and manual modes provided

SHUTTER: Electronically controlled vertical travel metal focal-plane type with electronically controlled stepless speeds from 1/30 to 1/1000 in auto mode, quartz-controlled speeds from 1/30 to 1/1000 in manual mode, plus mechanical settings of 1/90 and B

FLASH: X-sync via socket in camera base; synchronizes with electronic flash at 1/90 and slower speeds; TTL autoexposure with Nikonos SB-102 and SB-103 Speedlights

POWER SOURCE: One 3V lithium, two 1.55V silver-oxide, or two 1.5V alkaline-manganese batteries

DIMENSIONS: 146×99×58 mm (without lens)

WEIGHT: 700 g (without lens)

PRICE: \$600 suggested retail, including standard 35mm f/2.5 lens

DISTRIBUTOR: Nikon Inc., 623 Stewart Avenue, Garden City, NY 11530

insert through an O-ring-sealed battery cap at the end of the flash. It uses the same flash arm system and sync cord as the SB-102.

The control panel on the side of the SB-103 has a ready light and one control knob. The first position is TTL for full exposure control with the Nikonos-V. The other positions are manual full power, 1/4 power, and 1/16 power for use with the Nikonos III and IV. The accessories for the SB-103 are the same as for the SB-102.

The outstanding instruction



2. Standard 35mm lens can be used underwater or on land. Large silver knob is for focusing; large black knob sets the lens apertures.



3. New 28mm land lens for Nikonos-V can withstand the elements; instruction manual for lens says to rinse lens quickly in running water without removing it from camera body to clean.

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4. SB-102 flash operates on six C-cell batteries, provides TTL autoexposure with Nikonos-V.

manuals for both the SB-102 and the SB-103 give complete instructions on assembly, use, battery performance, and all specifications. They are well illustrated and should be referred to often.

FIELD TESTING THE SYSTEM

Field testing the Nikonos-V was a real joy. Several rolls of film were tested using a hand meter for the first exposure and the TTL Auto for the second exposure. Over 90 percent of the time the Nikonos-V Auto beat the hand meter. We found ourselves using the Nikonos-V for hiking, camping, beach combing, skiing, and a variety of activities that used to be dominated by our land cameras. The exposure meter worked so well that we were able to concentrate on the subject itself.

Focusing with the Nikonos-V is different than with most cameras, but just as easy. There is no mirror or groundglass and therefore, no standard focusing. Instead the focus is set by looking down at the lens and presetting the distance, taking into account the proper depth of field. Big advantages to the lack of mirror and ground glass are the extremely bright viewfinder, no mirror slap, and a very quiet shutter. The depth-of-field scale is better than on most lenses, and in many cases we found that the subject was not the best point of focus for the best depth of field. One disadvantage we found was that we couldn't hear the shutter and therefore couldn't tell when a lengthy exposure on auto was complete.

We mounted the camera on a tripod and set it in the middle of a

stream—we only had to worry about getting our feet wet, not the amphibious Nikonos-V.

Tests with the special land TTL flash cords and the Nikonos SB land flash systems proved beyond our expectations. Top lighting, backlighting, macro, bounce and direct lighting all seemed to work very well with this system.

We discovered that a basic knowledge of how TTL works is necessary. The TTL will not work accurately in every situation without making minor adjustments to the film speed. For example, anytime the subject is small in comparison to a background that is dark and some distance away, the TTL will see the large dark area and tend to overexpose the film. To correct this, simply set a higher EI on the film-speed dial. If the overall subject is white, decrease the EI. If the overall subject is black, then increase the EI.

We conducted underwater tests on the Nikonos-V in the Puget Sound and off the coast of California. Scuba diving in the Puget Sound requires a lot of diving equipment, and taking along a camera only tends to complicate things. With the Nikonos-V, this was not so. The camera operated easily in the 40° water temperatures even with the three-fingered gloves used in the Northwest. Mud from the ocean floor did get on the camera but was easily cleaned off. The weight and balance of the Nikonos-V and flash were almost perfect, and little effort was required to move them around underwater. The Nikonos-V with the TTL flash system proved Nikon's slogan "36 for 36" a fact!

Off California the temperatures were much warmer, but there we encountered quite a bit of underwater wave action commonly called surge. Underwater camera housings take a real beating with the constant movement of water. Because the Nikonos-V is small and light, diving was almost as easy as diving without a camera.

Shooting available-light photos through the kelp posed two problems—the low light level and the closeness of the kelp strands. The Nikonos-V and the 15mm f/2.8 were the solution. The 15mm is fast and compact, has great depth of field, and focuses down to nine inches.



5. SB-103 uses four AA batteries, provides TTL autoexposure with Nikonos-V.

Close-up and macrophotography with the Nikonos-V and the SB flash units required no wasted shots and allowed creative depth of field never possible before. No matter which f-stop we selected, the camera and flash would give a good exposure. Photos taken at f/2.8 and at f/22 looked identical in exposure, but varied greatly in depth of field. We found that we could control the flash unit's recycling time by adjusting the lens aperture—a wider aperture requires less light, and therefore less output from the flash unit; hence a shorter recycle time.

One final test was performed on the Nikonos-V. We thoroughly mixed a large bucket of mud until it resembled an old muddy road, then dropped a new Nikonos-V into the bucket and stirred and allowed to set awhile. We then photographed, the Nikonos, rinsed it off, and put it back into use with no effect on the camera, its operation, or the resulting photos.

The Nikonos-V and its companion flash units open the door to photographic adventure. On land the Nikonos-V gives you the freedom to take this camera where no others would go and feel confident in the results. Mud, sand, rain, or snow—nothing hurts this durable camera. Underwater photographers now have the confidence of knowing that they not only have the best, most reliable underwater camera made, but they can leave their land cameras home and still bring back those unforgettable memories. The Nikonos-V and the SB flash system—the best amphibious system found on land or sea. ■