

# CAMERA

## CANON POWERSHOT G7X & FANTASEA LINE HOUSING SYSTEM

### AS THE CAMERA-TECHNOLOGY

**JUGGERNAUT** moves on quickly and relentlessly, today's cameras seem to become yesterday's models as soon as tomorrow arrives.

Some of these new versions are less suitable than others for use under water, because having to scroll through a camera's menus to change settings as opposed to quickly turning a dial or pressing a button can be very limiting, especially when shooting under the waves.

Imaging-equipment giant Canon has produced some compact cameras that are supremely suited to underwater photography, the S120 I reviewed in June last year being an excellent example.

Its latest, the G7X, has a similar control layout to the S120 but with a bigger sensor offering more resolution, and it is turning a few heads in the underwater shooter community.

I asked US-based Fantasea Line to send me one along with its latest FG7X underwater housing and accessories to try out.

### Camera Design

The camera's specs are impressive and comprehensive but to save space I've concentrated on the elements that are mostly relevant to underwater photographers.

Canon's PowerShot G7X is a high-end compact camera based around a 20.2 Megapixel 1in (13.2 x 8.8mm) CMOS sensor and an 8.8 to 36.8mm f1.8-2.8 zoom lens.

Images are handled in-camera with Canon's powerful DIGIC processing engine. It features a 3in 1.04m dot (720 x 480 pixels) LCD touch-screen that serves as the viewfinder and flips up for those ever-popular selfie shots. The lens has a built-in ND filter and focuses as close as 5cm.

The camera's main controls are simple and well-positioned, with the best feature being the control ring around the lens base, and this ring is what makes this camera (and others like it) so



Fantasea FG7X standard port.

suitable for shooting in manual mode. It can be assigned to adjust either the aperture or the shutter speed (up to 1/2000th sec), switching between modes with the touch of a button, and this gives the user total control over the camera.

The auto-focus system uses 31 points covering a large area of the frame and has a continuous servo with the addition of subject tracking. Alternatively the focus system can be switched to manual and the large front control ring assigned to focus adjustments.

Other features include a dedicated exposure-compensation dial, the ability to capture images in jpg, RAW or jpg + RAW formats; auto white balance settings and an ISO range from 125-12,800.

The camera can capture jpg images in bursts of 6.5 frames per second and HD video at 1080p/60. It has a built-in pop-up TTL flash and a claimed battery life of 210 shots.

Images are stored on a single SD, SDHC or SDXC memory card and can be downloaded via a HDMI / USB cable. There is also the option of



Above: The PowerShot G7X compact camera...



Left: ... and mounted using a Fantasea Line FG7X housing and accessories set-up.

downloading images wirelessly to a computer, tablet or smartphone via the camera's built-in wi-fi connection system. The mostly metal body measures 103 x 60 x 40mm and weighs 279g.

### Housing Design

Fantasea Line is a manufacturer of purpose-designed, underwater photography products; these include waterproof housings for both enthusiast and high-end compact cameras.

Each Fantasea housing is designed and built to accommodate a specific camera model. Its FG7X housing is made from injection-moulded polycarbonate with a double O-ring main seal, giving a maximum depth-rating of 60m.

It has a hinged transparent back door allowing a full view of the camera's large LCD screen and an oblong-shaped fixed front port. The rear door is locked in the closed position with a large dial, and can't be accidentally opened under water.

An internal moisture alarm gives both audible

and visual warnings should the unthinkable happen with water ingress.

External controls mimic all of the camera's own buttons and include access to the G7X's large front aperture / shutter-speed control ring and rear thumb dial, all of which are clearly marked. The only thing that can't be accessed is the touch-screen function.

A cold-shoe connection is provided on the top of the housing to attach accessories such as a video light or external strobe-mounts.

The G7X's pop-up TTL flash can be mimicked through a double fibre-optic cable-mount to a single or double external strobe set-up.

Three screw connections on the bottom of the housing allow various base-plate or tripod mount options.

### Accessories

I was sent a double-ended Fantasea Blue Ray Tray alloy base-plate with lokLine arm attachments. The lens on the G7X is equivalent to a 24-100mm zoom on a full-frame 35mm camera. Full-frame underwater photographers prefer 15-16mm fish-eye lenses so this does seem a little bit narrow at the widest setting, but an external Big-Eye wide-angle attachment lens was supplied to open up the field of view (FOV) and get the best from it.

A lens-plate with a screw-in Sharp-Eye close-



FG7X with BigEye wide-angle port attachment...



... and SharpEye macro port attachment.

focus dioptre was also included to get the most from the camera's macro settings.

Both the auxiliary lenses are push-fit and click securely into place on the housing's main port.

They are also wet lenses, so rely on water between the camera port and external lens surface to enable the optics to perform. The advantage is that they can be swapped around under water.

The Big-Eye lens is fitted with slots so that dedicated colour-correction filters can be



installed. These include RedEye and PinkEye versions for shooting in natural light in blue or green water respectively.

### In Use

Because of overseas trip timings and the need to review the camera system before it possibly became superseded I was limited to shooting at my local inland site. Not ideal, and with little in the way of suitable subjects to shoot I opted for a model in the shape of Allan Robertson, who kindly gave up his time to pose.

Before entering the water I pre-set the camera functions to manual, with autofocus set to continuous and white balance set to auto. ISO was set at 125.

I assigned the front function ring for shutter speed and the rear dial to adjust the aperture.

With a single Inon Z240 strobe mounted on a 25mm ball-and-arm system and linked to the G7X's own camera flash via a single fibre-optic cable, I was ready to go.

The housing's ergonomics allowed me to grip the set-up comfortably and securely with my thumb resting on a dedicated recess and my forefinger ideally placed to access the shutter release and zoom lever.

The camera proved easy to use even with the (for me) unfamiliar housing controls. I soon got into the groove, quickly changing shutter speed and aperture to suit the changing ambient light.

The built-in light meter is a bit small and was difficult to see clearly, so I guessed the exposure values instead (nothing new there).

The screen was bright and clear, with the moveable focus point easy to make out. Focusing was crisp, locking onto the subject quickly without having to hunt.

I started out with the standard port, shooting with the lens at its widest 8.8mm length, which seemed narrow compared to my normal DSLR set-up with a 15mm fisheye lens behind a big dome-port.

Adding the BigEye lens increased the FOV, enabling me to close the distance to my subject and get cleaner, clearer shots. The camera needs to be set on macro mode when using the BigEye, because the dome creates a virtual image that's too close for normal focusing.

The attachment lenses proved easy to pop on and off but felt secure when in use. Being able to swap under water between macro and wide-angle without too much fuss gives the compact user real-world advantages over DSLR shooters. I was starting to enjoy using the Canon G7X and to see why it's being raved about at underwater photographer gatherings.

There were a few little grumbles, however. The housing's rear thumb-dial knob is a bit small and fiddly to operate, especially with the gloves I

had to use in the coldwater test conditions.

I ended up bypassing its use and changed settings with the help of the dedicated ring function button and game-pad-style controls. I've already mentioned the overly small and difficult-to-read light meter.

### Conclusion

The Canon PowerShot G7X is a very capable little camera that sits nicely between Canon's highly rated S120 and its flagship G1X mk2, out-resolving them both with its 20.2mp sensor.

The lens's aperture range is great for creating bright, out-of-focus backgrounds. Black backgrounds are also easily achieved using faster shutter speeds in tandem with small apertures and an external strobe.

The Fantasea Line FG7X is a well thought-out and well-made housing, and while I found some of the controls a bit fiddly while wearing gloves this didn't detract from the fun I had using it.

I only scratched the surface with my limited tests in challenging conditions but I'm confident that this camera and housing combination with the interchangeable accessory lenses will soon be producing winning shots at underwater-photography competitions.

As a topside general-use camera the G7X is already proving a popular choice, but it is a little disconcerting that Canon regards a screen that pivots only one way – for selfies – as a positive selling point. It seems to have missed the big picture. ■

### SPECS

- CANON POWERSHOT G7X**
- PRICE ▶ £399
- SENSOR ▶ CMOS 20.2Mp
- STORAGE ▶ SD, SDHC, SDXC
- FILE TYPES ▶ RAW, jpg, jpg + RAW
- LENS ▶ Max aperture f/1.8 – f/2.8. 35mm equivalent 24-100mm.
- MONITOR ▶ LCD 3in touch-screen
- DIMENSIONS ▶ W 103mm x H 60mm x D 40mm
- WEIGHT ▶ 279g without battery & card
- CONTACT ▶ [www.bristolcameras.co.uk](http://www.bristolcameras.co.uk)
- DIVER GUIDE - ★★★★★★☆☆

- FANTASEA LINE FG7X**
- PRICE ▶ £395 (housing only)
- WEIGHT ▶ 736g
- DEPTH RATING ▶ 60m
- ACCESSORY LENSES ▶ BigEye, SharpEye
- FILTERS ▶ PinkEye, RedEye colour-correction filters
- CONTACT ▶ [www.underwater-housing.co.uk](http://www.underwater-housing.co.uk)
- DIVER GUIDE ★★★★★★☆☆