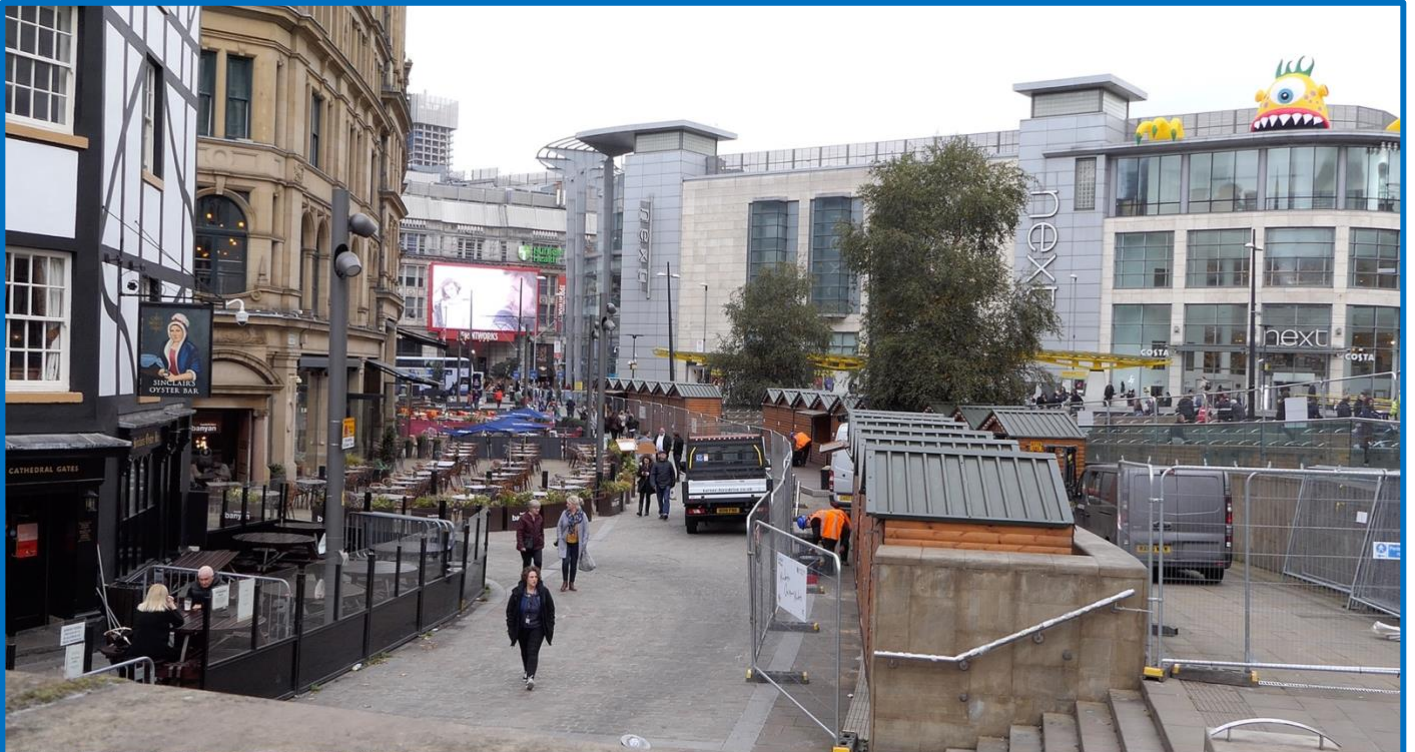


**Spot the difference**

A friend of mine has a real love of “spot the difference” pictures in a popular magazine. He believes that it is good practice for his brain!

So, I decided I would build a photo book with some of my pictures that I had used the Photoshop clone tool to remove some parts of the image.

It gave me some good practice at using the clone stamp tools and I hope that his Xmas present keeps him entertained for hours.





I had a lot of pleasure producing the series of images for the book and there was quite a bit of interest when I posted a couple of them on my Facebook page.

## Using Legacy Film Camera Lenses On the Canon EOS M50



The Canon M50, despite what the “critics” say, is a great camera for shooting 4K video. With a crop factor of 2.56 when shooting 4k Video a 200mm lens would have the equivalent focal length of 512mm and even a modest 100mm lens would result in an effective focal length of 256mm. There are some technical considerations to be made when choosing a suitable lens for the M50 and I have produced a short video which outlines the pros and cons of using such lenses.



You can find the video [here on YouTube](#)

## Using long telephoto lenses with the Canon EOS M50 for 4K Video



There is an awful lot of harsh criticism of the M50 4K video because of the amount of cropping that is applied to the sensor output to get the UHD video format.

The actual combined crop of the APS-C sensor and the 4K cropping factor is 2.57X.

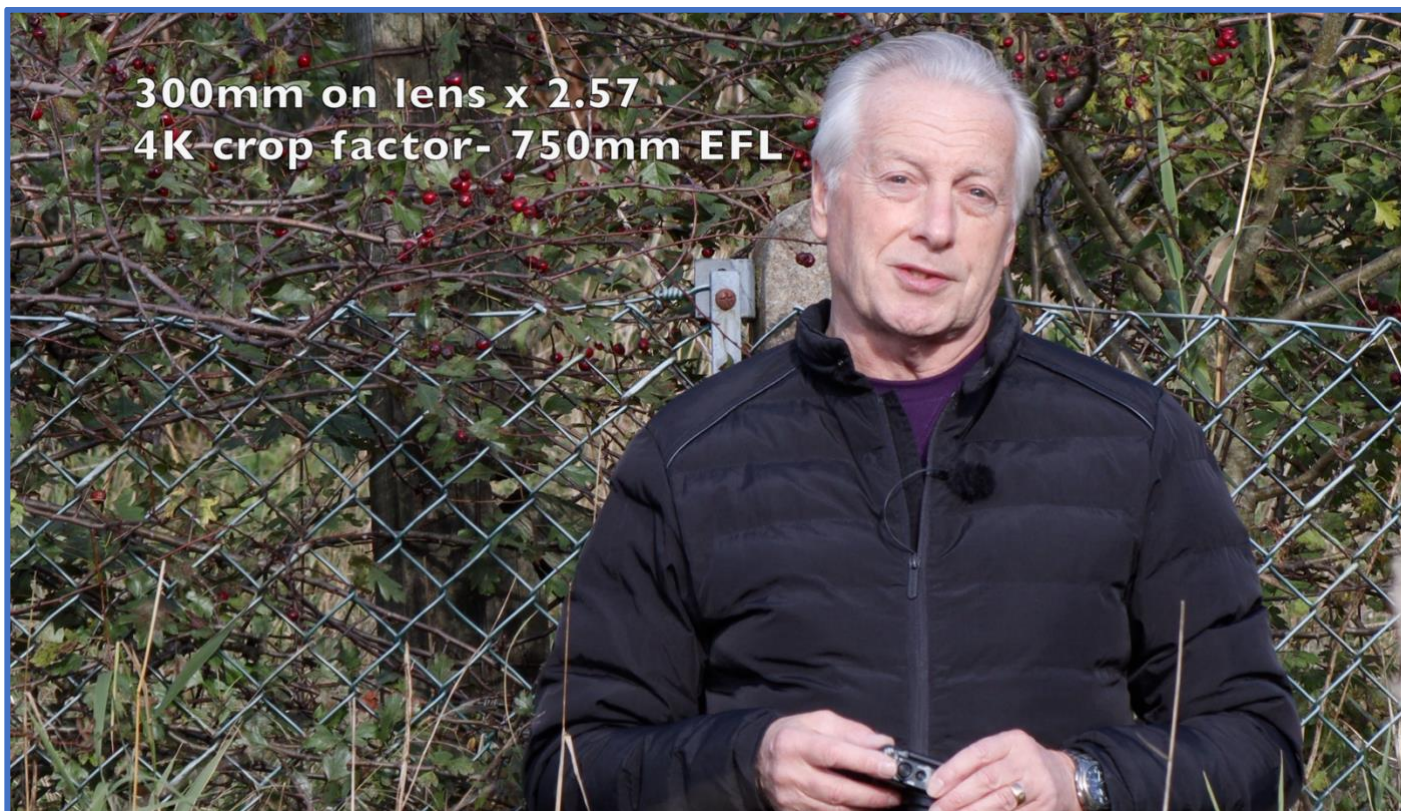
This would mean that a 11mm lens would be 28mm EFL when shooting in the 4K video mode.

The usefulness of this crop is realised when you want to shoot wildlife video. It means that you can get some very useful focal lengths when using the standard EOS EF or EFS telephoto lenses like the 70-300mm or the 100-400mm.



When the 70-300mm is used at the 300mm position the resulting equivalent focal length is 770mm  
And the 100-400mm results in a 1020mm EFL.

As there is no light lost using this EOS EF to M adaptor the Lenses can be used at full aperture for those low light situations.



This is the size of image when shooting 4K with the 70-300mm lens, set at 300mm, some 35 metres away



and a similar shot when the 100-400mm lens is used set to the 400mm position.

To use these lenses, it is essential to use a sturdy tripod as the magnification of any camera movement is clearly seen in any video clips filmed in this way.



With the 100-400mm lens at 2 metres and set to 400mm some great video clips can be captured. A screen grab of one such image is shown above.

I created a [YouTube video to illustrate this here](#)

### Close, Closer, Closest – macro with EOS M cameras

It is always fascinating shooting close-ups and even macro with digital cameras. The result is immediate and adjustments can be made to complete the final image if necessary.

The Canon EOS M series of cameras is a great choice for this type of photography.

Having a 24M APS-C sensor, and the later models having dual pixel autofocus, it is easy to produce some fantastic looking images.

I chose to shoot with the new 32mm F1.4 lens as it is tack sharp even at fully open aperture.



The closest working distance with this lens is 20 cms. From the adjacent image, you can see that the size of the subject in this image is 8 cms tall.

Using an aperture of F11 gave sufficient depth of field to ensure front to back sharpness in this image. It is absolutely tack sharp.

The simplest way to try close-up photography is to add supplementary lenses, sometimes called close-up filters because they screw into the lens thread.

These lenses do not allow you to focus to infinity but they do give close focusing.

The camera's metering system is unaffected by the addition of the extra glass.



Sigma Achromatic Lens

Attached to the lens for the first shot is my 52mm Sigma achromatic lens. I used a 43 to 52mm step up ring. The achromatic lens is preferred to single element lenses as it does not usually suffer from colour fringes or edge distortion, both of which are important to eliminate in close-up photography.

It is important to use apertures in the range of F8 to F11 to ensure sharpness is maintained as well as keeping DOF as deep as possible.



32mm + Sigma achromat @ F11  
closest focus 10cms

Here's the image from the 32mm lens and the Sigma achromatic lens attached. Closet focus was 10 cms.

Other examples of this type of lens (achromatic) can be found in the Polaroid 250D lens



Here's an image for the 32mm Lens with the Polaroid 250D lens attached. Closet focus was 8cms. Again, F11 was used to ensure enough DOF on the face of the little figurine.



The most popular type of these lenses is the “Raynox” series. Most popular are the 150 and 250 lenses.



32mm + Raynox 150



32mm + Raynox 150 @ F11  
closest focus 7 cms

The Raynox 150 gives the same magnification as the 250D the closest focus was 7cms



32mm + Raynox 250 @ F11  
closest focus 6cms

The Raynox 250 allows the camera to move within 6cms from the subject resulting in a larger image. You can see in this image the DOF is now becoming slightly narrower. The Raynox lenses have a 43mm thread so they screw directly into the 32mm lens filter thread (43mm). As the lenses become closer and closer to the subject it is sometimes difficult to get light onto the subject. Canon do have a very nifty close-up macro lens with built in LED light if you do a lot of close-up photography.

If you don't want to lose the sharpness of the lens by the addition of supplementary lenses the other way to get an increase in image size is to use automatic extension tubes. These metal/plastic tubes allow the lens to be mounted further away from the sensor. This allows the camera to be moved closer to the subject and hence get a bigger image of the subject.



32mm + Extension Tubes

The tubes are normally sold in a set of 3 and can be used individually or stacked together, They carry the electronic contacts so the camera can control all the lens functions like the focus motor, aperture and image stabilisation (if the lens has it)

18-150mm @ 150mm + 25mm extension tubes - F9



closest focus 5.5cms

Again, as we get closer to the subject the DOF becomes very shallow. Increasing the aperture to F11 might give a little more but we start to get into the area where diffraction becomes to the point where the image is beginning to show some softness.

If we need more working distance to the subject as with photographing insects etc., the option is to use a longer focal length lens such as the 18-150mm and then again add supplementary lenses or extension tubes to increase the image magnification.

18-150mm @ 50mm - F9



closest focus 11cms

Here's the 18-150 lens at the same magnification as the 32mm without any additional accessories.

**18-150mm @ 150mm - F9**



And here's the image when the lens is zoomed out to the maximum of 150mm and set to F9. The working distance is now 31 cms. Compare that to the 11cms working distance with the Polaroid 250 lens on the 32mm lens

Again, by adding supplementary lenses the image magnification can be increased.

**18-150mm @ 150mm + Polaroid 250 - F9**



The 250 D lens attached to the 18-150mm only gives a slight increase in magnification for a change in camera to subject distance reduction of one half.

**18-150mm @ 150mm + Raynox 250 - F9**



The Raynox 250 lens increases the magnification even more, however the subject is now only 8 cms from the lens again.

**18-150mm @ 150mm with 9mm extension tube - F9**



By utilising just a 9mm thickness extension tube on the lens, the magnification is increased and there is a reasonable working distance.

So, you can reason from this that the best way to get life size images and keep a reasonable working distance is to use as long a focal length lens as possible.

**75-200 EF lens @ 200mm with EOS EF-M adaptor +  
3 extension tubes F9**



**closest focus 51cms**

Here I have used a 200mm setting on the 75-200mm lens at F9 and the whole length of the 3 sets of extension tubes.

The lens to subject distance was 51 cms to achieve this magnification.  
To utilise the EF lens, I had to use the EOS EF to EOS M adaptor on the EOS M5 body.

With this set up I'm sure the only way to get tack sharp images would be to use electronic flash if you are going to hand hold this set up!

Extension tubes work by moving the lens further away from the sensor.

There is no image deterioration through additional lenses however there is a light loss.

### **Canon EF-M 32mm F1.4 Lens Review**

Canon have released a second prime lens in the lens line up for the EOS M series cameras, The 32mm F1.4 lens – with a full frame equivalence of 51mm F2.2 is a great general use lens matching the “normal” field of view of our eyes.

It's not a cheap lens, costing £499 in the UK and annoyingly doesn't come with a lens hood or a pouch – though this is the norm for Canon and non-professional lenses.

# Canon EF- M 32mm F1.4 STM Lens Review



[The YouTube link for my video review](#)

I have also done a fuller review with samples on my [photoblog here](#)



This is a super sharp lens and I find it hard to distinguish any difference between the centre and edge of the image – even with the lens wide open at F1.4.

It has a switch on the side of the lens to limit the focus range from 0.5 metre to infinity which speeds up the AF acquisition time. You can use the full range if you want to shoot a closer difference.

It also has full time manual focus so the focus can be fine-tuned if needed.



image shot at f1.4



image shot at F11

The lens doesn't have image stabilisation, which I feel should have been included.

The 51mm EFL needs 1/50 sec exposures to reduce hand shake.

With F1.4 we could expect to use slower shutter speeds in low light but the camera needs to be supported mechanically to prevent camera shake.



### The Beauty of Black & White Film

In the early 1970's I was a member of a large local camera club and processed my own Ilford FP4 film and did my own black & white printing and mounting.

I was sorting out a whole pile of old photographs in the loft of our house and I can across some of my prints.

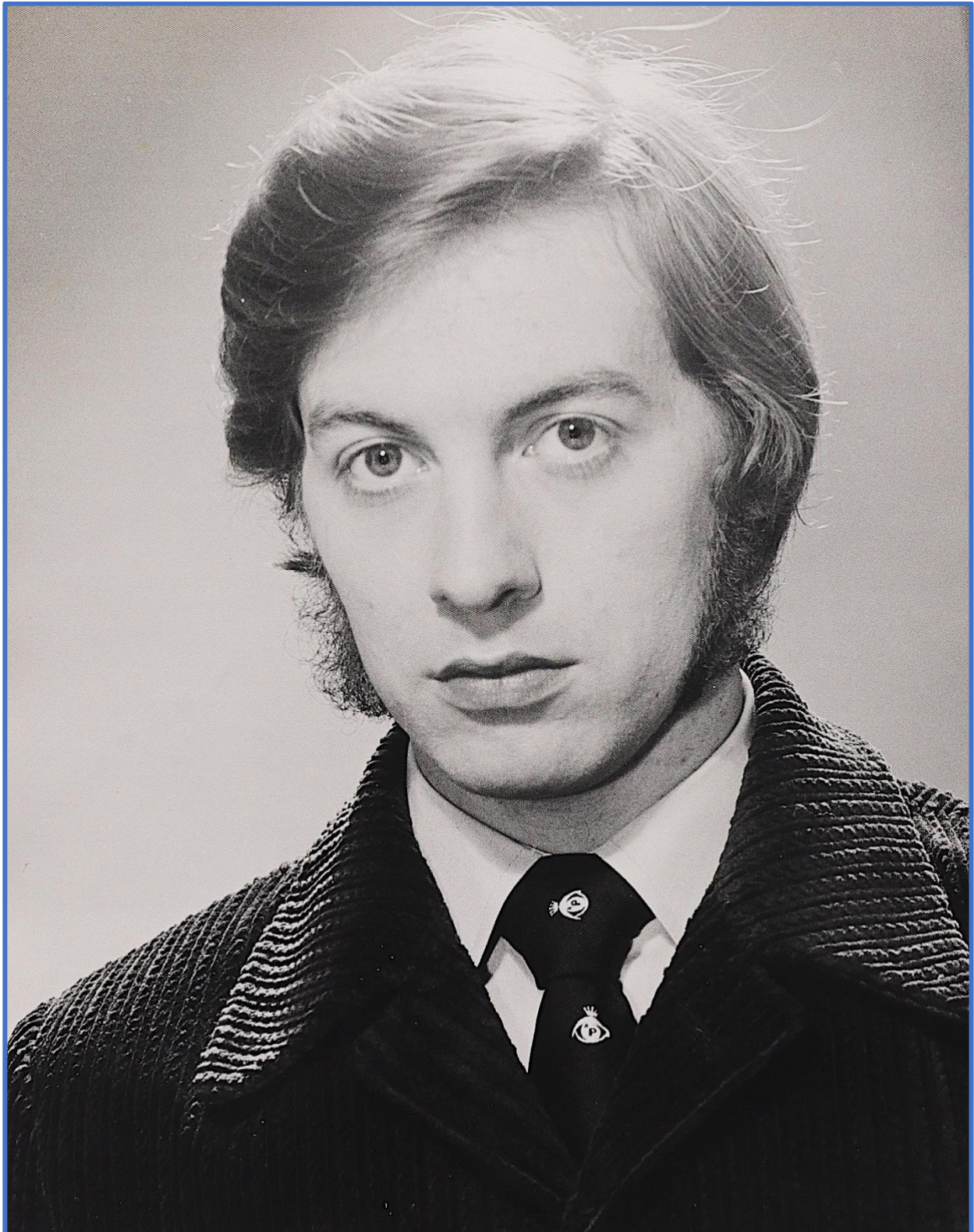
This one was one of the first I took with my new Asahi Pentax Spotmatic 500 and Super Takumar 135mm lens. I think the paper I used was Agfa Portriga Rapid as it has a nice ivory colour and very fine surface.



Copied using the Canon EOS M5 with the Canon EF-M 32mm F1.4 lens at F8

I only got a second place with this as the circuit judge didn't like the heavy eye shadows!

In the same box was my self-portrait taken in 1974 sporting my Pentax owners club tie.



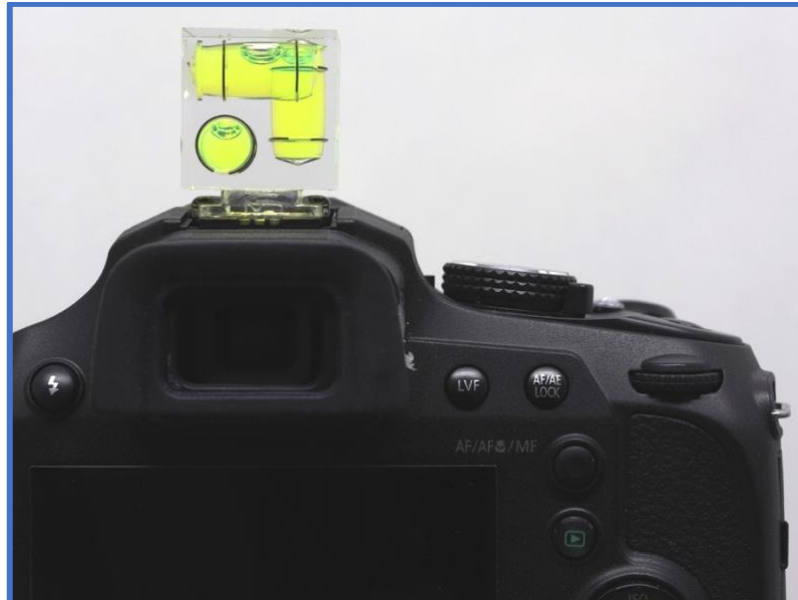
There's something about processing your own film and then printing and mounting your images, but now Photoshop is the processing of choice.

Black and white has a great appeal for certain types of images – I must try to do a few conversions and see if the results are anywhere near as good as I remember from the paper print days! As they say watch this space

## Sloping Horizons

I have noticed quite a few of my recent images have sloping horizons even though I thought I had aligned them parallel to the guidelines on the LCD screen. I have tried using the electronic level in the eyepiece but it obscures the view too much.

I decided to purchase this 3-way bubble level which I have now started to use for my tripod shots. So far the results are looking good.



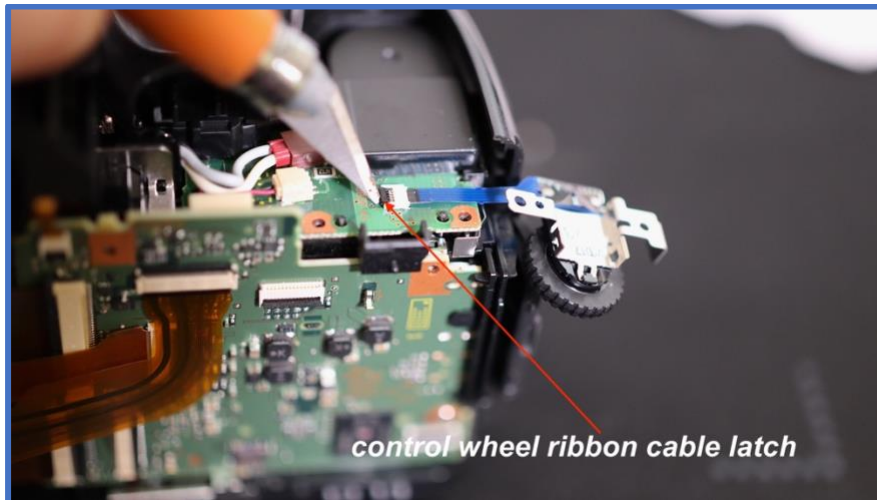
## FZ80/82 Programming the Fn2 button (and others).

Following the publication of the Panasonic Lumix FZ80/82 tutorial series I have had a few emails where the subscribers have managed to lose the functionality of the 4-way navigation button. This is normally used for ISO, white balance, drive mode and focus area select. The reason for this was due to the users switching on the Direct Focus Mode. So, I have produced a follow up video explaining again how to set this feature up by programming the FN2 button. – click the image below for the YouTube video



Incidentally with the later cameras from Panasonic the Function Buttons (Fn) can be programmed for alternative use by a “long press and hold” of that button. It will then take you directly to the Function Button setting menu where you can then choose the feature that you want to invoke with that button. It works in both Record and Playback modes.

## Panasonic Lumix FZ200 Control Wheel Replacement



**click on the image for a link to the video**

For those with a few DIY skills and some basic tools it is possible to replace this switch on your Panasonic Lumix FZ200. The switch is now widely available on Amazon and EBAY (about £20 on EBAY and £30 on Amazon)

I have produced the step by step video instructions on how to achieve this with a few hints and tips to help you carry out this task without risking damage to the camera.

If you have a camera with this problem and you live in the UK then [email me](#) for a quotation to replace this switch for you (and yes it's far cheaper than Panasonic charges)

The [video is here](#) if you want to try this yourself along with the Amazon links for parts.

## Camera Phone technology from five years ago



Whilst sorting out my Flickr photos ahead of the 1000 phot limit for free accounts I came across an album of images I took with my smartphone camera from 2013. It was the Sony Xperia Z and I was amazed at just how good the quality of the images was. Plenty of sharp detail with good gradation in the colours and considering that the camera in these phones were only just becoming a feature.

Considering the camera was 13.1 MP, f/2.4 and with autofocus it shows just how much of Sony research and development had gone into this camera.



Here is an enlarged section of that image showing the detail captured



Another low light image from that phone camera 1/32 sec @ F2.4 and ISO 80

## 1 inch Sensor versus APS-C Image Quality

I get so many emails asking me about camera choices, what type of camera for safaris to Africa, trips to Iceland, photographing the northern lights etc.

Quite often the question is rather vague and I cannot give an objective answer without a follow up email to find out more.

So, in a nutshell here's how I see the choice of camera should be made.

Well, size of sensor and pixel count only matter if you are going to use the images for any other reason than displaying them on social media pages.



Even the smallest 1/3 inch, 8M sensor smartphone camera is more than capable of producing images which exceed the need for these applications – like the image from the 2013 version of the Nokia Lumia 925 camera.

Travel zoom versus bridge camera? Well at 1-2/3 inch, both have the same sensor and in many cases the travel zoom will have a far longer telephoto lens if you need to be pulling in those distant shots. Bridge cameras like the FZ200 and 300/330 offer some advantage that they have the bright f2.8 constant aperture lens. This allows shooting images with either lower ISO settings, faster shutter speeds or in lower light levels. For those travelling light obviously the TZ range of travel zooms offer a weight advantage and providing they are used in good lighting can produce some excellent images and video.

They do however suffer from dust and pollen ingress and I have stopped purchasing Panasonic models as they price of the cameras is now much higher and the problem of dust ingress has not been addressed. Panasonic no longer clean sensors and lenses under warranty.

If you shoot video and want good audio then the FZ300/330 has to be the better choice as it does support an audio input port for using external microphones.

For increased Depth of Field the small sensor is king here. F2.8 on the FZ200/300/330 is the same as F16 on a full frame camera in terms of the amount of depth of field created by the lens/sensor combination.

So, for macro and close up work using these cameras at F4 would be the same as using a full frame camera at F22.



FZ200 macro shot at F4

When you zoom out to the full optical zoom then it is possible to throw the background way out of focus to isolate the subject from the background like my King Canute study with the FZ200 below.



When you want to have maximum clarity in an image then a larger sensor wins every time. Both in terms of noise levels and dynamic range the larger sensor returns an image that is superior to any of the smaller rivals.



1/2000 sec, F8 ISO 400. Canon 5d MK3

My preferred format now, is the APS-C camera. The Canon EOS M50 for video and the EOS M5 for stills. This camera/lens combination offers a great compromise in size/weight/performance.

Whilst the FZ2500 is a great camera for 4K videography the lens, I find, is disappointingly soft at longer focal lengths and wide apertures for stills photography.

The FZ300/330 remains one of the better choices for all round general photography and the FZ1000 another great choice if you want a little better quality for both stills and video.

My advice is to avoid the super zoom cameras like the FZ80/82 unless you only intend the images for web based applications for stills. It is good for 4K video using an external audio recorder to capture your audio.

But the best advice I can give anyone is to fully understand the equipment that you currently have and explore all its capabilities before thinking about upgrading. Good images don't need the latest generation of cameras and lenses just some careful thought about lighting and composition. With any camera produced since 2010 you should be able to produce fantastic images irrespective of sensor size Or pixel count!



## Lack of YouTube Tutorials

I must apologise to those of you who are still awaiting a couple of videos that I promised to create - Fill flash photography and recording video with the FZ2500.

With the untimely death of a close friend through a cardiac arrest, this focussed my thoughts on how unprepared that I am should anything happen to me. I really, for once, felt so incredibly selfish and ashamed that I hadn't considered anyone else in my life that for a few days I went into a deep depressive state. I had some dark thoughts and everything seem unimportant. Only my love of my hobby was a saviour in this. Some retail therapy (aka buying a new lens) would give me a reason to stop feeling sorry for myself and hopefully help someone else.

So, I have been making some changes in my own life/personal situation which I hope will benefit my wife and family should this ever happen to me.

For example, I tend to keep every box for everything that I buy - photographic wise.

I have been doing so since starting digital photography in the early 2000's. I have dozens of storage boxes with all the packaging for cameras, lenses and accessories. I know my intention was that should I ever sell any of them (note to self – when did you ever sell a camera/lens in the past 5 years anyway?) I would have a better resale value if they had all the original boxes, disks and instructions etc. So, off to the local dump with lots of those boxes from the kit which I know I will never sell. I have only kept the latest camera and lens boxes.

I have always been a hoarder of electronic spares – just in case I want to start designing and building projects at some point again. I have kits that I have bought and not yet assembled. I have half-finished projects in boxes awaiting my enthusiasm to complete them.

I have more duplicate power tools and hand tools than any man could ever need so I have been setting aside an hour or so each day to bag them up for recycling or just throwing away if the condition of them is poor.

When Holt Hosiery closed, I acquired boxes of screws and bolts and metal of every type – it might just come in handy for my projects. In truth in the 9 years I had hardly used more than a couple – they are all still in cases in the garage!

The storage space in the garage roof is packed with materials that I have bought or acquired at sales etc., for those projects that I had dreamed on starting – but have never done so. Again, I have started to look at what can be thrown away (a hard task for me!)

I've been doing simple things like labelling the water pipes and stop valves in the house and garage. Identifying the circuit breakers in the consumer unit. Having a simple tool kit on hand to cover simple repairs with spare fuses and other common things that I know how to do without thought but not that obvious to anyone else. I've made a start on clearing my garden shed – all the tools now cleaned and mounted on storage racks – should have done this years ago but I knew where everything was!

I honestly do not know where my time goes these days. I'm up at 5.30 am and off to the gym 3-4 days a week now, back at 8.15 for breakfast.

After breakfast an hour or so on answering emails and replies to YouTube comments.

Three days a week we look after our grandson in the afternoon so nothing gets done during that period.

I have one day that I have "negotiated" as being my "Production day" so all the planning, research, filming and editing must be completed during that day.

The two videos in question do need a lot of preparation to produce them well. I have started and trashed the video production several times because I wasn't happy with my presentation.

After Christmas, we won't have our grandson as he will be going to nursery for those three days so I'm hoping that these afternoons will be turned into something a little more productive.

I must admit some days I struggle to find motivation. It would be far easier to sit down and just read or watch TV, but that isn't me.

I need a challenge and through the challenges I set myself I do hope that the time spent in the execution of these will bring some mental health rewards and help prevent things like dementia from getting a grip. Well, all this rambling is to say please be patient, I will get around to these videos, soon.

### Squoosh – a new web tool for image resizing

It's cumbersome to compress and reformat your pictures for the internet. [Squoosh](#) is a new web tool that can make that process simpler and quicker.

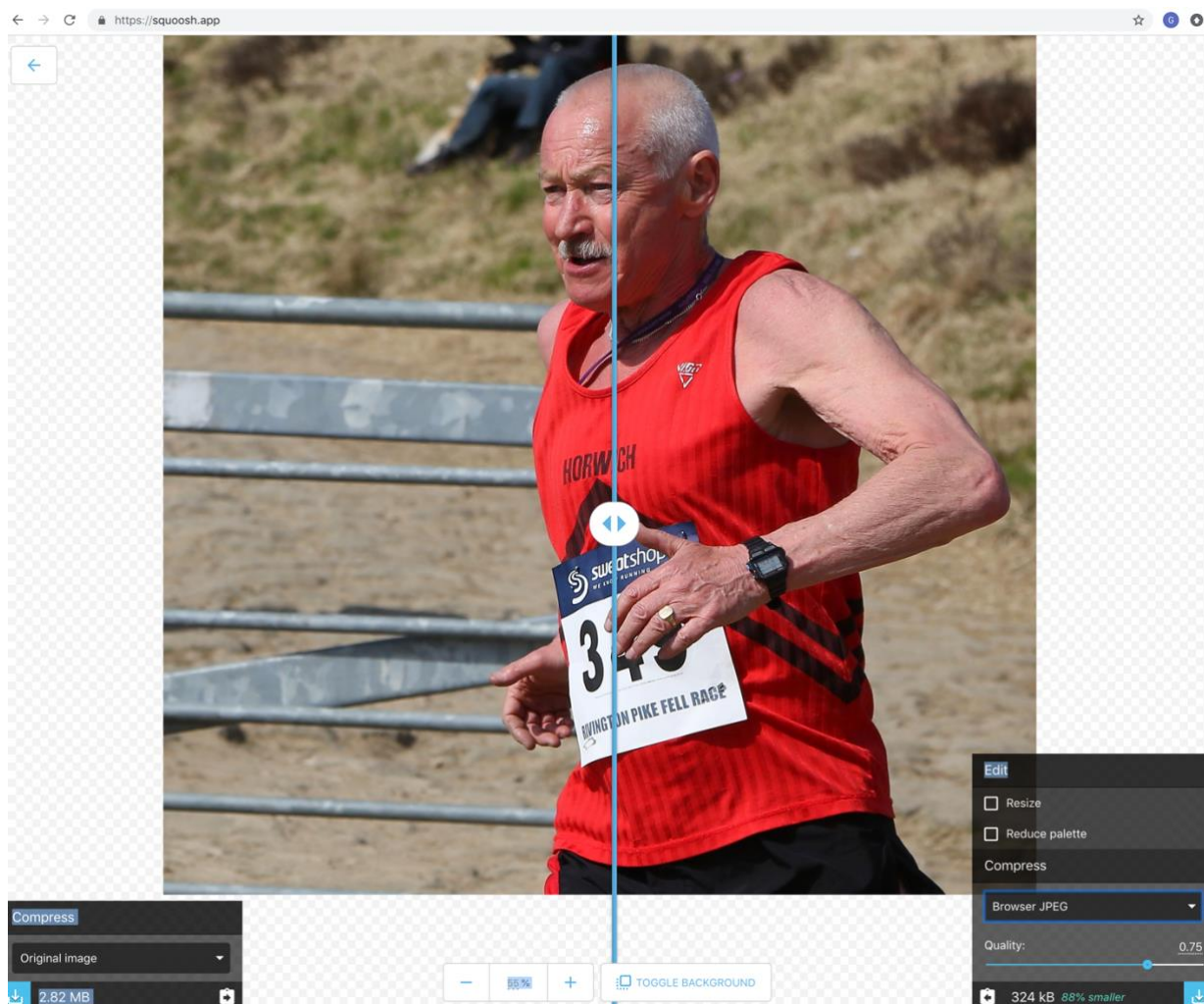
Squoosh's top priority is speed, and is primarily just a demo of new capabilities that recent improvements to Chrome already bring to the table.

Supporting a variety of web formats like MozJPEG and WebP and traditional ones like PNG and JPEG, Squoosh allows you to quickly make your images web-ready.

The app can do 1:1 visual comparisons of the original image and its compressed counterpart, to help you understand the pros and cons of each format.

After you've loaded Squoosh for the first time, the app can work offline, performing all its work within the browser itself.

The Google Chrome Labs team is also particularly proud of Squoosh's ability to offer a consistently smooth UI even when the app is working on a taxing resize or conversion.



Squoosh in action on one of my hi-res images



From 2.1MB to 324KB – impressive!

*The next newsletter will be on Saturday the 8<sup>th</sup> December.  
Thanks for reading*

**Graham**

