

Graham's Photoblog Newsletter

For Week Ending 5th December 2020



Panasonic Lumix Bridge Cameras Revisited Series

It has been interesting looking over the bridge cameras again and rediscovering the sheer convenience that they offer. Not only for quick photo shoots, travel photography etc., but also for some serious image capturing as well.

I know from my email inbox that the bridge cameras are extremely popular with the FZ80/82 taking the first place in email volume.

I can see the advantage that this may have for those who like to shoot with its super zoom 1200mm effective focal length lens, but I do wonder about image quality when used at this setting.

Given good, bright, daylight it can capture some amazing images however let the light level or the lighting contrast drop then the image quality can take a serious downturn.

This is partly due to the small aperture at this focal length (f6.3) requiring both fast shutter speeds to arrest subject motion and the resulting high ISO's to achieve the correct exposure.

For video this camera is quite a decent performer - especially locked down on a tripod and 4K mode enabled.

It's just a real shame that the camera doesn't have a mic input socket to help achieve better audio.

Of course, you can use a separate audio recorder but that needs audio synchronisation in post-production which isn't always convenient.

During the summer I started to shoot a comparison video between the FZ1000 mk2 and my Fuji X-T4 with two pro grade Fuji lenses. The process is ongoing as I add new comparison shots but what I can say is that even on a 27-inch iMac display unless you specifically knew which camera shot the images and video clips the difference is quite marginal.

Ok, when you analyse the images, you can see the DOF differences of the larger sensor X-T4 but in a lot of cases the shallower DOF has resulted in images that don't have enough foreground to background sharpness using the same aperture settings as the FZ1000 mk2.

Making the mental F-stop adjustment due to the crop factor differences and setting the equivalent aperture may have solved this and that is what I am shooting now (subject of course to local lockdown preventing unnecessary journeys - only exercise walks!)

I want to see how, when the aperture equivalence is adjusted, does the increase in ISO needed to keep the exposure right lead to poorer image quality images anyway?

When I first saw the comparison images and video, I did question my decision to change from using Olympus m4/3 to FujiFilm APS-C and my investment in more new lenses.

I did use my Canon lenses with an EF to a Fuji-X series adaptor with some good results however the AF speed wasn't comparable to the X series lenses and that is why I purchased a couple of second user Fuji X pro lenses plus the new 40-150mm pro lens.

If, and when, the video is finished in it you will see me having to change lenses frequently to capture the shots I was after. In one particular scene I totally missed the shot that I was after where the FZ1000 captured it in seconds.

I did try taking the X-T3 with one lens and the X-T4 with another lens on another trip however that became a nightmare with the constant stopping to change cameras.

My photographic needs are changing, and it might very well be that in future months the need for "higher end" cameras may not be as important as convenience, lighter payload and smaller backpack. This is a comment that I regularly receive when people have advised that they have switched over to using bridge cameras.

Web Cameras and DSLR/Mirrorless acting as one

With so many people in the world now forced to work from home and with many of us needing to use platforms such as Zoom and Facetime to keep in touch with family and friends it no doubt prompted all the major camera manufactures to develop software to enable the use of DSLR or mirrorless cameras as web cameras.

This implementation means porting the live feed video out over the USB port of the camera so that it could be plugged into your laptop/PC as would a regular web cam would.

So, I wanted to investigate why the need to do this, what advantages there may be in this implementation and was there a better way to achieve the same results!

I could only test the Canon and Fuji webcam solutions as none of my Panasonic cameras support USB tethering - only the GH5 and the G9 and G9x would permit this.

At the time of test, I forgot that the Olympus OMD EM1 -mk2 and the OMD EM5 -mk2 would also do this.

It transpires that the output from the cameras is set to give 720p files.

Why limit it to 720p when 1080p is easily available over USB2?

I set up a static scene so I could accurately record the video from both cameras and tried to keep the same focal lengths and apertures for each.

The claimed advantage is that the use of a higher spec camera coupled with larger apertures could give nice portrait style images with more out of focus background without the need to add "software DOF blur" As I expected the results were disappointing due to the very low bit rates that the files were being delivered at (230Kbits/sec) where usual video is now 100Mbits/sec.

OK the images looked better than the inbuilt webcams of both my iMac and MacBook pro but when you factor in the following considerations you have to question the rationale behind it.

Firstly, unlike a plug-in external HD webcam, you cannot clip your camera to the monitor screen. You need to set up a tripod or other means to hold the camera behind your laptop/PC.

Next you need the USB lead from the camera to the PC/laptop and this was the first hurdle that I had to jump over.

The Canon M50 and the Canon 90D that I tried with Canon's web cam software would not "see" the camera when I was using a 2metre (6 foot) cable.

This lost me quite a bit of time trying to resolve the issue. I tried different leads of the same length to no avail. It was only when I put the camera adjacent to the MacBook and used a ½ metre (18 inch) cable that the camera was "seen" by the software.

I ordered a set of cables and by experimentation I found that neither camera would work when the cable length was more than 1.5 metres long (4ft 6in)!

The Fuji X-T3/X-T4 worked better over the 2-metre cable.

Neither of the cameras would work when I tried them through a 4 port USB hub!

If I had bothered to read the small print on the support websites, I would have seen that cable lengths and USB hubs are known "issues".

I've been using HDMI to USB capture devices for quite a while to enable me to use a multi-camera set up for my YouTube videos.

Using the free OBS software enables the recording of the video stream from the USB devices.

The image quality is excellent and being 1080p video is far better quality.

The capture devices that I use started with the idea that it must have to be a "top of the range" model in order to achieve the kind of results that I was expecting.

I spent over £100 on a HDMI capture box that is used by gamers to capture their gameplay.

It has HDMI pass through so that the Xbox/PlayStation could feed through it to a HDMI monitor.

It also has audio mic input and headphone output.

Not wanting to spend another £100 on a second device I decide to use a 4 port HDMI switch to connect the cameras to this one capture box.

It worked but with a 2 second switch over time it meant a lot more editing was needed.

So, I looked at the cheaper end and found that Blackmagic design were selling HDMI to USB dongles.

Some adventurous person dismantled one of these devices to find that they were in fact just rebadged cheap convertors from a Chinese source.

After a bit of hunting, I found a seller on Amazon and I ordered a couple at just £11 each (I could have got them even cheaper if I got them shipped direct from China).

The video files are identical to that of the larger device and so I use the two dongles on two USB ports and use the OBS scene switcher to toggle between the two and it works extremely well.

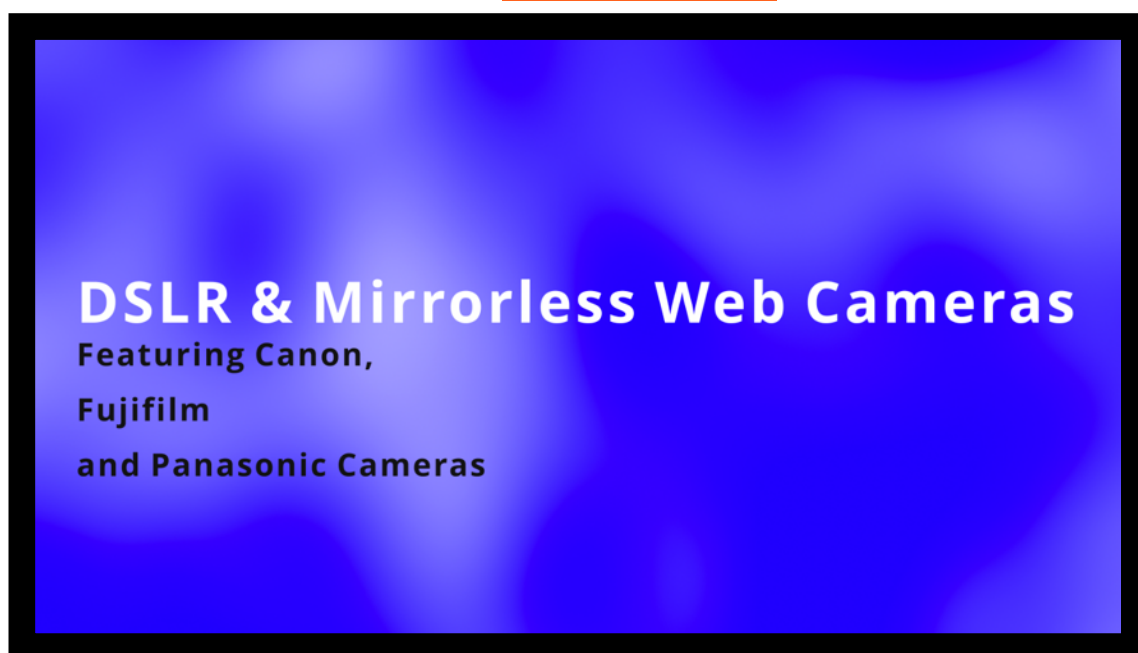
When I shot the same static shot as the web cam software enabled cameras using the HDMI capture devices on the same cameras the difference in quality was very evident.

To my surprise when I coupled up my GoPro Hero 4 silver which also has a clean HDMI output port to the capture device if I set the lens to fine it gave a similar field of view to the 24 mm lenses of the two cameras, but the quality appeared even better!

I tested both the Panasonic Lumix FZ300/330 and the FZ1000 using the clean HDMI outputs as well with similarly good results.

On the negative side of this method most cameras do not feed the camera audio through the live feed HDMI so again you need to have a separate mic feed into your PC/laptop on continue to use the inbuilt mic of that device. The FZ300/330 did output audio. Canon seems to have disabled this feature on some cameras. Again, cable length mattered. The Canon systems being the worst offenders and the Panasonic systems tolerating 5 metre runs.

If you want to see the results of these test the [YouTube video is here.](#)



The Toy Camera that really is amazing.

Whilst looking for a Christmas present for my 4 year old grandson I came across this toy camera which appeared to have quite a good specification.

I know that he likes to borrow the camera that I purchased for my granddaughter's birthday this year and that leads to some small arguments! So I thought that this would be a perfect solution. It has two cameras. One for the front view and one for "selfies: that is mounted where the EVF would be on our cameras. It has a built in lithium ion 600mAh battery which will save continually purchasing AAA batteries! The screen appears to be a 2 inch IPS type with very good resolution. The case is a soft feel silicone rubber which looks as though it would survive a dropping.

It's fixed focus with a coverage of about 0.75 metre (2.5 feet) to infinity and looks to be about F3.

Now it is advertised as 12Mpixel but I rather suspect that the actual camera modules are 2 or 3 M at the most and the software extrapolates this to any resolution from 3M to 40M selected in the setup menu! It also shoots VGA, 720p and 1080p video but again 720p is much better than 1080p.

The camera also has a self-timer which can be set from 3, 5 or 10 seconds. There is also a huge set of filters including multiple views, mirror image negative image and plenty of overlays which allows the children to add hats, glasses wigs etc., and also add frames for birthdays and parties. It also supports 3 games and an MP3 player!



The Fantastic Toy Camera

Front and rear views showing the rear camera and menu selection



Menu selection and the games option



Here's a couple of the out of camera JPEG images with the image resolution set to 3M (which I think is the base resolution). They are certainly good enough for 6x4 inch prints or posting to social media.

For £22 here in the UK you are getting this, a 32GB micro SD card, USB card reader, a soft case and wrist strap. I'm sure that he is going to be thrilled with this. Playing with the overlays it soon became quite addictive as to what you could achieve, why doesn't the FZ10002 have this feature?

Granddad was so impressed that he too has bought one for experimental conversion to infra-red shooting although I might have to think about a different housing for it!

The camera electronics are quite impressive (couldn't resist opening it up to see exactly what it was made of)!

The cherry on the cake was the offer of a free 32GB micro SD card if you posted a review on Amazon for the supplier. Now that made it a complete bargain.



A frame overlay and multiple image filter

Freewell Glow Mist Filters

There has been a recent trend to adding "mist" filters to video and some still shots.

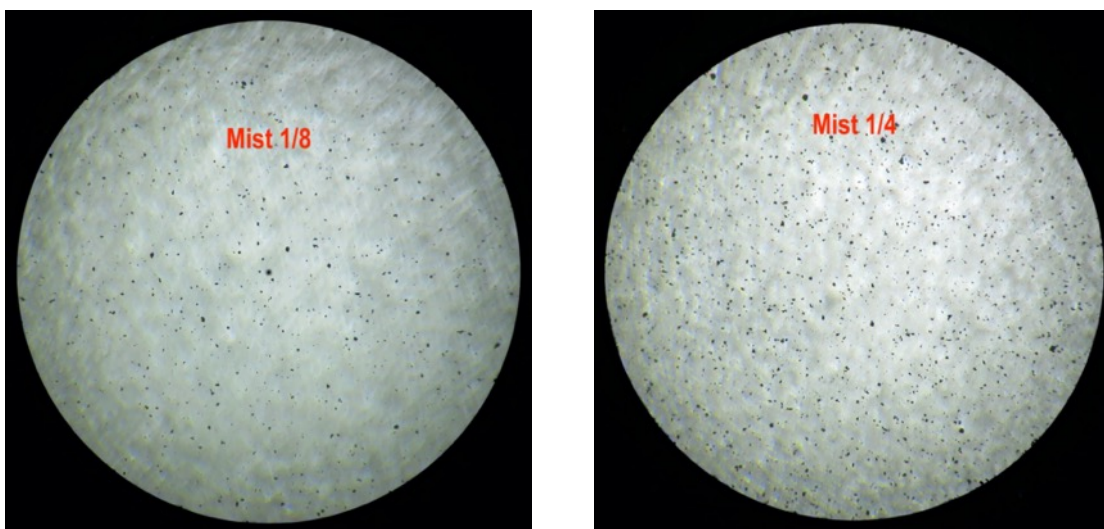
The idea being that, in some circumstances, a digital image is far to “crisp” especially in the case of female portraits where high definition camera lenses and sensors do not flatter skin at all.

In the “good old days” of film I can remember using a black nylon stocking (remember these?) to stretch over the lens to produce a similar effect. It would be hard these days to talk yourself out of a situation if the wife found black nylon stockings in your camera bag LOL!

These has the effect of not only creating a soft blur but also adding a halo to any light sources creating a “dreamy” look.

Now quite a few of the filter manufacturers have replicated that look in filters that will screw in front of your lens.

These appear to be a coating of a very fine black speck material. The more of the black speck on the filter the higher the diffusion and halation effects occur.



Here’s a view of the two filters taken through a x40 microscope objective showing the distribution of the black specs on the filter surface.



The filters are available in a number of “strengths” and the choice will probably be between the 1/8 and 1/4 strength filters. The actual filter will depend upon the subject, the lens focal length, the lens aperture and the degree of halation/softening that you want to achieve in your image.

I was kindly sent these two filters by Freewell to test and evaluate. I would have liked to have tested these using my granddaughter as a subject however because of our current Covid-19 restrictions we cannot even have her in the house at the moment so I had to make do with a 18 inch (45cms) doll. Not quite the same but under the circumstances the only option.



The effect of adding the Mist ¼ filter to my Full Frame Canon 5D mk3 with 85mm F1.8

The effect is barely noticeable with just a hint of softening if you look closely at the eyes and eyelashes.

When there are highlights, or light sources in the scene than the halation effect becomes more noticeable.



The obvious question is could this effect not be achieved in “photoshop” using a Gaussian or lens blur filter? Well the answer is most probably “yes” however the benefit is that the effect is immediately seen in camera and for video would be a longer render time if applied to a long sequence needing this treatment.

The iPhone 12 Pro Max



Well I took delivery of my iPhone 12 Pro Max and the soft blue silicone case a couple of weeks ago and have put it through a few basic tests. Here's my first impressions.

Well it's not much larger than my iPhone 11 pro max so there's no handling issues.

The stainless steel frame does attract fingerprints when it's not in the protective silicone case.

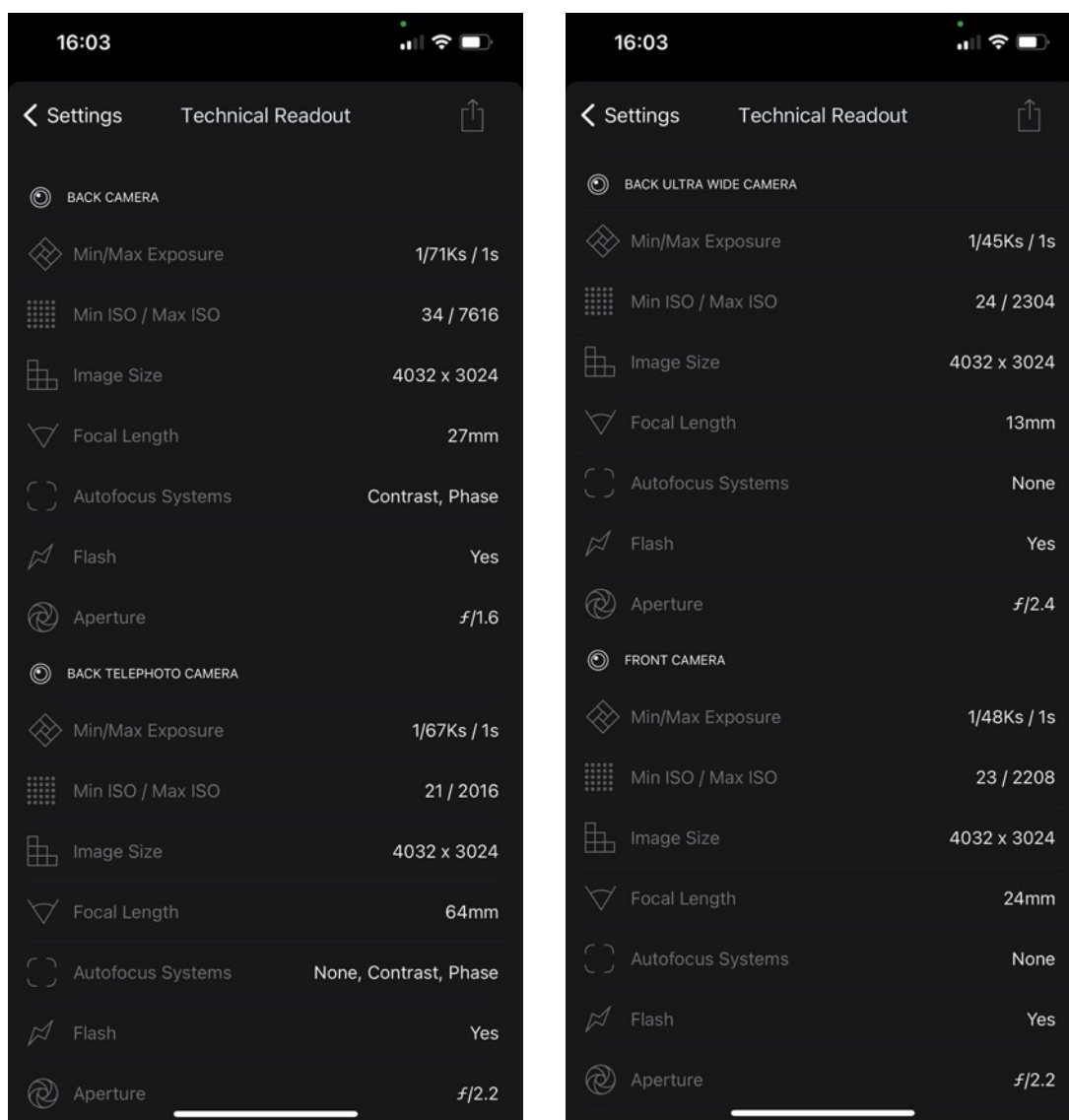
Let me be honest I really only bought the phone for its stills and video capabilities. I hardly use my phones for their main intended purpose - I don't do texting or other social media interactions on them.

If I use the phone its generally to check something on Amazon or check my emails.

From press reviews made before the camera was made available to the general public I did wonder if I had made the right choice. The Huawei P40 Pro was getting better camera reviews than the iPhone 12 pro max.

I've been very happy with my Huawei P20 Pro and will keep that as I do like to test any apps that I review on both Android and IOS. I'm also currently learning how to write application code for Android as it's much simpler than jumping through the Apple developer hoops!

To be brutally honest the native camera app still smacks of "Apple knows best" as it doesn't expose many of the controls that "Pro" photographers may want to use to get the most out of the camera. They obviously limit what is exposed to 3rd party app developers but the work done by the people that have written the Halide 2+ app shows what is available and is one that I can recommend.



The "read out" screen from the Halide 2+ shows the camera information

You can clearly see the aperture, focal length and resolution available from each of the 4 cameras.

Of course some of the main advantages come from the new sensor shift image stabilization of the main back lens.

One area that you have to be aware of is the zoom levels versus image cropping.

Because the 12 Pro phone has a shorter 52 mm-equivalent zoom module, it kicks in earlier in the zoom range than the 12 Pro Max's 65 mm-equivalent camera. Rather than merge the output from the tele-camera with the wide like some phones do, the iPhone 12 Pro Max simply crops from the wide camera, resulting in lower quality than the 12 Pro over this range. Once you pass the threshold the full 65mm tele-camera benefit gives better images than the iPhone 12 Pro.

One of the things that I did not appreciate at the time of buying this model is the fact that the closest focusing distance is about twice that of the iPhone 11 Pro max and I haven't seen this mentioned in any reviews yet.

The closest focus distance with the wide lens is now 6 inches with a 6 inch wide field of view compared to a 4 inch focus and 4 inch field of view in the iPhone11. This makes it more difficult to achieve close ups of plants etc. ☹️ Apple!

I haven't had much chance to test out the video capabilities but I guess the same thing will apply whereby Filmic Pro will yield access to manual setup of the camera. The front facing camera is still 4K capable so making selfie type video logs is still a great option.



A night time shot from the wide camera using the standard camera app.

What Apple teased with the release of the new iPhone line was IOS 14.3 which will have, amongst other tweaks, the ability to shoot RAW with the standard camera app.

Quoting Apple. The goal of ProRAW is to combine Apple's computational photography features, such as Deep Fusion and Smart HDR, with traditional benefits of shooting in RAW.

Generally, shooting in RAW will give you more control over adjusting details such as color, details, and dynamic range of an image after it has been taken. Here's how Apple describes ProRAW:

ProRAW gives you all the standard RAW information, along with the Apple image pipeline data. So you can get a head start on editing, with noise reduction and multi-frame exposure adjustments already in place – and have more time to tweak color and white balance.

Until it is released it's still worth shooting in Lightroom mobile or Halide to get some benefits of RAW file capture.

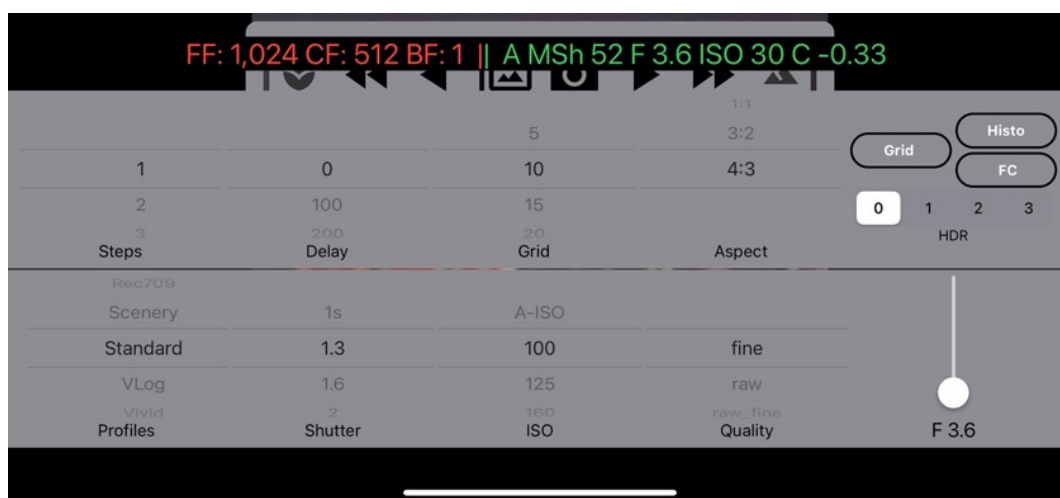
A new release of an old Focus Stacking App.

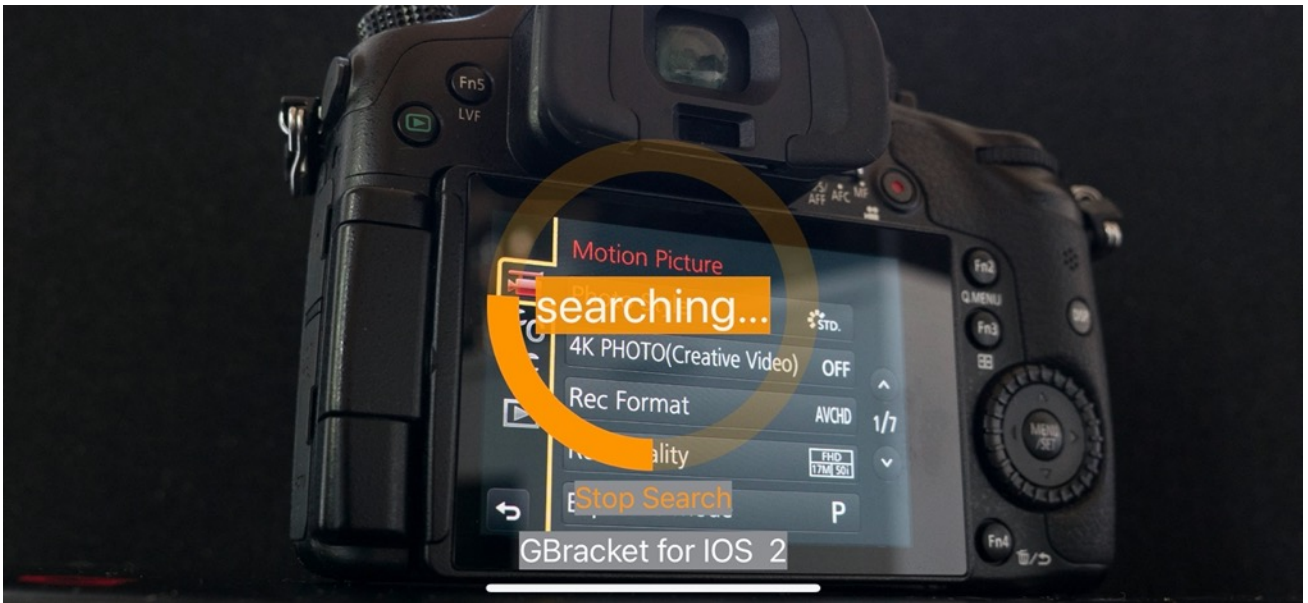
Some years ago I did a review/video of an app called Gsimplerelease.

This app allowed wi-fi connected Panasonic cameras to capture a series of images from your set near point to your set far point and with the increment for each step able to be defined. It worked quite well and gave you the facility of capturing full resolution images for focus stacking in your favourite focus stacking software.

Now the developer has released an updated version called Gbracket which adds some extra functionality to this app. You can now adjust some of the exposure parameters from within the app. Previously all the set-up had to be completed before starting the app. It can also do exposure bracketing if you want to do a HDR capture sequence.

The user interface has been updated to make it easier to set the near and far points as well as the step increments.





The new app has a new interface, as shown above, but I found that it is still a little “buggy”. Quite often you get this searching for the camera access point. If you stop the search and start again that sometimes kicks it into life.

It can only be used once you have set up your smartphone and camera using the Panasonic Imaging App as it uses the “saved” connection pipeline to gain access through the saved wi-fi connection in the wi-fi function history.



This is a stack of 5 images captured by the GBracket app at full 16:9 format and then combined in Heliconsoft focus stacking software. FZ1000 Mk2 each image F4, ISO 125 & 1/10sec

It's available for both IOS and Android and is £3.49 for the IOS version.

The end of photographic trade shows?



So the massive German Photographic trade show has now officially been cancelled.

Koelnmesse, the organizer of the leading worldwide photo/imaging exhibition, Photokina, has cancelled the Cologne event “for the time being” after 70 years. The 2020 edition was cancelled due to Covid-19 but dates for May 2022 had been announced. For most of its existence, Photokina was held every other year as a technological and as a cultural event. The city of Cologne was as much on display as the photographic industry, with the streets, taverns and restaurants filled with executives, retailers, lab owners, photographers and more. Even the photo/imaging section of American CES has dwindled to irrelevancy. In its later years, Photokina had shrunk to a fraction of its former formidable size. At one time, Eastman Kodak, Fujifilm, Agfa, Canon, Nikon, and Polaroid had stands that filled entire exhibit halls. By 2018, the event had lost much of its size and influence as a world trendsetter. Even in the UK the Photography Show at the NEC Birmingham has seen year on year reduction in the major brands exhibiting there.

I was fortunate to attend as a Kodak technical specialist during quite a few of the big trade shows at Birmingham national exhibition centre in the late 80’s. Days of setting up equipment, bribing the electricians to get power to our stands as early as possible so we could set up and test the equipment prior to the opening day for trade visitors. Long days and sometimes well into the night to get things ready. Then you had the never ending flow of “Joe public” wanting to know everything about our new exhibits! I never got to the Photokina trade shows, that was reserved for “bigger fish” however I did have to go and repair equipment at one large professional photofinishing lab in Cologne so I have experienced the city culture.

You could argue that big exhibitions with expensive booths and media launches are no longer necessary to launch products. For companies selling large capital equipment, it’s probably more cost-effective to fly prospective customers to a destination to wine and dine them than to set up a large tradeshow booth and hope the prospect actually shows up for the booth appointment. Microsoft and Apple left the American CES trade show to set up their own events.

Micro:Bit Microcomputers for everyone



I have been “messing around” with microcomputers since the late 70s and find the whole process of writing and developing applications to run on them really exciting.

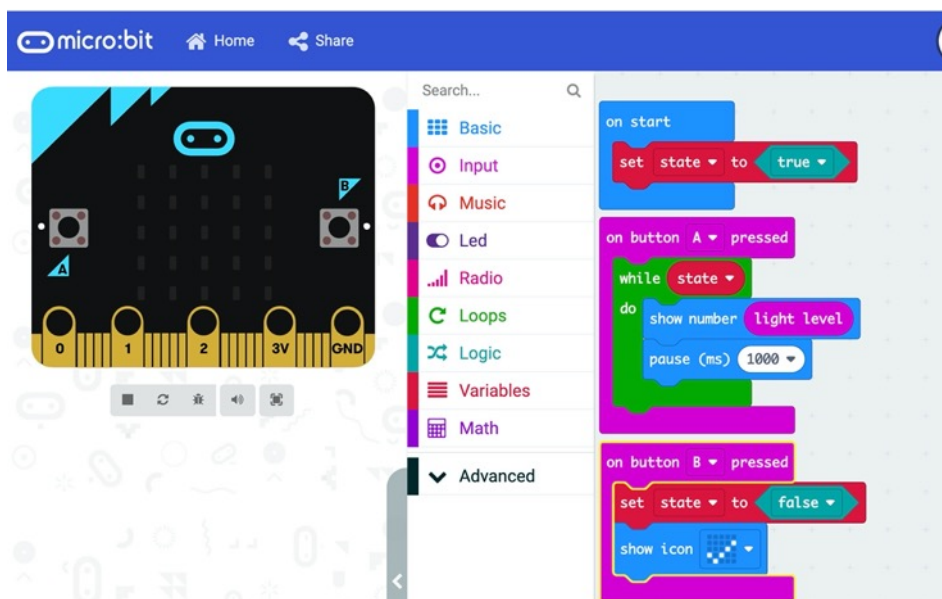
The trouble is nowadays my 71 year old brain just isn't as fast as it used to be at assimilating new languages.

Even when I do manage to write some code the next time I come to it to modify it or fix errors I struggle to remember what I was trying to do.

Now enter the BBCMicro bit designed to allow schools to teach coding to children from 3 years old

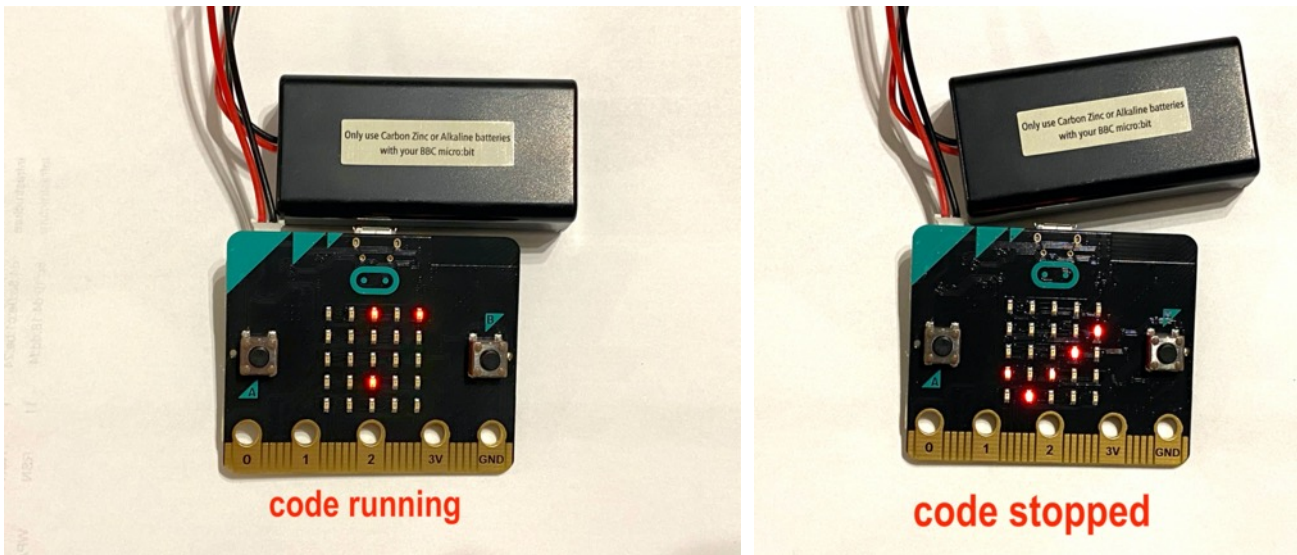
This small, but powerful, single board computer allows code to be built with visual blocks.

If the block physically fit together then the code will run.



Here's a very simple sketch I made which takes the value of an onboard light sensor and display the value on a scrolling display(from 0 dark to 255 bright). Press button A to start the light reading which will scroll and to stop the readings press button B. A tick is then displayed to show the readings have ended. All that without having to write a single line of code!

Once you understand the “basics” it is quite easy to build quite complex programs even using Bluetooth low energy transmissions to smartphones etc. You can expand the basic kit (costing only £10.50) to include solderless breadboards so you can prototype your own hardware projects.



Here's the microbit in operation running the above code - powered by two AA batteries

I'm keen to introduce this to my very bright granddaughter - once the restrictions permit us to meet indoors once again.

As they say "watch this space" for some simple photographic accessories such as Bluetooth remote control shutter for smartphone, intervalometer for bridge camera, light meter, sound operated shutter control, stepper motor driven slider etc etc etc.

You don't even need a microbit to try it out as there is an emulator that you can test your programs before you download them to your device. The emulator works on PC's, Macs, smartphones and tablets.

<https://makecode.microbit.org/> for details and the emulator.

There is also a new version V2 which adds a few more sensors to the board and I have ordered one to experiment with.

The new board features:

USB, Radio, serial, and Bluetooth Low energy connectivity.

A Compass and Accelerometer.

2 x user-assignable buttons.

A fully programmable 25 LED display.

25 pin notched edge connector.

Onboard speaker.

MEMs Microphone with LED indicator.

Touch-sensitive logo.

Light level sensing.

Temperature sensing.

Built-in sleep/off mode allowing the board to be powered-down with batteries connected.

A discrete regulator that can supply up to 200mA of current to external accessories.

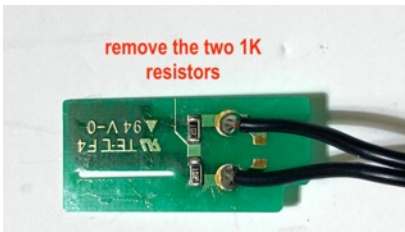
Power status LED and USB data transfer LED.

A more compact method for the BLC12E dummy battery adaptor.

The original Panasonic BLC12E dc adaptor doesn't have the feature to allow the camera to display the battery status on the LCD screen - presumably because it is mains powered. My original modification was to solder a standard 1/8w 10k resistor from the ground line to the T terminal.

This required a small hole to be drilled in the PCB to allow the lead of the resistor to pass through for soldering.

My latest version is to use a very small surface mount resistor which has a much lower profile and doesn't take away much of the camera connection pad.



remove the two 1k resistors and solder a new 10k SMD resistor across the -ve rail and the contact pad. You just need to scrape off a fraction of the solder resist from the -ve rail. Just overlap a small amount on the contact pad and solder.

Another year passed



What a year 2020 has turned out to be! As I reflect on what I have done it doesn't seem that much in comparison to previous years.

My annual trip to Arran was done during the month of June for 4 days and it was not a very productive trip as the weather again this year was very wet. It looks like this has been a continuing trend as the past 3 years have had more than the usual amount of rain during my visits there.

I think also because of the restriction placed upon us (even stricter in Scotland) I just didn't enjoy the trip as in other years. No restaurants or pubs were open not even my favourite coffee shops were open to sit it, only for take-out.

I'm not sure about a trip in 2021, even though we should have our vaccine program well underway by then I may leave the trip to September.

I've not been as active in producing YouTube tutorials this year. I think a combination of health conditions and lack of drive really impacted my ability to keep to a plan. I guess the fact that for 12 weeks we were only allowed out for short exercise really put the brakes on going out to shoot some video.

As we have seen from the ending of photo trade shows due to peoples switch over to using smartphones rather than mirrorless or DSLR cameras may be a clue to what happens to my future channel content.

By far the FZ80/82 camera is still the one attracting most views on YouTube and requests for help.

It's a real pity that Panasonic crippled that camera so much otherwise it might have been an even bigger success for them. I rather fancy that we have seen the last of the bridge camera range as they seem to have piled a lot of money into the full frame mirrorless cameras - and that is becoming a shrinking and more intensively competitive market arena. With Olympus selling off its imaging division I think that there are going to be more casualties in this market segment in 2021 and Canon may abandon its development of the EOS M line after the rumored EOS M7.

When I was getting down from our loft space the Christmas trees and decorations I came across by filing boxes of prints that I had made when I was very much into producing 10x8 inch prints from just about all my digital images.

I shudder to think about the money that I spent in producing them, as some were on canvas as well.

It's a strange business. When I was in photofinishing equipment repair at Kodak the need to get the prints back to customers with a very short time frame was ever present. You knew very well that the customer would quickly thumb through the prints and then they would most likely be put in a drawer and hardly seen again!

So that has turned out to be the case with my prints. I was keen to go out and capture the very best images, get them printed and then move on to the next. Now most of the images sit within terabytes of other images on my hard-drives!

At one time we had digital photo frames by which you could at least have a visual display of some of your images but they have largely disappeared now, along with DVD slide shows etc.

What form is the future storage of our digital images to take and will we access them?



I started to create photobooks when the offers came on some of the sites like Groupon and Wowcher here in the UK. I find browsing through a book is more stimulating than just looking at a pile of prints!

I also created a year book from some of my Facebook images. I did it through a online publisher but if I do it again it will be a self-published one using one of the photobook printers. It's easy to download all your images.

So as this is likely to be the last newsletter of 2020 may I take this opportunity to thank you for subscribing to the newsletter and for all the feedback received over the year on this and the YouTube videos.

If you celebrate Christmas then let me also take the opportunity to wish you and your family all the very best and let us hope that 2021 is a much better year in so many ways.

In the USA you have a new president so that will be a new opportunity for making changes and leading you out of the horrid pandemic.

So until 2021, take care, stay safe and stay well.



Graham