

Newsletter for week ending 28th May 2022



Collage produced using Pixlr Smartphone App using iPhone 13 Pro Images

Another year goes by.

Tomorrow, that is the 29th May, sees my 73rd birthday and also the 8th birthday of my granddaughter Elise.

We usually have a joint family celebration however it's only fair that Elise receives most of the attention and our chance to spoil her with presents etc.

As she also recently won her first regional gymnastics competition in her year group gaining first in vault and fourth in floor exercises with an overall first place I think that deserves a little extra reward as well!

Looking back over the last 12 months it seems like it has been somewhat restrained compared to previous years. Largely due to the Covid situation and also a few health issues along the way!

I haven't been to Arran now for nearly 2 years with the last visit being in early July of 2020 when restrictions were partly lifted to allow visitors to the island again.

I'm hoping to get back there however unless my consultant can get to the bottom of my breathlessness it won't be worth me going as there are many hills there that would be too much especially carrying a camera backpack etc.

Fingers crossed I will have some resolve by September when I would like to go back.

A New Drone



DJI Mini 2 Drone

I was getting more and more frustrated with the "drone laws" which virtually meant that flying my existing DJI Mavic Pro was very limited in its use for me.

Having watched several reviews of the DJI mini 2 I decided to bit the bullet and purchased one.

Being under the 250gram limit meant that a lot of the restrictions simply were no longer applicable to drones weighing more than this weight.

It basically means that providing flying conditions are safe (wind speed and visibility) and as long as you stay out of flight restricted zones (which DJI drones will not enter as they have a built in database of FRZ [flight restricted zones]).

By use of flight maps you can also make yourself aware of any of these areas before you go to a location to take flight.

I think there has been a lot of publicity about drone flying and the police are becoming a little more educated as to what constitutes an infringement however I do carry a laminated copy of my Flyer ID, registration documents and a copy of the drone laws relating to vehicles under 250gram. I also have all the relevant details on my smartphone which is used to fly the mini 2 drone.

A couple of weeks practice flights and I will be taking this when we go on a mini break to St Ives (Carbis bay where the G7 summit was held last year). I hope to be able to get some lovey aerials video of not only the beautiful coastline but also some of the Poldark locations showing the Cornish tin mines.



St Ives, Cornwall

Why the upgrade? The main new feature is the updated camera, which now captures video in 4K at 30 frames per second at a bit rate of 100 megabits per second.

Recording in 4K also gives access to a 2x digital zoom that actually looks decent.

For photos, the Mini 2 captures 12-megapixel shots and you can grab JPEGs and Adobe DNG raw images now, too.

The small 1/2.3-inch sensor doesn't give you much room for corrections, but it does give you some room, which is nice if you want to rescue shadow or highlight details. You also get a three-photo exposure bracketing mode and three panorama options.

DJI added its OcuSync 2.0 wireless technology, the same used in its higher-end Mavic Air 2 drone. OcuSync extends the transmission range out to about 6.2 miles (10 kilometers) and has anti-interference technology that blocks unwanted signals. This is of course largely academic as we are supposed to fly keeping the drone in plain sight!



A still image from 4K video capture on the Mini 2 drone

I did a quick test flight the other day to test the video quality in 4K and it is very encouraging and gives the possibility of snatching 8M stills from the clips.

Focus Stacking – In-camera lens focusing or Slider Rail?

When depth of field is too shallow for close up images we can resort to a technique called “focus stacking” to artificially create an image which has the required depth of field.

As the name suggests, the aim of the focus stacking technique is to merge a number of shots into one final, single image where all of the different focus points are stacked together.

Doing so will help you to gain a lot more depth of field, all by taking different shots with individual focus points and then merge them together in post-production.

Stopping our lens down to the smallest aperture often results in image softening due to a phenomenon called diffraction so by using a focus stacking mode we can use the “sweet-spot” of the lens to create the sharpest possible images.

The usual way is to put the camera into manual focus mode, move the camera on a focus rail to the closest point of the image, focus the image and then capture the first image.

We then move the camera towards the rear of the object by a few millimetres and then take another shot. We continue until we have taken a “slice” of the image from the front to the back.

With a series of images we can then combine them in a program like Helicon focus or Photoshop which merges all the “in focus” parts from all the images thus building up a composite image from the sharpest parts of all the image slices.

In most cases this procedure works well using the focus rail method.

You can use a manual rail and move the camera in defined steps or you can use one of the powered sliders (such as the MIOPS slider which I will be reviewing shortly when the final software is approved).

Some cameras have the option to do focus stacking directly such as the Canon EOS M6 mk2 or the Canon EOS 90D, 5D mkIV, EOS R or the Olympus OMD EM1 mk2 and the OMD EM5 mk2. For Fujifilm users the GFX 100,GFX 50R,GFX 50S,X-H1,X-Pro3,X-T4,X-T3 &X-T2

The Olympus also has the ability to convert the stack of images into the final JPEG image for you.

All current Panasonic Lumix G models as well as some Bridge cameras offer an in-camera focus stacking mode that is easy to use and which avoids the need for post-capture software when we want to extend or control our depth-of-field.

This feature is accessed via the Post Focus mode, and comes in 4K and/or 6K varieties according to the camera you are using.

It is a useful feature and it is highly flexible if you take the time to make the most of your settings so that post-capture manipulation can be minimised – or avoided. You can also use the 4K post focus MP4 file in some programs like Helicon Focus to achieve the composite image.

Focus stacking not only is useful for close-up or macro work but it can also be used successfully with landscape photography.

When focus stacking in landscape photography, all you’ll need is your camera, lens and tripod. The tripod will be fundamental to the process as without it, you won’t be able to keep the images perfectly aligned.

Hand held shooting is possible however results will be hit and miss depending on how well the post processing software can handle mis-aligned images.

With focus stacking, there shouldn’t be any difference in terms of framing. While you can still focus stack when shooting handheld, even if you have the most steady hands in the world, there will be some slight changes between the images. This could mean that your editing software may not be able to align them later.

So which is better in-camera or external focus slider?

Well for general photography where we are less than 1:1 magnification both methods produce very similar results. Here's the Olympus OMD EM1 Mk2 used in automatic focus stacking and then used fixed focus on an automated slider rail.

Focus Rail Stacking



in camera focus stacking



At 100% view the in-camera image shows slight softening in some parts

Panasonic FZ2000 Focus Bracket Mode



20 focus bracket images with step 5 with the Panasonic Lumix FZ2000/2500

FZ300 Post Focus MP4



30 images from Post Focus MP4 File Panasonic Lumix FZ300/330 (some fuzziness!)

In most of the Panasonic Lumix models the JPEG will come from the 4K Photo mode, and thus will be 8MP images that measure 3840 x 2160 pixels

The GH5 and G9 offer 6K Photo, so we can get 18.7MP images that measure 3744 x 4992 pixels. Alternatively use the Focus Bracket mode to capture a sequence of full size images.

The mode works best with the closest and furthest objects aren't miles apart. When the focus distance changes during the video clip, made during this process, the size of objects in the scene will also change. This can make it difficult for the camera to blend the images together convincingly if there are extreme focus distance variations.

If you find your final result has odd areas you can try merging it again which will often produce a different result. Sometimes you just need to shoot it again though, so try to focus merge on the spot and check the results before moving on.



20 images using focus bracketing on the Fuji XT-3 with 18-55mm kit lens (affinity photo stacked)

With the Fujifilm cameras the number of frames can be set between 1 and 999. The number of frames needed will vary depending on the following factors:

The depth-of-field provided by the current aperture, the distance to subject and the size of the 'Step' set in the focus bracketing menu.

The step value from 1 to 10. The step is calculated using the distance between the near and far limit of the depth-of-field on the first image captured. Setting the Step to 1 moves the focus by approximately 20% of that distance. A Step of 5 moves the focus by around 100% of that distance. As an example, if the difference between the near and far limit of depth-of-field is four feet, a Step of 5 would move the focus point four feet for each shot.

Fujifilm: Quoted from a Fujifilm article that has since disappeared



The image above shows the result of the changes in perspective, with a lens that is too close to the subject, as different slices are captured making image stacking impossible.

For Focus stacking software I use Helicon Focus although it's in Demo mode after the licence expired (an it's too costly to own for just a few times I need it) I use screen capture on my iMac to grab the final stacked image. Adobe Photoshop also has focus merge which works well and also Affinity Photo uses a similar focus merge. Helicon Focus is the only one which will import MP4 and convert the frames to TIFF images for composition. If you have a Canon Camera the Canon's own DPP program also offers photo stacking as an option.

Currently running there is a 50% off promotion of Affinity Photo and other products.



Focus stacking using the MIOPS Slider+ an automated slider 26 images with 6mm space between shots



Having now used my Fujifilm XT-3 and XT-4 for a couple of years now I have now found a few short cuts that you might not be aware of.

Here are a few ways to save time and focus on creating images:

Even when you are in manual focus mode, you can set a custom function button (such as AF-L) to activate the auto focus (AF on).

Press in the rear command dial to zoom-in and check focus. Whilst zoomed-in, rotate the rear command dial to zoom further again. This also works when reviewing images and it defaults to the area of focus.

To see 100% zoom when reviewing images you have to shoot JPG as well as RAW.

Note: If using a body with two card slots, make sure to switch to the card (in playback) which has the JPG images on it.

You can combine focus peaking with a black and white profile (e.g. Acros) to make the peaking more visible.

To quickly change function buttons, press and hold 'DISP/BACK' button.

To quickly change Q menu, press and hold Q button.

Formatting SD cards the quick way!

Hold the delete button for 3 seconds, then (whilst still holding it) press in the rear command dial (the wheel between AE-L & AF-L). This shortcut brings up the formatting option, without having to trawl through the menus.

Formatting cards regularly in-camera helps prevent data corruption. Formatting after import is also a good habit to make workflows more efficient and prevent duplication.

The Rise Of Smartphone Photography and Videography

The digital cameras in our smartphones are backed up by plenty of processing power, and many are fantastic at capturing images.

I think these processes work pretty well because of the smaller sensors of smartphones as opposed to current range of consumer DSLR or mirrorless systems.

There is absolutely no doubt that smartphones have revolutionised the way that people take and share images.

Smartphones are great for capturing casual snapshots, but they can also be used to take much more sophisticated images with advanced, often third party, software.



Computational photography (AKA AI) is a relatively new field that involves using computers to process images instead of relying on humans.

This allows photographers to create detailed images and videos that would otherwise be impossible or very time-consuming to achieve manually.

This technology is used in smartphones to partly overcome the limitations of the very small sensors used. However, sensors in larger cameras are getting much faster and although BSI (back side illuminated) stacked sensors are found in some of the latest smartphones they are also appearing in high end cameras too.

Stacked sensors are capable of processing images at amazing high speeds, even if the sensor includes higher megapixel counts.

So could there be possibilities to build in more in camera processing for DSLR or mirrorless cameras?

This already happens when shooting jpegs but could it be taken further?



Smartphones have become an integral part of our lives, and for a very good reason! They are small and compact enough to be carried around with us at all times, and they offer us great functionality for taking images and videos.

So whether you want to capture a beautiful sunset or take a selfie in a fun setting, smartphones offer versatile tools that can help you capture your memories in the most beautiful way.

For the average, casual, user there are many advantages to using a smartphone for photography, smartphones are much smaller than DSLR, bridge, and compact cameras, making them the ideal device where ever you go.

Planning a long-range trip or a holiday? Or just want to capture some great images in your daily life? Then you need a smartphone camera, which is small and portable.

One benefit of smartphone photography is the ability to add third-party apps to enhance your photographic skills.

Smartphone photography has advantages over other cameras because it is the best photography device that is small and can be carried everywhere.

Plus of course it's also a phone, calendar, web browser, compass, music player and a whole host of other things too.

You also have the advantage of being able to upload content directly from your phone to social media, plus there is also the convenience of cloud backup of all your images without having to deal with memory cards, cables and laptops etc.



Smartphones have revolutionised the way we capture and share our images. With a few simple tools and a little creativity, you can take great images without spending a fortune.

For sure, you can always invest in better equipment, but there are a great many smartphone cameras on the market that will get the job done perfectly well. The images in this section were captures using the standard imaging app of the Samsung Galaxy S22 Ultra.

In fact, many professional photographers use smartphones for their photography, and there's no reason why you can't do the same! So, whatever your photography dreams might be, make sure to start planning them with a smartphone!

As a photographer, either for just pleasure or as a professional what do think of smartphone cameras and computational photography?

There is no doubt they can produce amazing images, especially with the right application.

Has Apple ProRAW changed the game as far as smartphone image processing, with the iPhone 13 pro upgrade? I believe it has, but there is certainly an abundance of other options out there for those interested in experimenting for both stills and video.

*Until next month, thanks for reading,
Graham*