Newsletter for Week Ending 25th July 2020

Lockdown Eases but!

Over the past couple of week, here in England, we have seen some easing of the restrictive measures put in place to control the spread of the Covid-19 virus.
Restaurants, public houses and hotels have been allowed to re-open provided that they meet the new guidelines for keeping staff and customers safe.
Many establishments are working at levels of just 70% occupancy and they are struggling to keep afloat.
Many of the restaurants are reporting that people are making bookings but do not show up!
This adds to the misery that they are already suffering.
In Scotland, and to a slightly lesser degree in Wales and Northern Ireland, restrictive measures have been tighter than in England.
It could be argued that they have managed to drive down the number of hospital admissions and the deaths of patients suffering from Covid-19 for better than here in England.
They introduced mandatory requirements for face coverings on public transport and in shops far earlier in the progression of this disease.
Yesterday, the 24th July, England too imposed the mandatory wearing of face coverings in shops. I must admit I can see the logic behind the use to prevent transmission by anyone with, or without, symptoms but personally I hate the idea and far from it instilling confidence for me to go out to shopping malls etc it has done just the opposite!
If I can find what I want on-line then this is now my preferred method of shopping.
I hate queuing at the best of times but I certainly would avoid a shop if I have to spend more than 15 minutes outside before I could go in.
Shortly I'm going to Arran, Scotland.
I will have to wear a face covering on the ferry and when I purchase food in the village shops, but the number of times will be counted on one hand so I'm OK with this as I will be spending more time on the hills, mountains and glens than in the villages – a small inconvenience for the gain.

Arran, here I come.

After the lockdown in Scotland permitted tourism to re-open to the highlands on the 15th July I contacted by favourite campsite to find the availability of a camping pod for a few days break away.
They could do me 4 nights next week.
The problem was the ferry from the mainland to the island. Because of the need to maintain the social distance measures they were limiting the capacity of the ferry to just 20% of the normal number of vehicles and foot passengers.

They also had a rolling 14 day rolling ticket booking scheme so I could confirm the campsite booking until I had a guaranteed ferry booking.
Adding to the complexity people had already pre-booked ferry crossings before the pandemic and the ferry operator had had to cancel and re-book quite a lot of the sailings.
As a result the ferries were fully booked before the 14 day window arrived for me.
I was lucky to get a place on the first sailing at 7am but could only get the last ferry back the following Saturday at 8pm.
This means a 2am departure to drive up there to arrive in time for boarding and it means that I will not get home until about 2am on Sunday!
I normally look forward to a lovely Scottish breakfast on the ferry but at the moment there is no catering facilities either on the ferries or at the port buildings.
When I dock at 7.50am there are no facilities open in Brodick, the main village on the island, so it will be a trip to the local supermarket for a sandwich and machine coffee.
No McDonalds or KFC over there (luckily as I do hope to lose a few lbs that I have put on having not been to the gym for 14 weeks).

I'm taking a very modest camera kit this time. I normally take too much gear and end up using very little.
The Canon EOS M50 and M6 Mk2 will be the cameras of choice with all my M series lenses and the EF 70-200 IS USM and the 75 -300mm EF III lenses.
I will take the Fuji X-T4 and the Fuji lenses plus the Viltrox Canon EF-Fuji adaptor that I have plus the Panasonic FZ1000 mk2 as I intend to do a full review of that camera plus comparisons to the APS-C sensor cameras.
My main target is the wildlife – seals, otters, red squirrel and the shore waders.

The long term weather isn't brilliant but I'm just so much looking forward to walking the hills and glens that it really doesn't matter if the weather is bad.

Kimafun Wireless Microphone Test

I was contacted by Kimafun with the offer to test and review a new wireless microphone system that they had recently released.
I have several wireless based mics including an older, pro grade, Sennheiser system an Airline UHF system and the Rode Wireless go.
This one had a very affordable price of just £60 in the UK so I wondered just how "bad" it would be compared to my other systems.
To my surprise it actually wasn't that bad at all and was perfectly adequate for content creators who needed to have the freedom of movement that a wireless lavalier system affords to the user.
It does have, in my opinion, a few design issues which, if they were incorporated into any updates to this system, would improve the usefulness of the system for video bloggers.
The system consists of a transmitter and receiver pair running in the 2.4GHz frequency band with both lavalier and headset mic. The latter more useful for fitness instructors etc.

My YouTube Review

I tested the system to see how it compared to the Rode Wireless Go and I think that it performed just as good.
The system is unusual in as much that it uses a unidirectional lavalier mic capsule. Normally the industry standard is an omnidirectional one. This means that the sound is mainly captured from the front lobe of the microphone element and is quite directional – as I demonstrate in the video. This could be seen as an advantage in some situations where noise rejection from the sides of the mic might be useful.
The capsule is also much larger than often supplied being about 1 cms in diameter. This does make concealment an issue if you don't want it to be seen.
The mics have very robust cables and are terminated with a captive sleeve which does prevent them from inadvertently disconnecting and reduces electrical contact noise.
Build quality wise the transmitter is quite good having a flexible wire to the mic connector.
The receiver does have a problem for me in as much that it would be very vulnerable to damage if it was plugged directly into the camera mic socket.
It is best connected using a flexible cable to prevent this possibility.

I have since purchased another version of their wireless system which I intend to modify to perform the way that I think would be much better for video blogging.

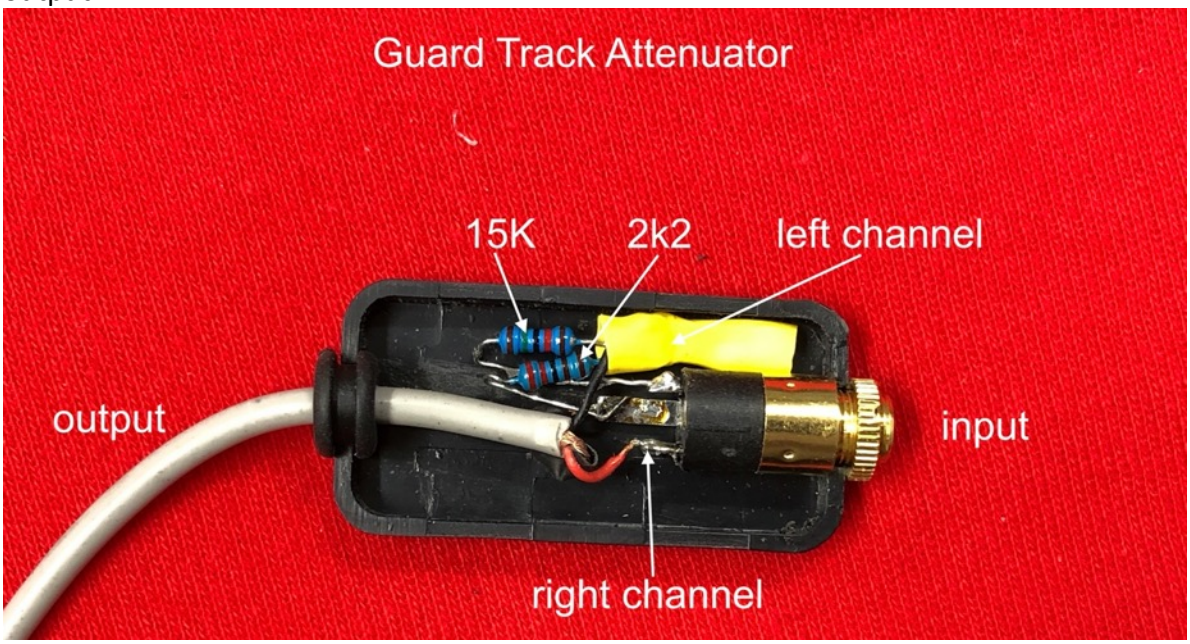
Adding an Audio Guard Track to Camera Recordings.

When recording audio sounds that have peaked they are like highlights in photography - the details are gone and cannot be recovered.
With audio, this is classic distortion and no amount of processing can get back the true sound.
By adding a "guard track" you can insure against these loud excursions. The guard track is typically recorded some 10 - 15 dB lower than the main audio track.

Here you can see the effect of adding a guard track.
The right channel is recorded at a lower volume than the right.
If you have a peak in your recording, which has clipped, then you can use the lower volume audio track to overcome this.
You do this by using this track in the video editor at the point where the main track clips.

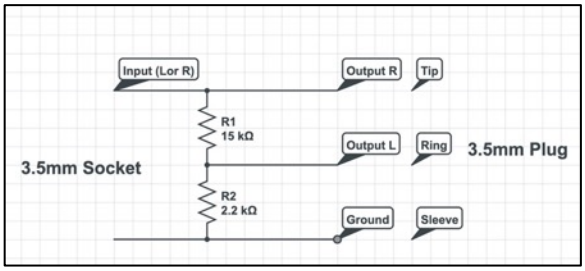
My circuit is designed for most of the common types of electret condensor microphones which have a typical impedance of around 2Kohms.
To provide the necessary level of attenuation I designed a "L" pad attenuator which has a 15K upper resistor and 2K2 lower resistor.

The output from most mic capsules is wired to give a two channel input from the mono output.
The right hand channel goes through the device unattenuated where the left hand channel has the "L" pad inserted. The centre of the attenuator is connected to the left channel output.



The module was built inside a small plastic box.

The mic plugs into the 3.5mm socket and the output from the unit (a 3.5mm TRS plug) plugs into the camera. The un-attenuated channel provides the biasing for the mic capsule (from the camera and about 2v)



Both powered and biased mics can be used with the system.

You can use a similar L pad attenuator to take the line level output from radios, audio recorders or amplifiers and construct a similar unit to attenuate the 500mV output to around 5mV required for mic levels.

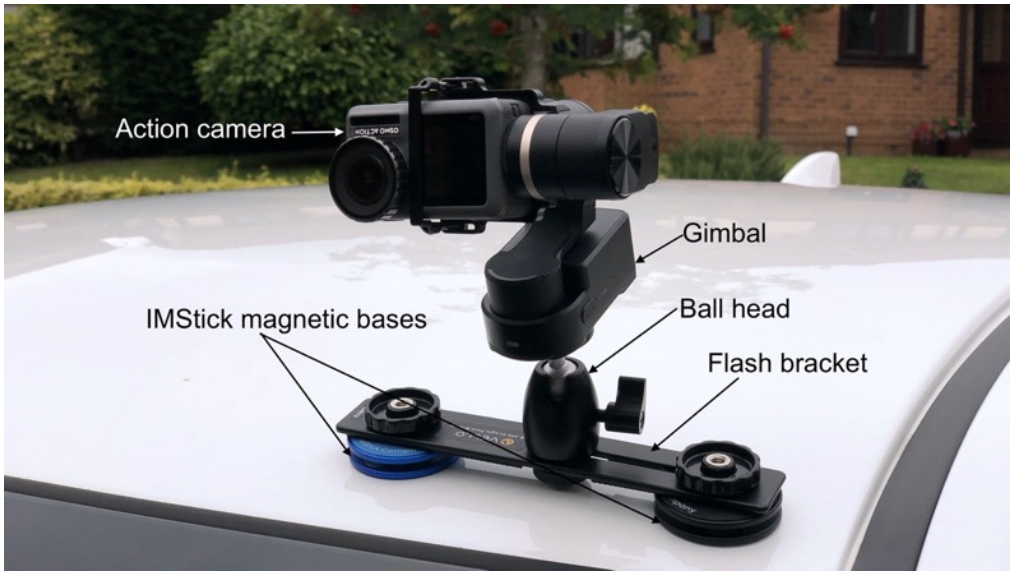
IMStick Magnetic Phone Mount

I was approached by the Stick Company who market the IMStick.

Basically the mount is like a thin "Yo-Yo" with a silicone coated steel wire.
The wire fits snuggly between the plates of the holder and can be bent into all manner of shapes to support the smartphone by use of a very thin steel plate which is fixed to the back of the phone using a very good grade of 3M adhesive tape.

It has ¼ x 20 threaded hole by which it can be attached to a tripod, for example.

I saw a different potential use for it.



By using two of the magnetic bases and a couple of extra photographic fittings I was able to fix the Osmo Action Camera with Feiyutech W2X gimbal to the roof of my car.
As the bases have a silicone rubber pad on both sides there was no possibility of scratching the car when installing or taking the unit off.

The gimbal and the action camera can be controlled by apps on my smartphone from within the car.

By use of a “magic clamp” and the IMStick a small light stand could be pressed into use as a convenient tripod.

And with a magic arm a full featured interview/vlogging setup could be made.

The 8 (4 on each face) neodymium magnets provide a very secure fixing.

The only small negative point was that if you attach the 40mm steel plated to the back of the smartphone if it has wireless charging this will not work.

I had a work-around for this by using a smaller, 25mm diameter, plate located away from the central position.
It still provided a robust fixing.

I later went on to develop a few more ideas which I can prove the concept next week whilst away in Scotland.

A much simpler magnetic rig.
The soft silicone rubber pad preventing making to the vehicle body work.
I have test drove the system at motorway speeds and it never moved.
I was recording the video captured and used my smartphone to keep an eye on the mount during the test.
The 4 large neodymium magnets in contact with the body work certainly hold well!

I machined up a tripod adaptor from 3/8 to 1/4 to attach the IMStick magnetic base. I made a steel plate to carry the small ball head which adequately supported the EOS M50 with kit lens.

I used the silicone coated steel wires to add a secondary security loop.
In normal operation the camera and mount stayed well connected magnetically!

Using a much larger ball head and “L” bracket to hold the Canon SX740HS camera.
Again the magnetic attraction between the IMStick and the base mount was very good.

I have another couple of prototypes which I need to test but I’m optimistic that I can develop another couple of useful accessories that will be a welcome addition to my mounting hardware for both action cameras and mirrorless systems.

I’m also working on a different mounting plate for smartphones with wireless charging so that the mount can be maintained in the central position rather than towards the bottom of the camera.

Canon's Very Fussy USB-C PD Charging and My Arran Gear Choice

Since it looks like the Canon EOS M50 mk2 may be a way off from reaching dealers shelves (if it ever does now!) I decided that to get the most out of 4K video recording with the specific need to use it for 8M still image extraction and that the EOS M6 mk2 with the 32.5M sensor and uncropped 4K video would be a suitable addition to my camera line up.
In addition I want to make some long exposure time-lapse video.
The EOS M50 only allows 1/25 sec as the longest exposure which is quite prohibitive.
With the M6 mk2 you can set the exposure up to 30 seconds for each exposure!
I also have the 90D which has this however this new high resolution sensor needs glass that will resolve enough detail to enable the benefit.
Even some of Canon's prestigious "L" series lenses like the 24-105mm do not, from my tests, give any advantage over the 24M Canon 80D when mounted on the 90D. Only my 70-200mm has sufficient resolution to show any difference in the detail resolved.
With the EOS M series lenses only the 32mm F1.4mm prime lens has enough resolving power to show any difference between the EOS M50 and the M6 mk2.

I desperately wanted to reduce the gear that I will be taking to Arran so it was a hard choice to go either 90D with the articulated screen or the M6 with its flip up screen.

My main choice of the workhorse for this trip is the Fuji X-T4 which I really want to test out with my new lenses.

Although the Olympus OMD M1 Mk2 with the fabulous 75-300mm lens is also likely to get a place in the cameras bag(s).
The only other camera will be the Panasonic FZ1000 mk2 which I will be doing my 12 month review of.
Remember just over 12 months ago on its first outing with me on Arran it suffered catastrophic condensation damage requiring the lens and main PCB to be replaced.
It wasn't covered under warrant so I had to make a claim on my insurance for the expensive repair bill.
After that I just lost heart with the camera and it sat in the cupboard for months after.
I have been using it more this year as I needed to finish writing the user's guide for it which I had promised.
The guide is now available on Amazon and from my store page of the blog.
There's features that I like about it – like the new touch screen and zoom assist feature but there are others, like the button placement, that I do not.

The final list isn't decided yet. The weather looks 50/50 with some heavy rain again so I'll be cautious about which camera/lens combination I'll be using.

Trying out the M6 mk2 was like using the previous M5 with only a flip up screen.
I do like an EVF especially for shooting video as I should wear glasses for screen work and I just cannot check focus accurately on a LCD screen.

The other problem is that I found that the USB-C charging was very fussy as to which power bank or mains charger would work with it.
"On the go" charging is a must when off-grid for extended periods of time so in camera charging was a deciding factor in the purchase as it is very convenient just to connect a large power bank during coffee breaks etc.
It took a lot of trial and error to discover which cables and power banks would work together with this camera. I have never had any problems with other USB-C PD devices.
It needs to be USB-C PD as the USB 3.0 type A to USB-C cables do not work.

To Blog or not to Blog? That is the Question!

I've been writing these newsletters for many years now. They originally were weekly issues covering the basics of photography and equipment reviews etc.
As time progressed I moved them to a twice monthly, then to three weeks and now to every month.
This was because time restraints and some health issues prevented me from affording the time needed to produce the newsletters.

Penning these newsletters is something that I do enjoy doing but it is becoming quite difficult to generate new material.
I know some of you enjoy the varied content and regularly email me after the publication.

I originally started when the FZ200 came into the market and I immediately saw the potential that this camera had to make photography more accessible to a lot more people by allowing them to capture images that at that time were impossible to achieve with any other bridge camera.
Since then I have kept up the purchase of each and every bridge camera that Panasonic brought out.
I used to keep up with the TZ/ZS travel zooms until the price became an issue and because of the dust issues inside the lens and on the sensor and Panasonic refusing to do anything about it and not offer cleaning under warranty.
I moved to the Canon Powershot range four years ago and now use the SX740 HS as my "travel zoom".

During this enforced "lockdown" I had hoped that the readership of the newsletter may have increased, however, from the statistics captured by mail chimp the number of the newsletter "opens" is actually increasing only by the number of new subscribers that have joined.

My own conclusion is that the content may not now be relevant to those who originally subscribed during the peak bridge camera years and that they feel that they have gained sufficient knowledge or have moved onto maybe smartphones as an alternative capturing device.

I know it is not only difficult for camera manufacturers to keep producing cameras that will be accepted by the new market place but also photographic magazines are also struggling with readership.
Practical Photography has just ceased publication in the UK leaving only the Amateur Photography magazine as a periodical that I like to browse.
Practical photography, to me, went off the rails when it started to produce content that only dealt with the top of the range DSLR's or even medium format digital cameras.

It shifted from a magazine that gave great instruction to novices to something that would only appeal to people with more disposable income than sense.
I was at the point of cancelling my subscription when the notice of closure was sent out.

So my dilemma is do I continue to produce these newsletters, do I change the content either back to cover the existing bridge cameras or move on to the mirrorless cameras lime the EOS M50 or the Fuji range.

I feel though that the EOS M50, as I predicted that it would be a viral success when I first got my hands on it, has now reached saturation in the marketplace as many people have embraced the potential that the camera has and many people have produced excellent tutorials using it that I could not add any new material.

My photography and electronics have always weaved in and out of each other and I have many ideas that I would like to develop using Arduino and Raspberry Pi microcontrollers and that is something that may be of some, but limited interest to some of you.

Please let me know what you think mailto:support @grahamhoughton.com?subject=blog newsletter

Storage of Lithium Ion Batteries.

Lithium-ion batteries can hold a charge for a long time. However, these battery packs have a safety mechanism built-in that disables any re-charge if the voltage drops below a certain minimum level. To avoid this safety-trigger to be activated, the battery pack should be charged at least once every few months.
If cells are left to self-discharge shunts can appear in the cells which would cause high internal currents to flow if the cell was to be recharged. This would lead to high temperatures and the risk of fire.
Lithium-ion should not be discharged below 2.50V/cell. The protection circuit turns off and most chargers will not charge the battery in that state.
A “boost” program applying a gentle charge current to wake up the protection circuit often restores the battery to full capacity. However cells that have been sitting at this state for weeks may never recharge.
If you notice that the cell becomes warm to the touch during recharging this is a sure sign of internal damage. The charge should be terminated and the battery safely disposed of.
A fully charged cell discharges by about 5% in the first 24 hours and then by about 3% every month.
So theoretically a cell should last for over 12 months before it falls into the danger zone.
You should try and have some form of battery management routine which sets up a recharge cycle for batteries in storage.
Lithium-ion batteries do age. They only last two to three years, even if they are sitting on a shelf unused. So do not "avoid using" the battery with the thought that the battery pack will last five years. It won't.
Also, if you are buying a new battery pack, you want to make sure it really is new.
If it has been sitting on a shelf in the store for a year, it won't last very long.
Manufacturing dates are important.
If you leave the battery in the camera then the discharge is much quicker as the camera always has a standby quiescent current so it is more important to regularly check the charge level on the LCD and recharge it if it has dropped to the last 25% indicator.

So I hope to hear your thoughts and I look forward to bringing you some tutorials and reviews from Arran before the next newsletter.
Take care, stay safe.
Graham