the controls auto locate and these are the three control wheels which, when turned, it shows up on the LCD screen what setting has been chosen so it's not a problem. In reality it doesn't take a second to align these controls and the liklihood is that once it's done you won't need to realign them again.

There are 2 ways flash lit photos can be taken. The first is with the built in strobe and, to get even coverage, you need to attach the large front diffuser. The second is to fit the supplied double fibre optic cable plate to trigger external strobes for more controlled lighting.

Fantasea produce a range of accessories to make this a true system camera so it can be expanded to suit your photographic needs. The housing is 18 x 15 x 13.5 cm in size. On land, with the camera inserted, it weighs just 1.2kg which in saltwater becomes 0.3kg negative.

At $574.95 the Fantasea FP7100 is the least expensive rigid housing on the market and I would argue that it is the market leader in terms of quality, performance and therefore value for money.

Peter Rowlands
peter@uwpmag.com

Movie lights or strobes?

By Peter Rowlands

With camera technology converging to provide stills cameras which can shoot excellent video and LED lighting technology emerging to provide ever increasing light output, it's timely to consider whether continuous lighting is the best way to illuminate both still and video.

Let's go back to basics for a minute. Traditionally, artificial light for stills has been provided by electronic flashguns; also known as strobes. They emit a brief pulse of light timed to coincide with the camera's shutter being open. The result is an underwater scene, captured in a fraction of a second, with all of the colour restored. Video on the other hand captures movement by recording several sequential frames per second. The more frames per second, the smoother the footage will look but, for arguments sake, a typical frame rate is 25 per second. Lighting each of those consecutive frames with an electronic flash would not be possible given that they need to recharge their capacitor before being able to emit another pulse of light. The solution is to use continuous light.

At this point I want to explain basically how artificial light is generated and quantified because once the penny has dropped it will stand you in very good stead. OK. Here goes.

Traditionally artificial light was generated by heating a thin filament of metal with an electrical current. The more power that was applied, the brighter (or hotter) the filament became. In addition the colour changed as the filament got hotter. The temperature of the filament is described in °Kelvin (40°C is equal to 313 °K) so °K became a figure to describe colour temperature. When a small amount of power was applied to the filament it got hot and glowed red at a temperature of about 2000 °K. At 3400 °K it glowed orange then at 5600 °K white (or the equivalent of daylight) followed by blue at 7500 °K.

In the past artificial light has been provided by halogen bulbs which were available in a variety of strengths requiring ever larger battery packs as the output increased. One downside of these bulbs was that their most efficient temperature to run at was 3400 °K which produced light output with an abnormally orange or 'warm'

A pair of LaLuz 800's on a Nauticam Panasonic GH2 with Ultralight arms makes a neat, light and versatile outfit. The settings for the shot were 1/100th @ F5.6 with ISO 1600 so that's less light than even a small strobe would give but continuous lighting can be used for stills or video. The light cut off point can clearly be seen on the right of the frame.

The optical design of the LaLuz 800's produces a very directional light with distinct shadows.

The 6000°K colour temperature is virtuanlly identical to daylight. 1/50th @ F8 ISO 1600

tint to the areas it lit.

This could be balanced by adding a slightly blue 'cooling' filter over the light but this in turn reduced the output slightly.

Fortunately today's LED lights generate light in a completely different way and have an output around 6000 °K which is very close in temperature to the daylight 'film' we shoot today. The result is an even balance between artificial and available light.

As LED technology has developed so has the light output and now we're at the stage where it is sufficient to be used for stills photography especially with the improved high ISO capabilities of a lot of digital cameras.

Underwater LED light output is achieved on one of two ways; either with a bank of LEDs or by optically concentrating the light from a single one. The former produces a softer edged, usually wider coverage whilst the latter produces a circular output with sharp cutoff.

I have had the opportunity of using two LaLuz 800's here in the UK for a while now and for anyone who likes to shoot both stills and video on the same dive they offer a very workable solution for all but the widest of lenses. I did a dry review of these lights in UwP64 so I won't go over old ground.

From a stills point of view it's quite reassuring to see what effect the lights are having before pressing the shutter but with the instant feedback of digital cameras this is much less of an advantage than it used to be. In terms of light output these 2 lights were enough to give a typical exposure of 1/100th @ F5.6 with ISO 1600. This is obviously far less than say an INON Z240 strobe would give but conversely the INON is no good for lighting video footage (they have their own range of LED lights for that!).

At $199 plus shipping the LaLuz is very good value and a pair would obviously cost $398 which is significantly less than a Z240. In addition a single

An optical LED light is much smaller and lighter than a small strobe but not as powerful or as wide an angle

Light output is achioeved by either an array of LEDs (left) or the optical focusing of a single LED (right) which provides a small, lighter and cheaper package.

LaLuz 800 is more than adequate as a focusing light.

In conclusion I doubt if LED light output will ever match that of a strobe but they are now at the stage where they should be given serious consideration for the still/video shooter.

The ideal of course would be a strobe which uses a LaLuz as a built in focus light…. Ikelite produce the DS161 movie strobe which has a 500 lumen focus/video light but the angle is only 45° compared to the 80° LaLuz. Whilst I wait for the perfect strobe/light combo maybe the simplest solution is to mount the LaLaz 800s on my strobes to give me the best of both worlds.

Peter Rowlands
peter@uwpmag.com