Newsletter for week ending 1st July 2023

Collage created using PIXLR app

Plagiarism of my User Manuals on Amazon

I'm very pleased to report that after the last newsletter was published quite a few readers took up the challenge and wrote bad reviews and contacted Amazon over the fact that my user manual for the FZ80/82 had been plagiarised.
So effective was the number of complaints that eventually all of the books written by this chap were removed from all Amazon sites.
I am really grateful for all of you who helped me get this great result.

As I reported in the newsletter the whole episode left me emotionally drained and even after this great result it has taken a great deal of time for me to settle back into a "normal" routine.
I hardly took any pictures on my holiday to St Ives and I haven't done any updates with tutorials for YouTube but I'm hopeful to have produced at least one before you receive this edition of the newsletter.

Answering Some Of The Misconceptions surrounding Bridge Cameras.

Based upon question posed from the contact me page of my blog, directly through my email or from comments on my YouTube videos there are still a lot of mis-understanding about bridge cameras, their set up and the image quality obtained.
In this short paragraph I want to try and help those of you who are still struggling with your bridge cameras even though you may have watched my tutorials and maybe bought one of my user guides.

1. Why do these cameras do not have F11/F16/F22 aperture settings!
    a. This is a question that I get all the time and it largely relates to those users who have bought a bridge camera (and usually one of the smaller sensor (1-2/3inch) type like the FZ300/330 or the FZ80/82) and gone to a camera club or bought books or magazines on photography.

       Particularly for landscapes and close-ups most teachers, or the publications, suggest that to get maximum depth of field (that is the amount of sharpness from foreground to background) you should use apertures like F16 or F22. That is absolutely correct, however what they are referring to is the use of at least a full frame or APS-C crop factor camera!
       The common mis-understanding is that sensor size affects this depth of field! It does but not directly as most people assume. It is the associated optics which determine the depth of field. For example if you had an interchangeable lens 1-2/3 inch sensor camera like the “fun to use” Pentax Q then if you placed a full frame lens on it even though its field of view would be very small (i.e. telephoto) the actual depth of field of the recorded image would be exactly the same as that which would be produced by the same lens, at the same focal, as that recorded with the full frame sensor!

When you design a lens to give an image circle which just covers the diagonal length of the sensor the depth of field becomes much greater.
In fact the "equivalent" depth of field is calculated from the ratio of the small sensor diagonal to that of a full frame sensor diagonal.
In the case of the 1-2/3 inch senor the ratio (or Crop Factor) is 5.6 times.
From this "crop factor" we can establish things like the aperture equivalence, the depth of field equivalence, the focal length equivalence and the resulting ISO equivalence.

The most important one here is the aperture/depth of field equivalence.
There is a direct relationship between this and the "crop factor".
The lens on a bridge camera has engraved on the lens the actual (native focal length) and its aperture.
In the example of the FZ300 image above you can see 1:2.8/4.5-108 engraved.

Unravelling these figures it tells you that this is a "constant aperture lens" (F2.8) which stays constant throughout the whole of the lens zoom range of 4.5 to 108mm.
So I'm hearing you say I thought this was a 24-600mm lens!
Well this is where the "equivalent value" comes into play!
The resulting field of view – that is the height and width of the image formed by the lens looks like that produced by the 24-600mm lens on a full frame camera.
So if you take the native focal lengths of 4.5 to 108 and multiply these values by 5.6 you do end up with 24 to 600mm!

The resulting depth of field is also directly related to this "crop factor" so if you multiply the native aperture (F2.8) by 5.6 you end up with F16 and this is the equivalent aperture and its equivalent depth of field as a full frame lens/sensor combination of the same focal length.

So incredible as it may seem with the FZ300/330 or the FZ80/82 when set to the widest aperture of F2.8 you will capture an image with the same field of view and depth of field as a full frame camera set to F16 (with the lens of the same focal length)

If you close down the aperture to F4 the equivalent depth of field is obtained as F22 on the full frame equivalent camera.
It's important not to use apertures beyond F5.6 (F32 equivalence) as a phenomenon called "diffraction" begins to soften the captured image.
I'm hoping to do a full tutorial to really explore these relationships with the actual images to show the theory turned into practical examples.

With the FZ1000/10002 and the FZ2000/2500 employing type 1 inch sensors the crop factor is 2.4 so if you use this multiplier for aperture/depth of field equivalence F2.8 would return an image with the same field of view and depth of field as F6.3 on our full frame camera at the same focal length.

2. Exposure Compensation and what it actually does.
    a. All digital cameras, with automatic exposure determination do so by producing an image which has the correct exposure when the scene captured gives an average digital grey value of 128 from those parts of the image which are considered "average"- Green grass is a typical value which returns this value.

    Sometimes however, the ratio of the subject to the background intensities can cause the metering circuit to be "fooled" resulting in an image which may be overexposed if the background is darker than the subject.

It may be underexposed if the background is lighter than the subject (think of snow/beach type scenes)

In these scenarios we use the exposure compensation control to adjust for the fact that the foreground/background intensities are different.
Thus to correct for our underexposed snow scenes we may typically use +1EV to +2EV units to make the image in the viewfinder look correct.
It is not used to brighten/darken the viewed image on the LCD or in the EVF – this is done with the individual brightness settings for those.
The "histogram" feature of digital cameras gives a good indication of the brightness range and where the mid tones are being mapped by the metering circuit. Ideally you want those areas to be central in the histogram graph display.
Again I will be explaining all this in the planned video.

On holiday with the Samsung Galaxy S23 Ultra smartphone

During the second week of June this year we had a weeks break to St Ives in Cornwall.
I was really undecided as to what camera, if any, to take with me.
In the end I decided on taking the Sony RX10 mk4, the Canon G7 mk3 and the Samsung Galaxy S23 Ultra. I was still struggling to find my usual enthusiasm to take photos and in the end the Sony captured only about 10 images, the Canon perhaps more like 50 but the Samsung became the daily image capture tool this time. I guess because it was so convenient to use and much less obtrusive than the Sony, in particular.

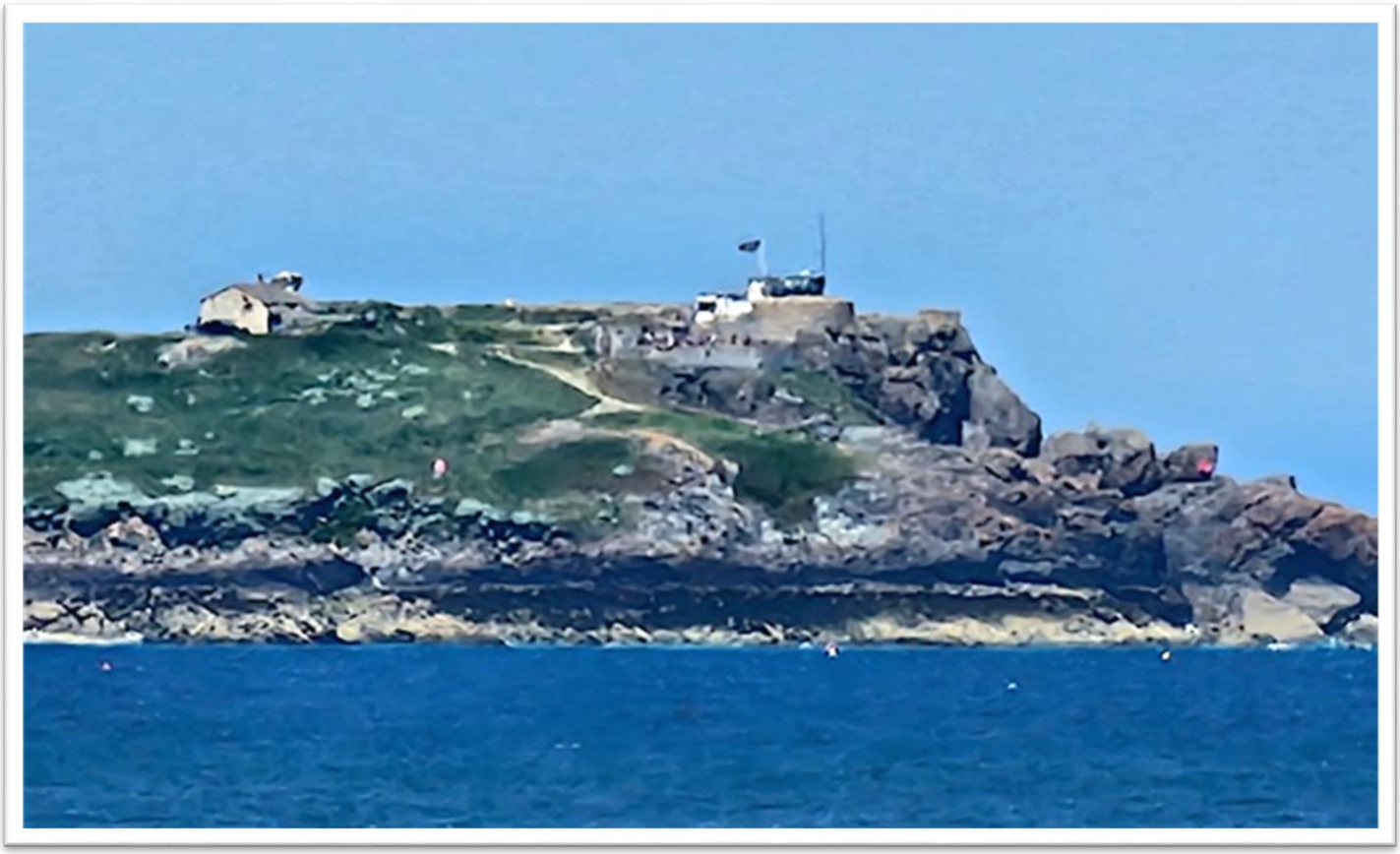
The first image is taken with the x1 lens of the came and shows the church at Lelant over the estuary.

The second image is captured using the x3 lens from the same position.

The third image here is the x10 lens, again captured from the same position.

Given the amount of water and heat haze the image captured looks very good, even enlarged as shown above. There is a little chromatic aberration (colour fringing but details like the lightening conductors are visible.

Again a x10 image capture looking toward St Ives bay at 3 miles away.
The incredible images advertised by Samsung at x100 well just look at one at x60 !!!!



Using x6 digital zoom with the x10 optical lens of the same scene as above well renders a completely useless image

By comparison to the Samsung image (although shot on a different day) the church at Lelant captured with the Sony RX10 mk IV. So providing that the light is sufficient and you don't use excessive digital zoom the Samsung smartphone can produce images which are of sufficient quality for most uses for things like this blog newsletter and social media etc.

During one evening walk around St Ives I noticed that a film crew had set up to film a scene for a program for, I presume, television.

The images were captured with my iPhone 14 pro on this occasion.

Although I haven't discovered what production this was St Ives and the surrounding area has been the setting for many TV and film productions including Poldark and film crews are regularly seen in the town and on the beaches.

Turning 74

On May 29th I celebrated my 74th Birthday along with the 9th birthday of my granddaughter, Elise. This is our annual picture, something we have done since early years.

She is a great gymnast and recently competed in a large competition and although this year she didn't achieve as many medals as last year she still did very well and we were extremely pleased for her. We joke about our birthday, As she gets one year older – I want to get one year younger and we should meet in the middle!

The "grim reaper" might have his hand on my shoulder but he's not having me yet until I have had a bit more fun out of life. With that in mind I sold my Honda Civic Sport and bought the Mercedes AMG A45S 420BHP hatchback with hand built engine.

How AI (Artificial Intelligence) is helping us photographers.

Artificial intelligence (AI) is helping us photographers in a number of ways, including:

Automating tasks. AI can automate many of the tedious tasks involved in photography, such as photo editing, and colour grading. This frees us up to focus on more creative aspects of our work.
Background removal. AI can be used to automatically remove backgrounds from photos. This can be useful for portrait photography, product photography, and other types of photography.

Improving image quality. AI can be used to improve the quality of images in a number of ways, such as by reducing noise, sharpening details, and correcting colour balance. This can help us to produce more professional-looking images.

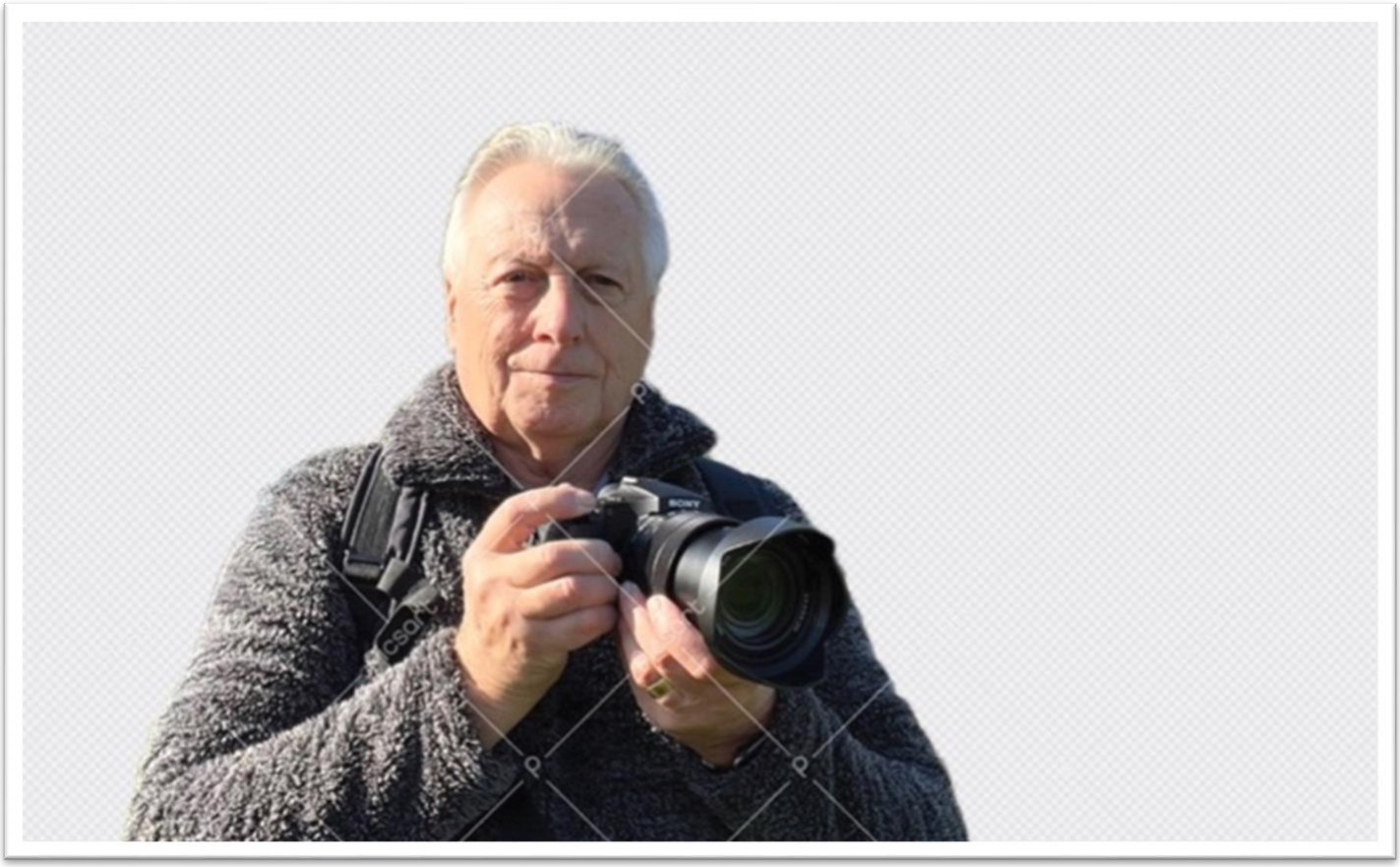
Generating new ideas. AI can be used to generate new ideas for photographs, such as by suggesting different compositions or effects. This can help us to break out of creative blocks and come up with new and innovative images.
Personalising photography. AI can be used to personalise photography by suggesting different filters, effects, and compositions for different types of photos. This can help us to create images that are more relevant to our needs.
Overall, I think that AI is having a positive impact on photography by making it easier, faster, and more creative.

AI can also be used to generate new images from scratch. This can be used to create realistic-looking images of people, places, and things that do not exist in the real world.

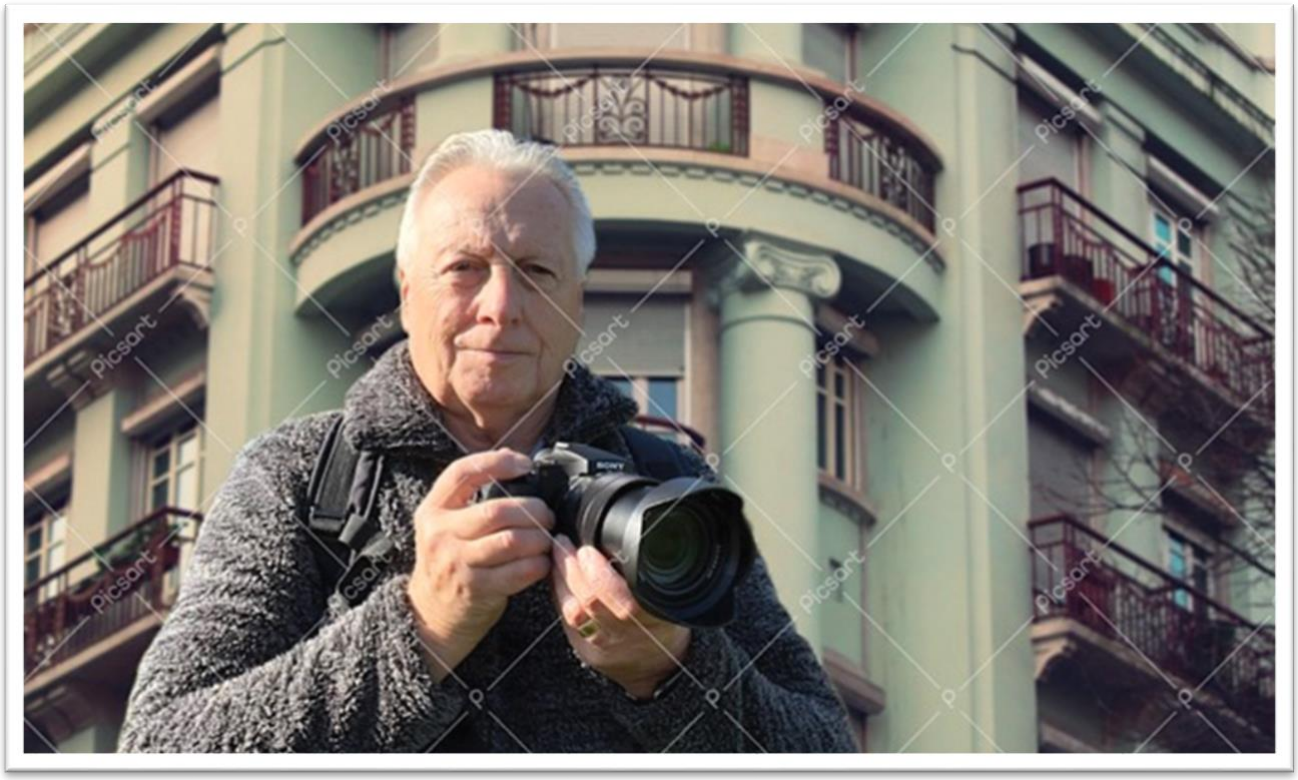
I asked a text to AI program to generate an image of a car on a race track – this is the result! Some programs are free to try like Picsart.

You can generate new images or use their AI functions to remove backgrounds and insert new ones:

He was my starting image



AI Background removal feature applied



New background image inserted and smart blur applied

As AI technology continues to develop, it is likely that we will see even more ways in which AI can help us to produce better images either directly in camera or provide assistance in editing to overcome blur and noise issues which still prevail with some images.

Rediscovering the Panasonic Lumix FZ200

Whilst on holiday and looking around one of the local charity shops I found this pretty doll.

It was an ideal subject to compare the image quality from a 10 year old camera using just 12 Megapixels to that which is obtained from more recent cameras.

When enlarging the image JPEG noise is very apparent at ISO 100 however at normal image sizes this is not that noticeable. Sharpness at default setting is good

Compared to a later camera using similar enlargement JPEG noise is more controlled.

Given good light the FZ200 with its constant aperture F2.8 lens is still capable of producing excellent results.
I find it particularly good at flower images taken at full 600mm EFL and at 1 metre away using the AF macro mode to give perfect isolation of the flower against distracting backgrounds.
See the sample images at the end of this section using wide angle versus telephoto setting.

My particular camera is showing its age now and I have had to replace the back control wheel and clean the inside of the front element of dust – I did see one for sale in a local shop which looked in very good condition and only £130.

Maybe I will buy that one to replace mine if it is still for sale when we go back on Saturday morning and it appears to function OK.

Image taken with the FZ200 at F3.2, ISO 100 and 25mm focal length

Image taken with the FZ200 at F3.2, ISO 100 and 625mm focal length

Showing the subject isolation when you use the longer focal lengths with the FZ200. Ideal for people portraits as well.

FZ300/330 140mm EFL F2.8

Canon 5D mkIV 140mm F19

Canon 5D mkIV 140mm F4

So here in these sample images you can see the 1-2/3 inch sensor FZ300/330 at F2.8 and 140mm EFL against the full frame sensor camera set 140mm but needing F19 to achieve the same Depth Of Field. The final image is the full frame camera set to the wide open aperture of F4 and you can see the very shallow DOF that cameras with full frame sensor and matching optics deliver.

The end of the line for bridge cameras?

My collection of Panasonic Bridge Cameras

Bridge cameras are not yet obsolete, but they are facing increasing competition from smartphones and mirrorless cameras.
Smartphones have become excellent at taking photos, and they offer the convenience of always being with you.
New mirrorless cameras can now offer the same image quality as DSLRs, but in a smaller and lighter package thus making them more desirable.

If you are looking for a camera that offers a lot of versatility and features, then a bridge camera is still a good option and cameras like the FZ300/330 or the FZ10002 can still be purchased new.
Bridge cameras offer a wide zoom range, telephoto which is great for wildlife photography and wide angle more suited to landscape photography.
They also typically have a good selection of manual controls, which can be helpful for more serious photographers.

However, if you are not sure if you need all the features that a bridge camera offers, then you may be better off with a smartphone or mirrorless camera. Smartphones are more affordable and easier to use, while mirrorless cameras offer better image quality and more flexibility having the option of being able to use better quality prime lens optics.

Ultimately, the best camera for you depends on your individual needs and preferences. If you are looking for a versatile camera with a long zoom range, then a bridge camera is still a good option. However, if you are not sure if you need all the features that a bridge camera offers, then you may be better off with a smartphone or mirrorless camera.

Do we still need tripods or monopods?

Tripods and monopods are still necessary for photographers, in my opinion, even in the age of image stabilisation technology. There are a few reasons for this:

Tripods provide the most stability. No matter how good your camera's image stabilisation is, it will never be as stable as a tripod. This is especially important for long exposure photography, where even the slightest movement can cause image blur.
Tripods allow you to use slower shutter speeds. This is important for low-light photography, where you need to use a slow shutter speed to get enough light through to the sensor.

Tripods give you more control over your composition. When you're using a tripod, you can take your time to compose your shot perfectly. This is especially important for landscape photography, where you want to get everything just right.

Tripods can be used for other purposes. Tripods can also be used for things like macro photography, time-lapse photography, and astrophotography.

Of course, there are times when you don't need a tripod. If you're shooting in bright light, or if you're using a camera with good image stabilisation, you can often get away with handheld shooting. But if you want the sharpest possible photos, a tripod is still the best option.

Here are some of the situations where I believe a tripod is especially useful:

Low-light photography: When there's not enough light, you need to use a slow shutter speed to get enough light. A tripod will help you avoid blurry photos caused by camera shake.

Long exposure photography: Long exposure photography requires using a very slow shutter speed. A tripod is essential for avoiding blurry photos caused by camera shake.

Macro photography: Macro photography requires using a very high magnification. This can make it difficult to hold the camera steady, even with image stabilization. A tripod can help you avoid blurry photos caused by camera shake. The alternative here is to use electronic flash.

Time-lapse photography: Time-lapse photography requires taking a series of photos over a long period of time. A tripod will help you keep the camera steady so that your photos are aligned and in focus.
Astrophotography: Astrophotography requires using a very slow shutter speed to capture the faint light of stars and other celestial objects.

Ultimately, whether or not you need a tripod depends on your individual needs and preferences. If you want the sharpest possible photos, a tripod is a worthwhile investment.

However, if you're happy with handheld shooting, you may not need a tripod just keep an eye on shutter speed that it doesn't fall below 1/focal length of lens for best results!
A good tripod is a very worthwhile accessory, it will outlast many cameras in its lifetime!

Distortion and wide angle lenses

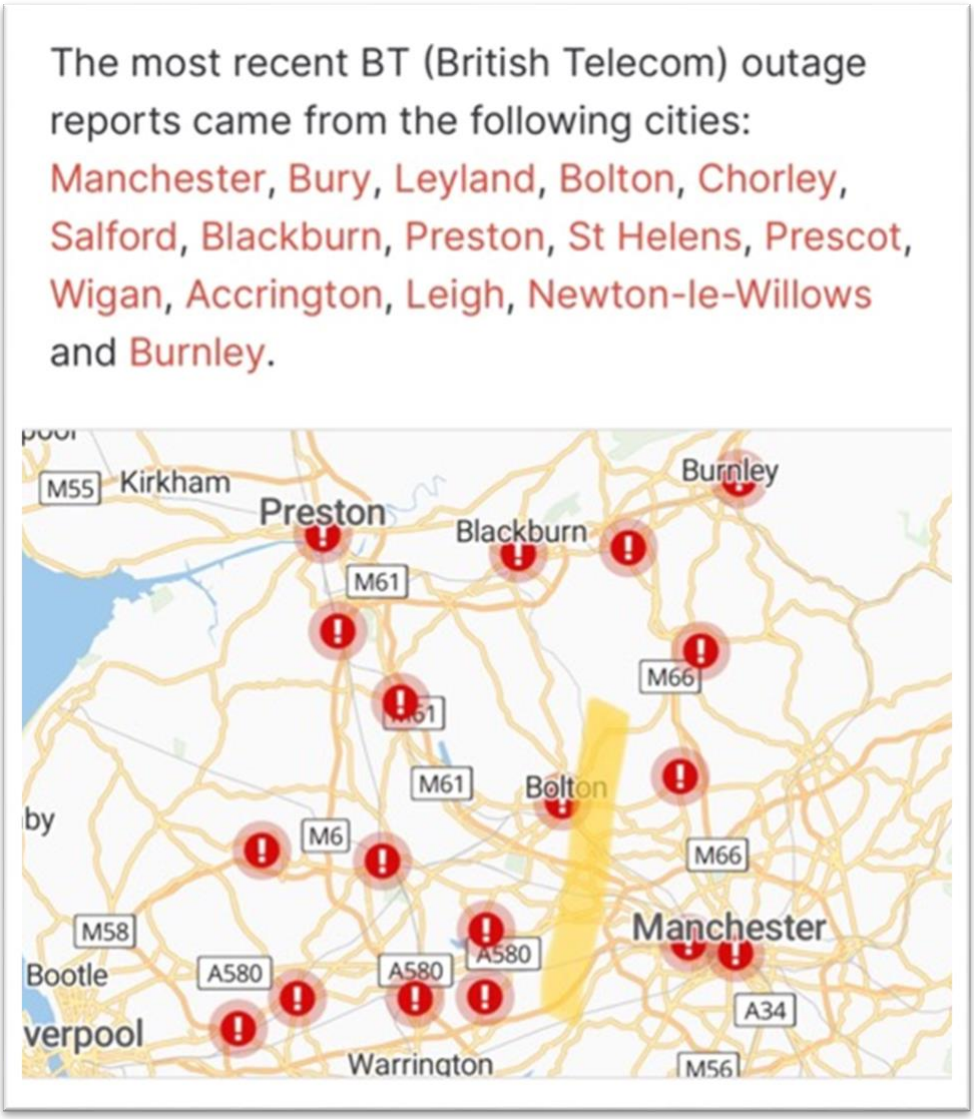
If you have even taken a picture with your lens at a wide angle setting then if your lens axis is pointing upwards or downwards you will see converging verticals like the ones at Lytham hall shown below.

There are special lenses called “tilt shift” to correct this in-camera however unless you can keep the lens axis parallel to the floor, meaning you would need a raised platform to get the centre of the lens in the centre of the building, then you will need to resort to some post process editing to correct those tilting verticals. Programs like Photoshop have a distortion correction mode which allows these sorts of distortion to be easily applied and make the image look more as you would perceive it.

Using the free transform mode allows the verticals to be moved to a better position.

Internet and our vulnerability

During the writing of this newsletter a very large area of the northwest of England suffered a major outage of the internet and telephone system leaving thousands without internet or the facility to make emergency calls to fire, ambulance or police services.
The map below shows the areas affected – some 60 square miles!



The service has been down now for almost 12 hours, so what has caused this catastrophic failure of the BT service which serves all the internet to all of our region?

A major failure of one or more mega stream links between BT Hubs? A "cyber-attack?" sabotage?
At the moment there is no explanation being given as to the nature of this failure but it has highlighted several issues:

BT have made it clear that by 2025 they want to end traditional copper wire telephone service.
This means that every household with a tradition telephone will have to switch to a VOIP (voice over internet protocol) phone.

Many care providers are petitioning the government to stop BT rolling out this scheme as many elderly people use devices which use telephony to connect to a call centre in the case of an emergency.

Today's outage .and a similar one 3 days ago, shows just how reliant we have become on the internet.
Without the internet connectivity I cannot make calls on my landline phone as that is now VOIP.
Without a mobile phone I would be very vulnerable.

Simple gadgets around the house no longer function like Alexa, my wi-fi security cameras, remote back-up of pc data etc. I cannot watch on demand television and other services are also affected like my Ring doorbell. My car uses the wi-fi and internet to monitor security etc.
We are really going to have to evaluate our vulnerability and have contingency plans for future episodes like this!
A large investigation is now underway as BT through there contract are supposed to have back up services to keep emergency services like 999 or 101 available at all time.

Colour or Monochrome?

I've been asked recently about shooting black and white with Panasonic Lumix cameras and the filters available in the monochrome photostyle.

Now this is an area that I have never really experimented with as there are so many post processing options available within most editing suites. You still have the original colour image available should you want to use this for future edits.

Circular Polarising Filter Not Working!

I received an email from a reader who had purchased a Hoya Circular Polarising Filter, like the one shown above.
The reader went on to say that he couldn't get the filter to work when he screwed it onto the lens of his camera.

Let me explain the situation when using circular polarising filters.

There are several conditions in which a circular polarising filter will not show any change to the scene that you're photographing.

Unless you are in bright sunshine and the sunlight is at 90 degrees to the axis to which you're taking the photograph you will not see the full benefit of using a circular polarising filter.

If you are trying to use one of these filters in overcast light or the sun is directly behind you or directly in front of you, then you will not see any change in the scene that you're photographing.

Circular polarising filters work by filtering out light that has become polarised due to reflection from a non-metallic surface.
Light waves can be polarised in one of two directions, and a polarising filter will only allow light waves that are polarised in a specific direction to pass through.
When light hits a non-metallic surface, such as water or glass, it becomes polarised.

A circular polarising filter can be rotated to align with the polarisation of the reflected light, and when it is aligned correctly, it will block the reflected light from reaching the camera sensor.

This can have a number of effects on photographs, including:

Reducing reflections: This is the most obvious effect of using a circular polarising filter. It can be used to remove reflections from water, glass, and other surfaces, revealing the details that would otherwise be hidden.

Increasing colour saturation: A circular polarising filter can also increase the saturation of colours in a photograph. This is because it blocks out some of the light that would otherwise be scattered, leaving only the light that is polarised in the same direction as the filter.

Deepening the blue sky: A circular polarising filter can also deepen the blue of the sky in a photograph. This is because it blocks out some of the light that is reflected from the atmosphere, leaving only the light that is coming directly from the sun.

Reducing haze: A circular polarising filter can also reduce haze in a photograph. This is because it blocks out some of the light that is scattered by the haze, leaving only the light that is coming directly from the subject.

Turn the filter slowly and look for the change in the reflections from water, the sheen on foliage or the darkening of skies in your image to determine the correct cut point for the filter.

Make sure that you purchase a circular polarising filter, not a linear polarising filter as circular polarising filters are designed to work with autofocus and exposure metering systems, while linear polarising filters can interfere with these systems.

Finally, don’t leave, it on the lens constantly, because the near 2EV light loss can mean blurred shots due to slower shutter speeds.

And finally an image from my Pentax Q7 with standard zoom lens.
This is a fun camera to own and use and it's a pity that Ricoh didn't develop the line .
With a 1/1.7 inch sensor and ability to shoot DNG RAW files it can return some beautiful images. I had two cameras the smaller sensor Q10 with the tele zoom lens however I sold that one when I purchased the first Canon EOS M camera.
I have adaptors to use Pentax K and Canon EOS EF/EFS lens however they have to be in the manual mode which can be a very limiting.

Anyway that's it for this newsletter, I didn't get out to film the piece on crop factor and circular polarising filters – typically it rained on the only day free this week. I promise it will be available soon.

Once again a very big thank you to those who helped get Amazon to take down the plagiarised books that caused me a great deal of upset.

Until the next one, probably mid-August.

Graham