Wide Open Spaces

by Peter Rowlands

Panorama photography is nothing new but now, with the digital age, it has never been easier. There are several inexpensive, and sometimes free, software programmes which can blend your individual images together and produce a stunning vista which would not normally be possible in a single shot.

My introduction to panoramas happened quite by chance on a January holiday in New Zealand. (A holiday, by the way, is a diving trip without the diving!) We were staying with friends on the outskirts of Auckland and they took us to Devonport, a peninsula which overlooks downtown Auckland. It was a beautiful fluffy cloud, sunny day and the view as we came over the hill was absolutely breathtaking.

Armed with a simple Olympus C40 entry level digital camera (4mp which produces jpg shots about 1mb in size which will print excellent A4 prints) I stood in one place and took 5 consecutive shots from left to right making sure I had left plenty of overlap from one shot to the other. It took no more than 30 seconds.

Subsequently on a motorhome trip the next week to South Island, NZ we stopped on Crown Ridge to take in a spectacular view of the valley below. No single shot could take it all in one so again I took another series of shots from left to right. Anyone who has been to South Island NZ (as our brave Lions rugby team will soon be doing) will know that there are countless such scenes which cannot be captured in a single shot.

Fast forward back home to the tail end of a British winter and I downloaded my digital photos onto my laptop (a true holiday, by the way, is a diving trip without the diving and without a laptop and internet access!). Once I had dealt with the e mail backlog and sorted out the Nikonos repair estimates I started to look through my images from NZ.

Opening the first frames from the Auckland vista in Photoshop I started to blend them all together and after a while I had built a credible single image panorama by correcting slight exposure and perspective variations.

Now I'm a great believer in "fate" or "kismet" and for some reason I was looking at the list of applications on my Apple laptop and one jumped out at me. "PanoramaMaker" (www.arcsoft.com) seemed to shout to me that I should open it because it suggested that it could 'make panoramas'.

Seconds later (and obviously without reading the instructions) I had imported the same Auckland shots and was amazed, about a minute later, to see that the programme has not only produced an excellent panorama but it was also better than mine which has taken about half an hour to create! Within minutes I had several panoramas completed which only needed slight retouching to make them complete.

With these land panoramas in the bag I was keen to try the technique underwater but had no underwater

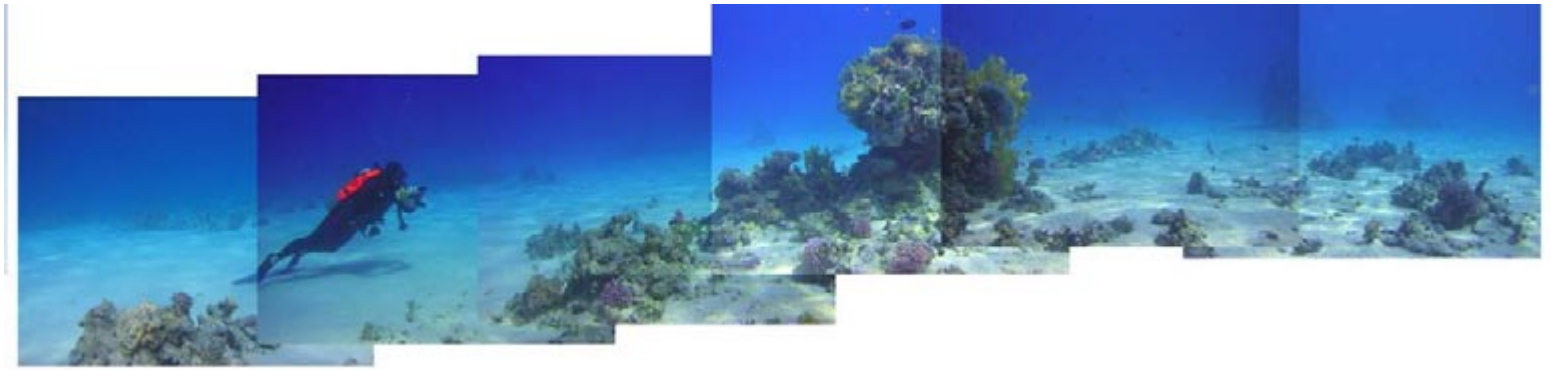
trips planned in the forseeable future. Once again ‘kismet’ surfaced after a chance meeting with Alex Mustard to photograph his shiny new Subal housing for the Nikon D2x digital SLR camera. He mentioned he was looking for a last minute trip to the Red Sea to test his new outfit and within a couple of hours we were booked on MV Snapdragon out of Sharm el Sheik for a week joining a ‘normal’ diving trip.

On the check out dive I passed my buoyancy test with flying colours and took down my Olympus C40 in its PT-012 housing with a UR Pro CY colour filter. Alex gratiously agreed to steal himself away from his new housing combo to pose for me for my first underwater panorama. The result was not very successful but it illustrated exactly what is needed to produce a good panorama.

The following guidelines may seem obvious but here goes:
Stay in one place and rotate your body rather like a tripod.
Make sure you keep as level as possible.
Overlap each shot by at least 25%.

The beauty of digital photography is the speed of results. After each dive I was able to open PanoramaMaker, import the shots in sequence and about a minute later I was looking at the finished image.

With my original Auckland



The first trial underwater was not very successful but it illustrated exactly what is needed to produce a good panorama. This is six shots cut and pasted together to show that I should have kept the camera more level and used manual exposure to keep it consistent from frame to frame. Olympus C40 PT-012 housing, standard lens at wide, UR Pro CY colour correcting filter.

Taking 4 or 5 vertical frames and blending them together with PanoramaMaker produces a shot which shows a large subject, such as this wreck the Carnatic in the Red Sea, in its juxtaposition with the reef. Olypmus C40, PT-012, Inon WL-165, UR Pro CY colour filter

(Above) The same wreck shot a few years later and joined together as a panorama. Olypmus C40, PT-012, Inon WL-165, UR Pro CY colour filter

(Left) A single frame shot of the Ghiannis D shot on film a few years ago with a 16mm full frame fisheye lens

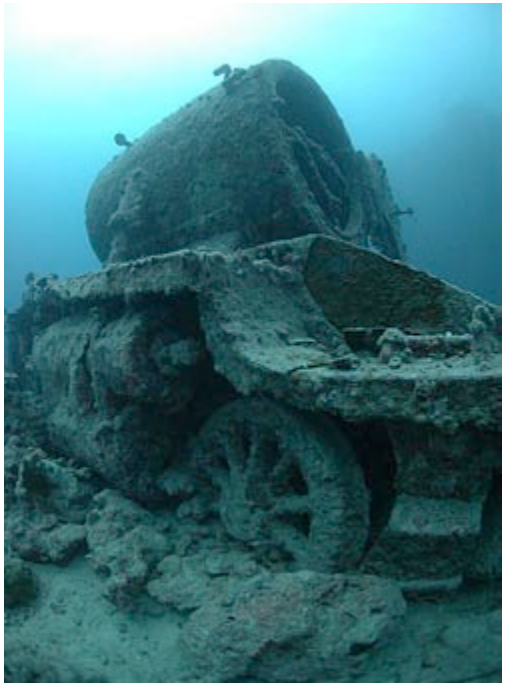
panorama I was using the standard lens which is about 35mm. Underwater this would not be wide enough for large subjects so the ideal lens needs to be the 35mm equivalent of around 20mm.

The WL-165 Inon wide angle lens is very wide (165°) but it produces very little geometric distortion and PanoramaMaker coped well when joining these images together. With such a neat camera package I was producing final images which would produce prints about 210 x 600mm in size with a file size of around 5mb.

Theoretically you should not use a full frame fisheye lens for panoramas because of the geometric (barrel) distortion it produces. That, however, is the worst thing you can say to me so I decided to try the 10.5mm Nikkor on my Nikon D70 in a Subal housing behind a low profile dome which produces noticeable edge distortion at wide apertures. Add to this that the dive was to be on the Thistlegorm at 7.30am (i.e. when the sun was very low in the sky) and that the subject I wanted was at nearly 30 metres so things were stacked against me.

Actually I had another reason to try the 10.5mm because I had a theory that whilst the geometry may be distorted the central dimensions

(Above) Despite the barrel distortion of a full frame fisheye lens, PanoramaMaker did a good job stitching 5 vertical shots together.
(Below) A typical single shot of the engine on the starboard side of the Thistlegorm. Subal/Nikon D70, 10.5mm lens, CC30 red filter 1/30 @ F5.6



remain pretty much constant. By this I mean that a diver kept in the centre line of the frame will remain much the same proportionally when at the edge. With rectilinear wide angle lenses a divers body elongates towards the edge of the frame.

The railway engine off the starboard side of the ship lies about 15-20 metres from the wreck so I swam about 8-10 metres away from it so it looked quite small in the frame. Using a manual exposure (so the exposure didn't vary from frame to frame), I took 5 vertical frames from left to right.

Back on board, I discovered a panel in PanoramaMaker which lets you preset the lens being used. I chose 14mm (the widest) and it did an excellent job but struggled with the tone transitions between each frame. This gave a vertical band of darker water which was soon evened out with the help of Alex Mustard's subtle use of Photoshop.

Having finalised the panorama, Alex insisted on adding a diver from another shot for scale which is on the front cover but personally I prefer the non-diver version. The final result, to me, is most pleasing especially as the frames to the right have managed to capture the silhouette/shape of the bows giving a strong feeling of size and scale.

Having dabbled with panoramas, they are a technique I will be doing a lot more of in forthcoming trips. They can be produced with comparatively inexpensive digital cameras and are not difficult to shoot.

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