Review of the Canon PowerShot G7 X in Fantasea Housing

By Noam Kortler, March 13, 2015

With any high-end compact camera, there's always the claim that you can produce professional results underwater. With that, I decided to test whether Canon's recently released PowerShot G7 X camera together with the Fantasea FG7X housing could be used to create images of a quality normally captured by expensive and often-cumbersome DSLR systems.

Overview of the Canon G7 X

It seems like Canon's new G7 X has it all: A large 1"-type, 20-megapixel BSI sensor, a fast f/1.8–2.8 24–100mm equivalent zoom lens, and an ultra-compact design. The G7 X follows the style of Canon's S-series cameras, which are known for their friendly user interface and impressively compact size, and at the same time, provides the advanced features and direct controls which are usually found on Canon's G-series compacts.

Camera highlights:

- 20-megapixel 1”-type BSI CMOS sensor (13.2 x 8.8mm)
- 24–100mm equiv. F1.8-2.8 lens
- 1080p/60p full HD video recording
- ISO: Auto, 125–12,800
- RAW file format
- Dedicated exposure compensation dial

Overview of the Fantasea FG7X Housing

Fantasea Line is a manufacturer of well-built, yet affordable underwater photography products, including waterproof housings for both enthusiast as well as high-end compact cameras. Each Fantasea housing is designed to accommodate a specific camera model, so that all camera functions are paid close attention to in the design. The result is a compact, sturdy and ergonomic housing, such as the FG7X housing for the Canon G7 X.

Housing highlights:

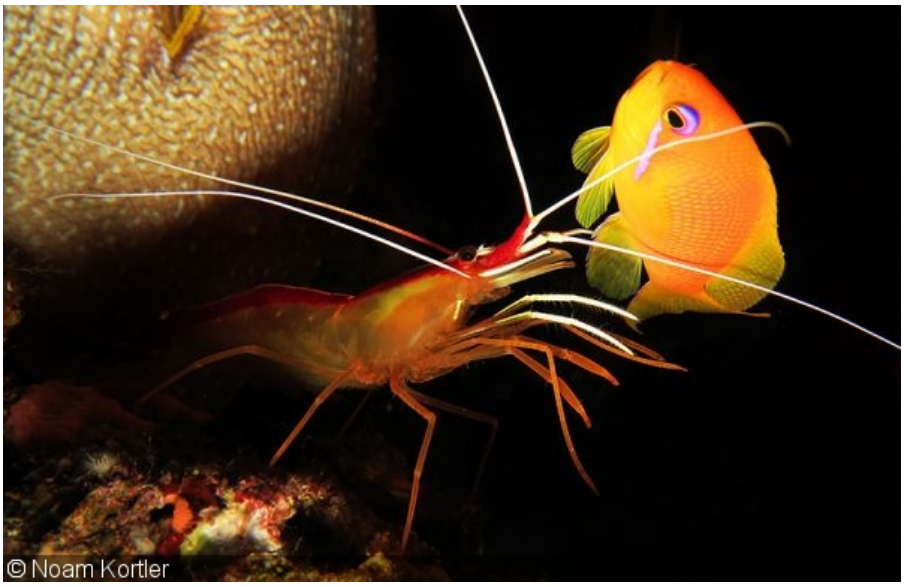
- Full access to all essential camera controls and functions with clearly marked buttons
- Depth-rated to 60 meters/200 feet
- Double O-ring protection for a perfect watertight seal
- Special cold-shoe mount for lighting accessories
- Removable double fiber-optic cable connection

Image Quality of the G7 X

Two years after Sony unveiled the first 1”-type sensor in a compact camera, the G7 X followed up with the same sensor in their high-end model. Reviewers have noted the G7 X’s ability to capture vivid colors, especially reds, a quality that stands out when reviewing images produced in the blue underwater environment.

A night dive with Fantasea Radiant video lights, in which high-sensitivity capabilities were tested (ISO up to 3200), resulted in impressively sharp and low-noise images. A later review of these images on a large screen revealed excellent performance for images captured with ISO up to 800, even in the darker areas.

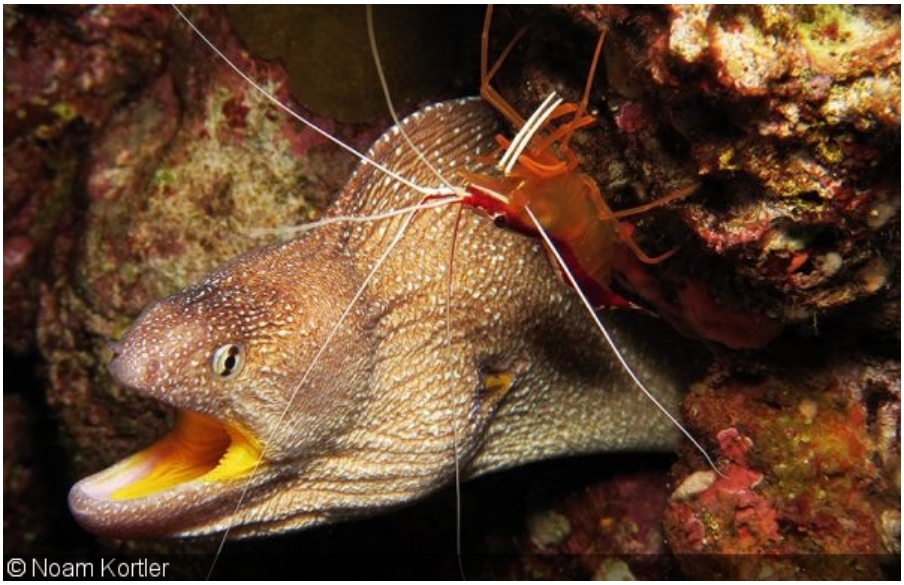
The built-in neutral density filter extends the flexibility of the camera and allows taking colorful, good-contrast images even in the roughest conditions. Using white balance presets, which are fairly accessible, the G7 X makes it easy to retrieve the red color absorbed by water, even when not using red filters or external lights.



The G7 X Lens

Canon ensured that the most is gained from the G7 X's large sensor by combining it with a bright lens. The G7 X is equipped with a 24–100mm equivalent lens and an f/1.8–2.8 maximum aperture range, making it a compact with one of the most consistently bright lenses on the market. This means sharp and colorful images can be easily captured under various light conditions, as well as it being possible to achieve a shallow depth of field.

The G7 X's exceptional image quality is especially noticeable when shooting in deeper water, below 30 feet, where ambient light is less available and yet impressively detailed images can still be captured thanks to this bright, sharp lens.



Underwater Scene Mode

The G7 X has an underwater scene mode that is quite advanced and offers three dedicated underwater focusing ranges: underwater macro, quick and MF (manual focus). When shooting in shallow water (down to 15 feet), I found the auto white balance in the underwater mode quite helpful. Furthermore, white balance can be manually corrected in underwater mode, imitating the effect of a red filter. This eliminates the need to record custom white balance data prior to taking the shot.

Personally, I prefer using the manual shooting mode, which allows for full control of all exposure and color attributes rather than using the underwater scene mode, but there's no doubt that this can produce very useful images for entry-level photographers who prefer not to have to tweak settings during a dive.

Video Performance

Full HD video (1080/60p) can be captured with the G7 X and the camera's image stabilization feature works better here than with stills. The overall quality of these videos is high, with smooth movement, well-preserved details and a generally realistic feel. The only drawback is that certain manual adjustments during video recording can only be made using the touch screen—which is, of course, not accessible underwater. However, in most cases I found that camera exposure and focus calculations were accurate enough to spare me from worrying about manual adjustments.

G7 X Controls

The G7 X controls somewhat resemble the controls featured on the S120, but with one important addition—the exposure compensation dial. Having this feature accessible through direct control is a

significant advantage, especially for underwater photography. When shooting dark objects, for instance, I like to shift the exposure compensation a little to allow for properly exposed details.

The lens control ring (the dial around the lens) has “stops” for various settings. Initially, I felt some resistance when turning this dial. However, after a few dives I became accustomed to the “clicks,” which serve as a helpful indicator of the degree the dial is turned to shift values.

Another nice feature on the G7 X is the ability to customize several controls. Many of the functions can be programmed to these buttons, allowing for quick accessibility to those functions you use most often. For instance, on one dive I was using a SharpEye macro lens to photograph a pipefish, during which time my exposure settings stayed constant. I selected the lens control ring to serve as a focus ring (instead of shutter or aperture), allowing me to more easily achieve proper focus.

FG7X Housing Build

Made from injection-molded polycarbonate and equipped with a double O-ring on the main seal, the FG7X housing is depth-rated to 200 feet. The sense of confidence provided by the solid construction of the housing and its transparent backdoor is further increased with the built-in moisture and leak detector/alarm—rarely offered as a standard with compact underwater housings.

The shock-resistant construction of the FG7X makes the housing suitable for more extreme conditions. There's nothing gentle in the environment of scuba tanks and lead weights, and this housing seems robust enough to remain reliable for the long run.

FG7X Housing Controls and Ergonomics

Thanks to the well-designed handgrip and thumb rest areas, the FG7X housing can be easily held in one hand. The neoprene hand strap provides an even better grip, which is very useful when shooting in difficult conditions, such as strong-current dives or during water sports activities.

Installing the camera in the housing is surprisingly quick: The camera simply fits snugly into the housing, leaving no room for error, and locked by turning a safety latch. This makes the process of replacing batteries or memory cards much easier—a valuable feature, especially when on a dive boat.

The fact the housing provides full and easy access to all camera functions via clearly labeled controls is a great advantage. The need to come up with "workarounds" and alternative methods of controlling exposure values due to lack of accessibility in the housing is common among other housing brands—and yet so cumbersome and frustrating. With the FG7X, full operation of the camera in manual shooting mode is nothing but intuitive.

Accessories for the FG7X Housing

Although the G7 X camera and FG7X housing are enough to capture great images and videos in various conditions, optical and lighting accessories provide the opportunity to further enhance the results with respect to creativity, color, and light. Fantasea offers a complete range of optical accessories. This wide selection of proprietary accessories limits the worries of compatibility issues with third-party accessories, like vignetting with wide-angle lenses, focusing difficulties with macro lenses, and attachment methods for color-correction filters.

Serious underwater shooters will want to use two strobes to provide even lighting for wide-angle subjects. The housing's double fiber-optic cable plate enables attaching up to two external strobes using fiber-optic cables. The cable plate not only holds the cables in place, but also blocks the output of the camera's built-in flash, which reduces backscatter in images and also helps to avoid shadows caused by lens accessories mounted on the housing's lens port.

At the bottom of the housing, you'll find a tripod mounting plate with three mounting screw holes, enabling you to shift the position of the housing on the tray according to your desired setup. It also lets you better stabilize the housing on the tray by using two mounting screws. It's a handy upgrade incorporated in a few recent Fantasea housings. Fantasea's BlueRay Tray and Flex Arms with a strobe and video light provide the system with an even more professional look and feel, while still remaining compact.

Video lights and strobes can also be attached to the housing using the top cold-shoe mount. Various connectors are available for this purpose and allow for easy integration of lighting accessories in the system. Although positioning video lights and strobes on top of the housing might result in some backscatter in the images/videos and naturally sets some creative limits, this solution can serve you well if you need a super-compact yet super-capable system. The cold-shoe mount can also be used to install a GoPro or other action camera on top of the housing, allowing you to capture video simultaneously with your still images.

Who Should Consider the G7 X in Fantasea FG7X Housing?

The Canon G7 X is an exciting camera with strengths that make it a great choice for underwater photographers. The built-in ND filter and a leading color algorithm overcome the absorption of red in the water column; a very bright lens and large sensor provide excellent recording capabilities at almost any depth; full manual control invites an endless array of creative possibilities; and customizable controls enable quick and easy access to all those special features that underwater photographers need to have handy. If the G7 X is considered to be a strong player on land, it's an even more powerful one underwater.

The Fantasea FG7X housing realizes the great potential of the G7 X by providing a solid, stylish and ergonomic waterproof solution. And while there are several housings available on the market for the Canon G7 X, the FG7X is certainly one of the most affordable. At an affordable retail price, the housing is offered along with some very useful added features, such as a built-in moisture detector/alarm, neoprene hand strap and lens port cover.

I have used machined aluminum housings for many years with my DSLR cameras and they are excellent, but after testing and using this housing made of durable injection molded polycarbonate, I am convinced it is a great value for money choice. The FG7X provides sleek ergonomics with easy handling at half the cost of a traditional aluminum housing.

For more information on the Fantasea FG7X housing for the Canon G7 X camera, check out www.canondive.com.