



photo & video

Edited by
Larry Cohen

Hold the
Jaws
Flexclamp
at the
top for a
steadier
shot

Text by Peter Bucknell
Photos by Dr Michael Rothschild

The GoPro has changed the underwater video game forever. This handy camera seems easy to use but a quick browse of YouTube underwater videos tells the real story: Ninety percent of such GoPro videos are wobbly, blue, poorly-framed and badly-lit video footage. Fortunately, with a few simple steps, a diver can greatly improve the quality of their GoPro images.

Today, divers need no longer be intimidated by the price and size of the GoPro underwater video cameras. There are three types of new videographers: divers who are happy with their footage, divers who are so dismayed at their footage that they leave the GoPro in the closet, and divers who investigate ways to get better footage by reading, asking questions and perhaps even taking a class.

For the last group, there are a few simple things a diver can do to vastly improve the quality of their GoPro footage. Unfortunately, spending more money is one of these things.



GoPro Video Camera

— *Do's & Don'ts*

Filters

If you look at the GoPro cameras on the dive boats, you will notice that there are often divers who haven't spent the extra money on a filter. Don't be one of them! GoPro makes very affordable filters, which are well made, simple and effec-

tive, that will improve the quality of your footage by taking out the cyan color typical of underwater images.

There are two basic colors of filters: red (orange) and magenta. The red filter will cut out some of the blue from your footage, and the magenta filter will cut out

the green. Choose the appropriate filter for your diving environment.

Camera rig

Be aware that the GoPro "Dive Housing" uses a different size filter to the GoPro "Standard Housing". The ten-dollar filters

that fit inside the GoPro are problematic and should be avoided. They will distort your images and won't allow you to take the filter off for surface shots. Unless you like a heavy orange or magenta tint in your shots, taking the filter off is a good idea.





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Videographer diving with the GoPro mounted on an Equinox housing

GoPro Video

on an overcast day without sunlight, take a video light.

Practice skills

Shooting techniques need to be practiced. A diver with excellent buoyancy is halfway there. I find that cave divers make good videographers as they have been trained to lie still in the water column without moving. Quite a few dive instructors have taken my GoPro course and I usually just have to work on their camera hold, camera movement and framing, with some fin kick modifications to iron out the bumpiness. The steadiest shots

come when a diver keeps their limbs stationary. In a wreck, this can be achieved by making contact with a part of the wreck. In general, don't flap your hands and fins around while shooting.

As we know, the GoPro is a tiny camera. One thing many divers don't know, however, is that there is an inverse relationship between the size of an underwater camera rig and its inherent steadiness in the water. The bigger a housing is, the steadier it will be. Shooting with the GoPro by itself, unmounted, makes it extremely difficult to get steady footage. Mounting a GoPro on something will help a diver get a steadier shot. There are a variety of mounts available from GoPro. I personally recommend the Jaws Flex-clamp as part of your arsenal.

There are several brands of telescopic poles which also help greatly with the task of holding the GoPro steady. A tray for the camera housing and two lights are the optimal setup. The lights and the arms that hold them will help steady the camera.

Video lights

Buying a video light may be a daunting purchase as lights usually cost more than the GoPro camera itself. Abundant lighting is vital for the GoPro. We see jaw-dropping films of skiers and skydivers

and expect the same for our underwater shoots, but the water actually cuts out more light than most of us realize. Our eyes adjust to the darker underwater environment and, similarly, the GoPro can automatically adjust its iris to a certain extent. This enables it to operate well in shallow depths when the water is clear and the sun is shining.

Beyond these conditions, the GoPro will try to automatically amplify the video signal, giving the footage a grainy look. Of course, the color will diminish with every increment of depth. So, if you are diving

come when a diver keeps their limbs stationary. In a wreck, this can be achieved by making contact with a part of the wreck. In general, don't flap your hands and fins around while shooting.

Etiquette & safety

Good diver behavior and etiquette seems to have gone out the window with the proliferation of the GoPro. New videographers tend to concentrate on the wrong things, or they just have their priori-



Goliath Grouper Photo Competition 2015

In an effort to increase awareness on the plight of [Atlantic Goliath Grouper \(*Epinephelus itajara*\)](#) and to further their Federally protected status, the [South Florida Underwater Photography Society \(SFUPS\)](#) is holding the first international photo competition in support of the species.

Atlantic Goliath Groupers were on a fast track to extinction but thanks to conservation efforts they thrive in South Florida waters. Every year from August through October hundreds return to local waters off West Palm Beach County for a mating ritual of collective spawning. Start planning your underwater photographic expedition to swim with one of the friendliest fish in South Florida.

THE PHOTO CONTEST:

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GoPro Video

Make contact with a part of the wreck for a steady shot, being sure not to damage any marine life on the structure

of shots, but some experimentation will show you the effect that this resolution has on subjects moving in and out of the frame.

Frame rates, on the other hand, can be altered to great effect for different conditions. A lower frame rate can really help in lower light situations. The higher frame rates offered on the GoPro are very useful when it is time to slow down footage in the editing process; twenty-four frames per second can yield good results underwater. The Protune setting is turned off by default. When people come to me with their new GoPro, I will usually turn Protune on for them. Simply put: Protune intensifies the footage and makes it more robust and hence easier for color correction.

Get used to the buttons before going on a dive. Take time to play with the GoPro on dry land. Learning the timing of button-presses will help you avoid the accidental switching of modes during a dive. Try to develop some muscle memory so you are not distracted by the camera functions when underwater.

In short, the GoPro is an amazing little camera. It is capable of shooting incredible footage if handled the right way. ■

*Dr Pete Bucknell is an underwater filmmaker, a cave diver, a music professor and a public speaker. His publication, **The Underwater GoPro Book**, has introduced divers to methods of getting the most out of their cameras, and following better and safer practices for shooting video while diving. He conducts workshops at dive conventions and events, and instructs in New York City.*

recording. It only takes a few seconds to check on these things and it could save a piece of coral, soothe an angry buddy or it could even save a life.

The main thing to remember is that the shot is of secondary importance to everything else, and that includes other divers' enjoyment. Quite often, I find that I would get a better shot of a critter if I

wait until everyone has moved off. Finding your own critters gives you first dibs on shooting, which is ideal. However, other divers will like you more if you step aside and let them take a look in a timely manner.

Another behavior that the GoPro seems to encourage is that of divers charging toward marine life in attempts

to film them before they swim off. This almost always results in the critters fleeing in the opposite direction; thus, it is always more productive to approach them calmly and slowly.

Settings

Read up on GoPro settings. Don't just go with the default factory settings. It is best

to choose an appropriate resolution and stick to it. Changing your resolution can be confusing when it comes to editing as software compatibility varies; research is required to understand what is going on, as well as the pros and cons for each resolution. The Superview setting causes some distortion at the sides of the frame; this is not a bad thing for many types



Edited by Don Silcock

PRODUCT SHOTS COURTESY OF THE MANUFACTURERS



Sea&Sea MDX-D810 Housing

Sea&Sea has released its new housing for the Nikon D810. The MDX-D810 housing is compatible with Sea&Sea's internal optical YS converter, which offers the functionality of a sync cord system while simultaneously offering the benefits of a fiber optic system. The YS converter takes the camera's TTL signal and converts it into a light signal to enable TTL strobe exposure, rapid fire and a reduced recycle time. The MDX-D810 also features a zoom/focus gear that can be retracted in order to insert large diameter lenses. The new housing is shipping now at a retail price of US\$3,500.



Subal ND750 Housing

Subal has announced the release of its new housing for the Nikon D750 camera. The new ND750 housing features access to most of the the D750's camera controls, includes a built-in leak detector and is fitted with Subal's new port lock system as standard. Fiber optic ports for strobe triggering are supplied as standard with the ND750, but the housing can be fitted with additional Nikonos, Ikelite or S6 connectors as required. The ND750 housing is available at a U.S. retail price of \$3,800.



Nauticam NA-LX100 Housing

Nauticam has released its new housing for Panasonic's top-of-the-range Lumix DMC-LX100 compact camera. The NA-LX100 housing provides access to the LX100's aperture, shutter speed and aspect ratio control rings—all of which are lens mounted. Nauticam pointed out that providing that access to those rings presented some unique challenges; however, the company succeeded, although it means pre-setting the

three controls when inserting or removing the camera. The housing utilizes the new N50 port system, which Nauticam has developed for high performance compact cameras with long throw lenses so that precise optical solutions can be offered. The NA-LX100 is available now at a retail price of US\$1,200.



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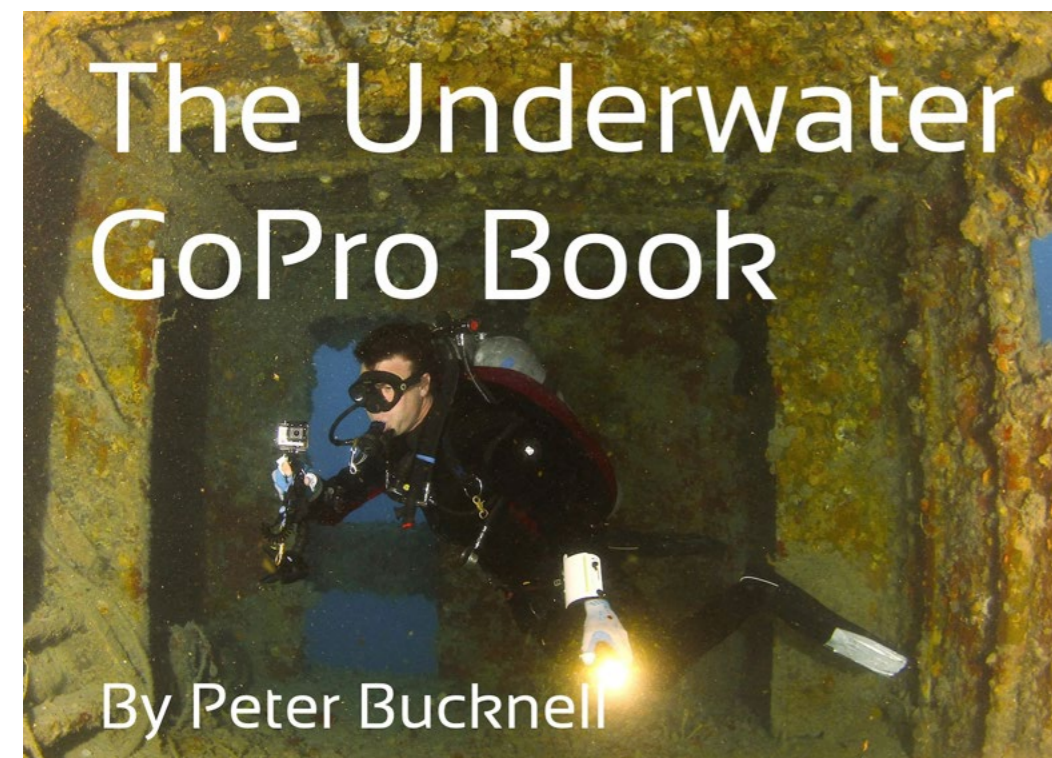
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It's here: An instructional book for divers who want to use the GoPro Video Camera. Peter Bucknell, an experienced filmmaker, lays out the positively best way to set up a GoPro for use underwater in easy-to-follow steps. He covers all the angles on how to get steady, beautiful footage in a safe and reliable way, and takes readers through the various modes of editing. All models of GoPro are covered in the book. Download it from: itunes.apple.com.

Nauticam G7X Housing

Nauticam has also released its new housing for the Canon Powershot G7X compact camera. The NA-G7X features the new Nauticam N50 port system, and retails at US\$1,100.



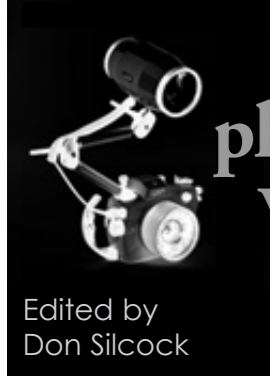


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PRODUCT SHOTS COURTESY OF THE RICO BESSERDICH



One housing fits all (well, almost!)

Italian manufacturer

Easydive has released the 'LEO III', its

newest flagship of a universal underwater camera housing. The LEO III is completely electronically controlled and can be used with more than 50 different DSLRs from Canon and Nikon. Switching between different camera models only requires swapping the camera tray and updating the housing's firmware, which can be downloaded from the manufacturer's website and transferred with an USB stick. The Leo III comes with two Nikonos-style strobe cable connectors but also supports fiber-

optic strobe cables. An audiovisual leakage alarm is standard. Vacuum system, flash-trigger for fiber-optics, engraving of name and port-adaptors for use with third party dome- and flatports (such as from Subal, Seacam, Sealux, Hugyfot and Sea&Sea) are optional. The backplate is sealed by two o-rings, and wet contact magnetic control buttons, which are embedded in the ergonomic handles, are not affected by water or pressure. The housing, which is depth rated at 150m, is made from aluminium, weighs 3.8kg and comes with a lifetime warranty. The LEO III costs €2,790—ready for a camera of the client's choice. Upgrade costs for switching between different cameras are €389 per camera. www.easydive.it

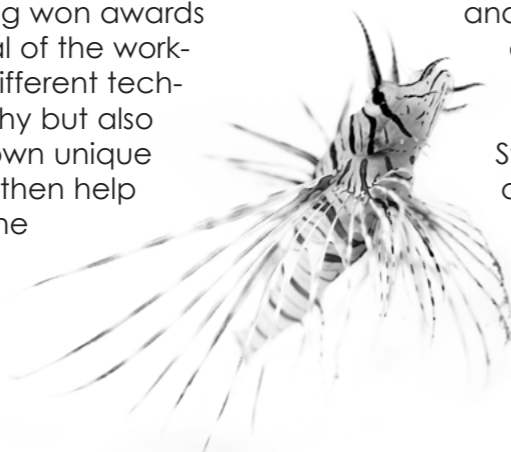
Upcoming photo workshops by X-RAY MAG contributors

Rico Besserdich will conduct a photo workshop at Sharks Bay Umbi Diving Village in Sharm el Sheikh, Egypt, May 23-30. Rico is a photographer, journalist and artist renowned in the underwater photographic world, having won awards and acclaim worldwide. The goal of the workshop will not only be mastering different techniques of underwater photography but also to develop the photographer's own unique style and personal vision. This will then help each participant to step out of the masses with their photographic work and images.

More info - Rico's workshop

Steve Jones. In October 2015 renowned British underwater photographer and X-RAY MAG contributor, Steve Jones, will be leading an east coast safari in Bali that will explore all of these sites and culminate with several spectacular encounters with Mola mola or sunfish, the largest bony fish in the ocean. An instructor since the age of 21, Steve spent most of the '90s working as a professional dive guide, spending thousands of hours underwater in the Red Sea, Indian Ocean, Caribbean, Mediterranean and North Atlantic.

More info - Steve's workshop



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