

In front of our boat lay Santa Cruz Island. There, in California's Santa Barbara channel, live some of our world's most beautiful flora and fauna, both above and below the water. As we suited up, my wife Sue and I talked about shooting some of Santa Cruz's marine life in the only way we would ever consider — with cameras.

Sue had been a land-locked close-up photographer for many

diver taking some of her first underwater photographs.

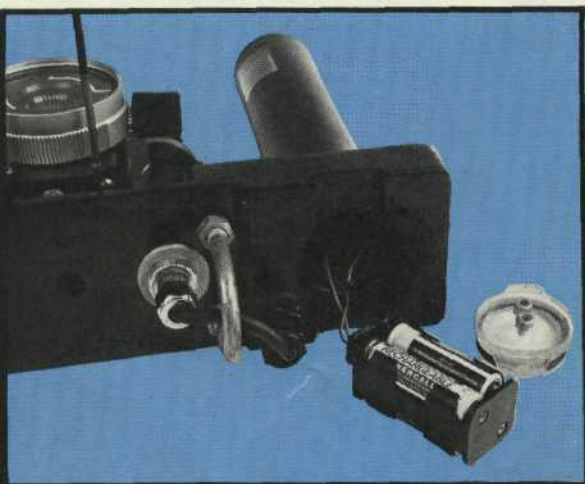
A short time later Sue motioned me to come see what she'd found. In between two rocks she'd discovered a beautiful red tube worm. However, she'd also discovered another problem with her camera set-up — the Nikonos and strobe wouldn't fit between the two rocks. She unhappily gave up that shot, and we swam to the upper edge of the reef.

"Also, build the whole thing small enough to fit into a little place. And, can you make the flash a part of the handle and trigger unit so I can fire it one-handed when I've got to hold onto a reef in a strong current?"

"Let's see, what else? A battery-saving device would be nice, too, but without a lot of electronics. By the way, make it a double strobe with an option to change the lighting ratio, and give it a single flash setting

THE LIGHT HANDLE

A BRIGHT IDEA
By Jack Drafa Jr.



photography by Jack and Sue Drafa

years, but had only recently ventured into U/W photography. Therefore, much of my equipment was new to her. She had no trouble with her dive gear. But when I handed over her camera set-up, she nearly dropped it to the deck.

"It's so heavy," she said, "nothing like my regular close-up camera. Why all this bulk?"

I answered, "I don't like the bulk either, but that's all you can buy."

A little later we were underwater, and we swam to the nearest reef. Unfortunately, I ran into immediate problems. I tried repeatedly to get my strobe working, but it wouldn't operate. Reluctantly I resigned myself to watching Sue as she worked another small reef nearby.

As I approached her, I could see that her strobe angle was slightly off axis. Remembering all the times my strobes had been off axis yet looked fine through the distorting ocean water, I signaled Sue about the problem. Only after using a great deal of muscle was I able to loosen the flash and reposition it. Again I moved away, to watch the enthusiasm of a

The current there was much stronger. Sue found that if she held onto the reef with one hand she couldn't hold both the camera and flash with the other; but if she didn't hold onto the reef, the current would slam her into the rocks.

When we'd developed and mounted Sue's slides, we were pleased to see several beautiful shots, but I pointed out she'd lost many more due to difficulties with the camera's configuration. This prompted a rehashing of the problems we'd had. Sue complained she'd spent more time adjusting her equipment than actually taking pictures. She then suggested that I, notorious for tinkering at my workbench, build for her Nikonos a strobe with "just a few" special features.

"No switches, no cords hanging down, no strobe arms to adjust, and no clamps or screws," began Sue. "And put on a special guard to protect the Nikonos connector, plus an automatically adjusting Nikonos plug so the pin is easy to fit into the camera body.

so I don't need to adjust it for 1:1, 1:2 and 1:3 close-ups."

What could I say? It was certainly a tall order, but any self-respecting amateur inventor would have jumped at the challenge. Four days later I presented Sue with the first prototype of my Electronic Handle.

Basically, the Handle is a plexiglass bar with various holes, slots, and grooves to hold the camera, plus two plexiglass tubes that form vertical handles at either end of the bar. Inside each tube is an electronic flash atop a stack-pack of four AA batteries. The top of each tube is permanently sealed, and the bottom of each has an O-ring plug held in place by a bayonet mount.

The synchronized wiring is routed through sealed grooves in the plexiglass camera bar to a Nikonos plug that's protected by a U-bolt and tightened down so the pin correctly mates with the camera.

The final touch to the Handle is two specially placed mercury switches that turn the flash on or off depending on the camera's position. When

THE LIGHT HANDLE

Sue turns the camera upright or points it down, the strobe is on — automatically! And to prevent the strobe from not operating when being used upside down, for example under a cliff, Sue only needs to tilt the Handle forward for three or four seconds, till its flash recycles, as indicated by a highly visible ready light. Thus the mercury switches add the battery-saving feature Sue wanted.

Sue's problem with the flash angle is



Sue and Jack Drafahl

easily solved by the Handle. If she points the strobes at the 1:2 framer, the angle is wide enough to cover the 1:1 and 1:3 framers, too. The exposure for Kodachrome ASA 64 for the 1:2 and 1:3 framers is f16, with an exposure of f11 for the 1:1 framer.

As for Sue's reaction to the invention she inspired, well, she's crazy about it! She's done so well with it that I recently completed a second Handle for myself. With it, I've discovered a multitude of applications. For one thing, tidepool photography becomes much more feasible. The Handle is so small it works easily in slight, shallow puddles. Another use is in the field of scientific photography, where I've found the Handle system easy to teach to scientists with little or no knowledge of underwater photography. I merely hand my apparatus to one of my scientist friends, then show him how to position a subject in the framer and how to push the shutter. All he has to do is find his subject, and the Handle does the rest.

The Handle sells for \$300. For more information write me, Jack Drafahl, % Kritter Labs, 5572 Nelson, Cypress, California 90630.

Or write my wife, Sue, the inspiration for my bright ideas. 