Newsletter for week ending 9th April 2022

Collage produced using Pixlr Smartphone App using iPhone 13 Pro Images

Final Hospital Update

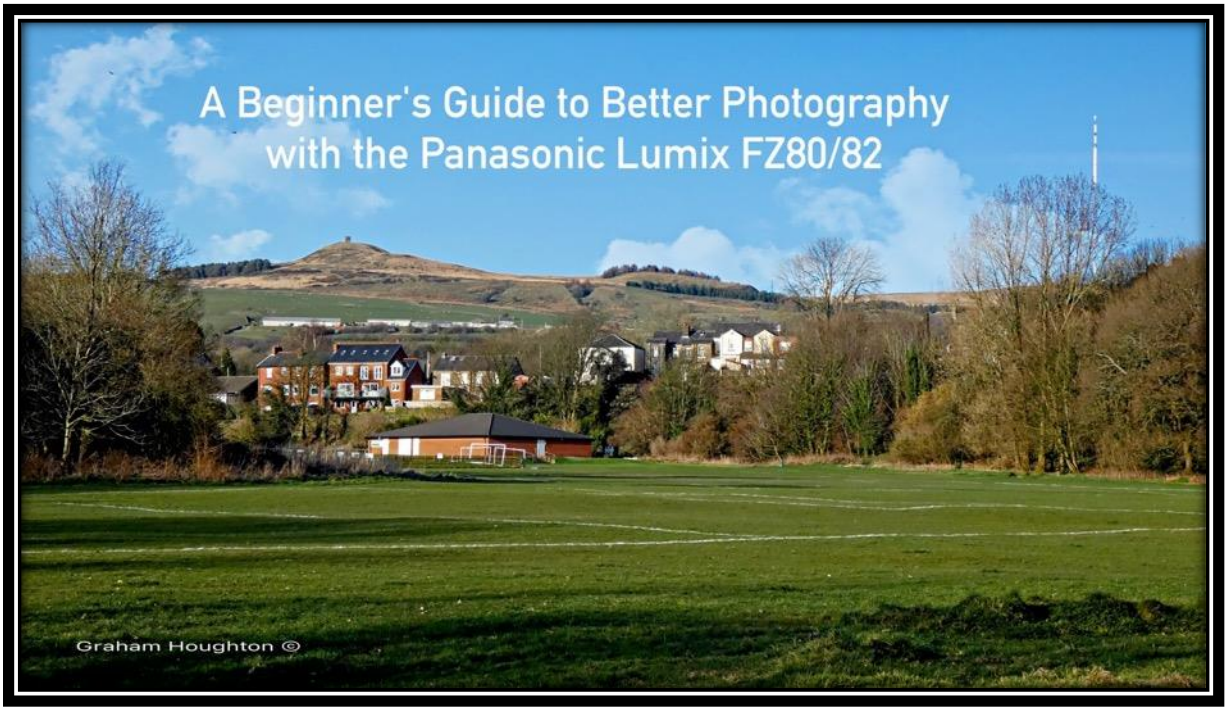
Following my diagnosis of prostate cancer last month I have now been advised that the decision has been taken to put me on the “active surveillance” pathway.
What this essentially mean is that every 4 months I will have PSA blood test and depending upon the result be either called into hospital for further tests or allowed to progress for another 4 months. At 12 months I will have another MRI scan to assess the growth of the tumour. If there has been no change I will continue as before with 4 monthly tests.
The option for another biopsy set may be taken should there be any doubts from this scan.

I am happy with this process as it was the one that I had hoped would be the outcome of the multi-disciplinary team meeting.

My brother, who had a more advanced diagnosis, is 2 months into hormone therapy prior to 20 sessions of 5 minute daily radiotherapy sessions starting in late April.

Unless there is any drastic change in my personal situation there will be no further updates as I feel that I want to put this to the back of my mind and get on with “normal” life once again.
I want to thank everyone who has given me their personal experiences of this cancer and treatment options and their encouragement – they have been really helpful.

New Panasonic FZ80/82 Tutorials for Beginners.



I have just started this new series (which was originally scheduled to start in January) with the objective of helping new users, or those struggling with it, to get acceptable images from this camera.
I am trying hard not to get into too many technical details in this series but to concentrate on providing a more practical examples on how to create better images.
Part 1 was an introduction to the camera and the common controls.

Part 2 looked at the use of photostyles, the camera metering and the use of exposure compensation and bracketing exposure. Part 3 looked at the focus modes and the of 4K photo mode to extract still from the MP4 video clips.

One of the images from Part 1 of the series showing how the FZ82 can be used at full 1200mm optical zoom to get excellent images of wildlife that need a good distance so as not to be "spooked"

One of the points that I wanted to make in this video was the fact that even at F2.8 the depth of field (front to back sharpness in the image) is enormous and actually equates to F11-F16 on a full frame when used at the same focal length and distance to the subject. Many new users are confused by what they read in photo magazines, or other tutorials, that state that landscapes should be captures at F11.
They cannot find F11 on this camera as the minimum aperture is F8 (which is the equivalent of F45 on a full frame camera!)

One of the techniques used in part 1 of the series was to show how to use the "pop-up" flash to reduce the contrast range produced if shooting in direct sunlight as the shadows cast can cause the image to be outside the range of which the sensor can record both the highlights and shadows (dynamic range). Used in conjunction with the longer focal lengths it can produce some pleasing flower images.

In part2, looking at the photostyle options I demonstrated how, in overcast and flat lighting the out of camera JPEG images could be improved by adjusting the contrast slider with the selected photostyle to provide much "punchier" looking images without any extra need to post process the camera images.

One of the most common “mistakes” when using this camera is to rely on the iA or iA+ mode to shoot the images.
Using this mode allows the camera to select what it believes are the right set up parameters for the image being presented onto the sensor. In most cases this is an acceptable set of adjustments, however, there are some scene types which can adversely affect how the camera judges the image and it sets up processing parameters for the JPEG image which may be wholly inappropriate with the result that the image is sub-optimal as to what can be achieved with the correct settings applied.
I recommend using the “P” (program auto) mode to at least overcome some of these issues whilst still allowing the camera to make some adjustments for you.
Preferably the use of Aperture or shutter priority mode is better as it allows you to make more set up changes to reflect how you want the final image to appear.

Captured in very low light even using ISO 80 and a slow shutter speed it was still possible to capture this robin using the full 1200mm optical focal length of the FZ82. There were many “rejects” as the bird kept moving its head but taking many shots is the key to capturing at least one usable image during a shoot.

4K Video Capture for Precise Action Image Extraction

Shooting video with the intention of extracting stills opens up a very wide range of possibilities and benefits for certain types of photography. One of the most obvious and

simple ways to illustrate this is by considering the fact that at best, most bridge cameras will shoot photos at 10 frames per second in burst mode.
Video on the other hand can obviously be shot at many times that rate (as is the case 24fps, 30fps, 60fps and beyond). This gives us, the photographer, many more shots to choose from per second of shooting, which can be exceptionally helpful when shooting fast moving subjects (such as animals or other wildlife), or for capturing micro expressions in a human face that may otherwise be missed in between shots on a traditional stills camera. Shooting at 30 frames per second (fps) we can record the slightest movement in a child running, the precise moment a goal was scored in a football match, and the precise moment a bird turned its head to give a catchlight in its eye. These all make fabulous pictures, and all are extremely difficult to catch when we are relying on our own reactions to press the shutter button at the right time. Unlike shooting in video mode which limits you to a 16:9 aspect ratio (or 1.85:1 in 4K cinema mode, which is nearly identical to 16:9), the 4K photo mode gives you all of the aspect ratios that you would expect of a stills camera. Specifically, it can record in: 1:1, 3:2, 4:3, and 16:9. This is ideal if you want to shoot for a specific purpose such as a portrait in 4:3 aspect ratio for a photo frame.

Extracted from a 4K video clip the exact moment the squirrel stopped moving for a second at looked up with a nice eye catchlight.

Panasonic's 4K Photo mode works by recording a 4K video of the whole event in which we can later replay in-camera, or in a video replay program, and extract still images from using the LCD screen.
The 4K resolution of the movie clip makes every frame 3328×2496 pixels – a total of 8,306,688 pixels, or 8.3MP.

Using the highest photographic quality standard of 300 pixels per inch 8MP images can be printed to 11×8.3in, which is more than enough for most purposes.

4K Photo Modes

There are three modes for shooting in 4K Photo – Burst, Stop/Start (S/S) and Pre-Burst. Each offers a different way of working that will suit particular occasions.

Burst

When you hold down the shutter button the camera starts recording the video clip , and when you lift your finger it stops.

So whilst your finger is held down you will be shooting at 4K Photo video 30fps. This mode is ideal for most occasions, recording short bursts of a few seconds.

Stop/Start

This mode is ideal for longer clips during which the camera might be on a tripod recording something going on in front of it. Pressing the shutter button starts the recording, and then when we press the button again it will stop recording stop. We can make clips of up to a second short of 30 minutes with most 4K enabled Lumix cameras.

We are recording 4K video these longer clips will take up a lot of memory. One minute of 4K Photo uses about 700MB of memory card space.

Pre-Burst

Use this mode when you can't predict when the exact point in a sequence that the action will happen. In Pre-Burst mode the camera is recording all the time but it won't save to the memory card until you press the shutter button. When you do it will save all the pictures from one second before you pressed the button and one second after, so you'll end up with sixty shots saved – 2 seconds of video. If you react a tiny bit late it doesn't matter, as the camera will have recorded the moment for you.

Playing back

The replay screen showing playback markers that I set to highlight exact moments in the clip that were idea

When you press the green playback button your 4K Photo clips will be shown with a 4K icon. Touch this to enter the 4K Photo play mode.

There are two ways of viewing your clips. The first is by using the four-way controller or the joystick to play (press upwards), play backwards (press downwards) or left/right navigation buttons to jump forwards or backwards. While the clip is playing a second upwards press pauses the clip so that frame can be saved.
When the clip is paused we can navigate frame-by-frame forwards and backwards to make sure we have exactly the right image – and then a press of the joystick or menu button allows us to save that particular frame as an 8MP JPEG on the card.

Using Markers
You can manually add markers using the marker icon and you can move to the markers with the Fn1 button, where you can then quickly access them later after you have found all the relevant points in your video clip that you want to create the still image from.

Some final thoughts
As the files that we extract from these 4K Photo clips are JPEGs it is best that we set the best JPEG processing options as we record them rather than waiting until afterwards in software.
When recording 4K Photo clips most of the usual Photo Styles and filter effects, as well as access to iDynamic Range, Highlights/Shadows and the contrast/saturation/sharpness controls that exist in the customisable parts of the Photo Styles.

To eliminate subject motion blur in you video it is best to use a faster shutter speed than we normally use for video recording. Normally we use a shutter speed that is twice the recording frame rate. So for 30p video we could use 1/60 sec but for this process it might be best to select at least 1/250 sec.

I cover this topic in Part3 of my latest FZ80/82 tutorial serials but I also created a video a couple of years back covering this https://www.youtube.com/watch?v=xCv88xSywjU

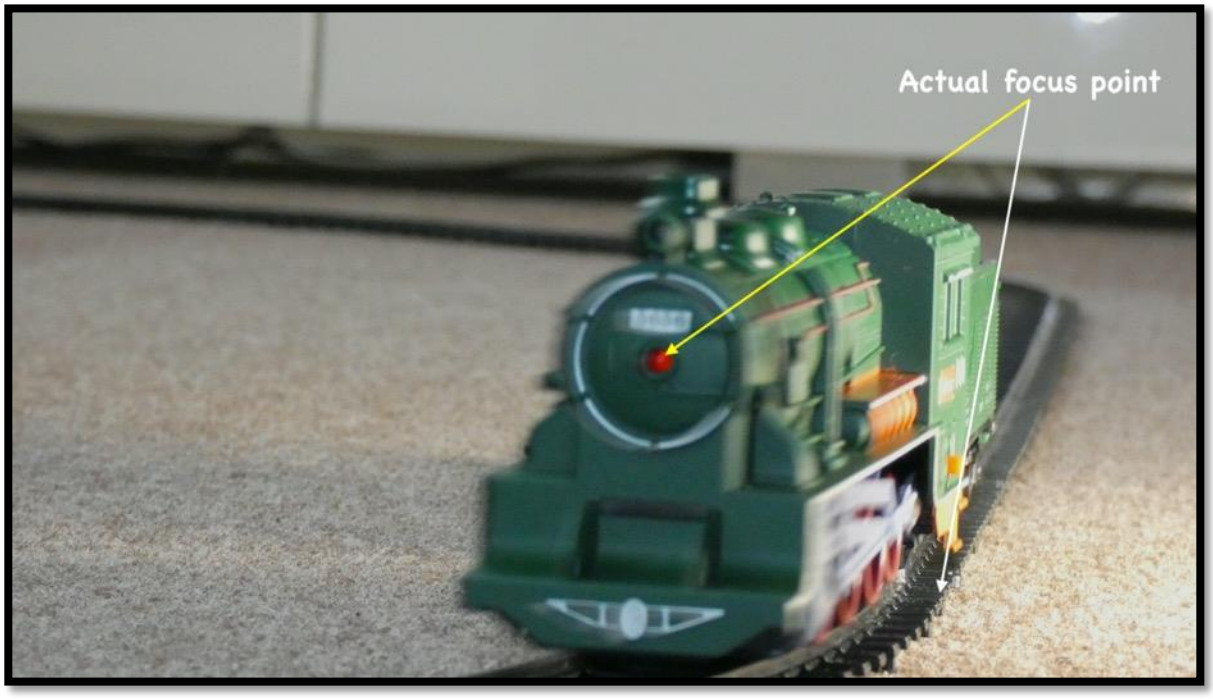
Flash Extender Working Prototype

In the last newsletter I posted a idea of a flash extender using a Fresnel lens I have now completed a working prototype fabricated from plastic card to fit over the Godox GT350O flashgun.
With the flashgun set to about 50 millimetres I will be testing the unit to see how the light pattern spreads out after distance of about 5 metres at a local nature reserve with ducks etc.

I have used two back to back lenses to create a lfocal length which has a shorter working distance to the flash tube.

The working prototype on the Godox TT350o flash gun

Could Out Of Focus Shots Be the Result of Shutter Lag?



When I was experimenting for the latest tutorial on YouTube about focus modes I came across a situation where I was getting a few “out of focus” images where I had not expected there to be any.
Setting up the experiment using a toy train I set a focus point on the track and then as the train approached that focus point I tripped the shutter and observe the image above.

You can see that during the point where I pressed the shutter button to the point where the image was taken there has been a significant shift in the position of the train.
So what should have been a sharp image of the front of the train at the focus point has resulted in an out of focus image of the train which is moved about four centimetres down the track.
The train was travelling at what I approximate as 0.5 metres per second the shutter speed in this case was 1/ 60th of a second.
So could this be the problem when you're trying to photograph something that is moving is actually due to shutter lag and not out of focus.
Shutter lag is defined as the time from which you depress the shutter button fully to the image being captured.

So given a precise point where you want an action to be recorded any significant shutter lag would mean that the image will lag behind the expected position.
This would be particularly important if you're trying to photograph something like birds in flight why do you think you're going to get a sharp image because the focus point is on the front of the bird when actually when you take the shot the bird is move slightly and you ending up with an out of focus shot?

To eliminate eye to finger co-ordination variability (though the results looked consistent) I an going to have a look at building some form of electronic test rig to determine the actual delay from the shutter button request to the image capture.

The shots were taken with the FZ80/82 which unfortunately doesn’t have a remote release socket so I will have to test this on the FZ300/330 and the FZ1000 cameras.

I’ve seen figures quoted of 0.153 seconds and when using the flash slows the shutter release because the metering pre-flash has to occur before the shutter opens. In this case the lag was 0.47 seconds!

Panasonic FZ80/82 Aperture versus Zoom

During the course of putting together the third part of my tutorial for beginners who are using this camera I was filming in some very low light/overcast days and here is where most of the problems with this camera start to really emerge.
Trying to maintain a low ISO consistent with a fast enough shutter speed to prevent subject motion blur became increasingly difficult as the day started to darken.

In the end I had to abandon the use of any shots over a 90mm zoom setting as the aperture dropped to F4.7 which meant that I had to use ISO 400 and getting some very noisy images. If you look at the maximum aperture versus the focal length (zoom setting) you will quickly see how this problem become apparent.

Zoom Setting (mm EFL)	Maximum Aperture
20	**2.8**
28	3.2
35	3.4
50	**3.9**
70	4.3
90	4.7
135	5.3
160	5.4
200 - 400	5.5
500 - 1000	**5.6**
1200	5.9

You can see that you lose 1 full stop of light from 20mm to around 50mm and 2 stops when you zoom in to between 200mm and 1000mm.
Unless you can provide mechanical support for the camera (tripod/monopod/rest it on something) then you have no alternative but to push ISO up to a point where the camera will give some very noisy and granulated images that are only suited for small prints or small social media inserts.
At the other end of the spectrum even on a very bright sunny sunrise with frost still around shots taken at ISO 80 and 1200mm showed the violent effects of the result of air turbulence/water vapour giving some really bad images. It's not only this camera I got the same effect using a 600mm lens on a mirrorless camera.

The effect is more pronounced if you shoot over water.

Filters Having Effect on Image Quality

Sometimes we need to fit filters to our cameras to provide specialised lighting effects. Such as in the case of using neutral density filters to allow long exposures or allow us to set a shutter speed equal to twice our camera frame rate if shooting video.
Landscape photographers might use a graduated filter to hold back the sky to prevent it appearing overexposed and featureless.

I was recently asked by a company to review a new range of their filters and was provided with a set of fixed and graduated ND filters.
Unfortunately being made from dye dipped acrylic plastic they had some severe image softening as you can see in this comparison image.

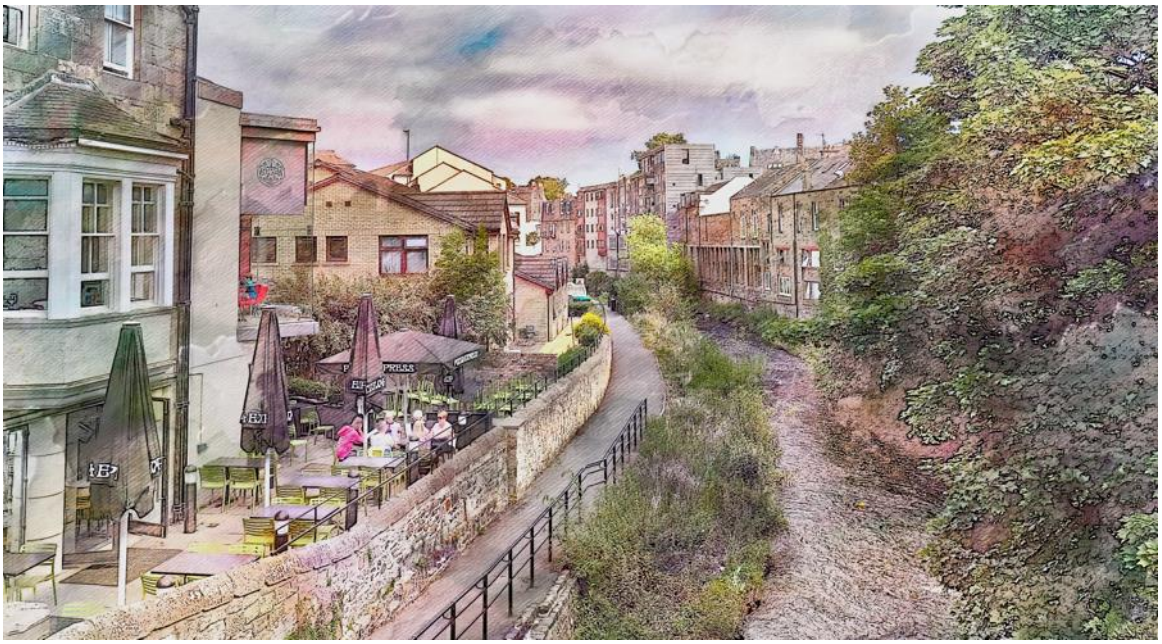
100% crops from larger image

In the enlarged section you can see the image on the right that the window frames are much softer.
I reported this back to the company who have yet to respond to my set of test images forwarded to them for their comment!

The very first test that I always carry out after buying a new filter is to hold it out at arm's length and look through it.
I then make a circular motion with it. If you can see any sort of optical disturbance then the filter has defects and should be returned.
With darker ND filters you can look at a reflected light source on the surface and again if you see any kind of disturbance return the filter.

Watercolour (and other effects) for Your Images

During our recent dark winter's nights with little photography to enjoy I started to take a look at using some of my images for watercolour painting effect such as the images below.



The images were processed with an image editor which I reviewed many years ago now called smart photo editor from https://www.anthropics.com/smartphotoeditor/ and available for Mac or Windows as a free trial or £20 for the program.

It is an amazing little program and offers lots of creative possibilities of you want a little fun with your images.

Until the next newsletter, early May thanks for reading.
Take care,

Graham