

Are “Pro” Grade Lenses Worth the Extra Expenditure?

Photography can become an expensive hobby/pastime if you are not careful.

There is always the release of new cameras and lenses to tempt us to upgrade to the latest and greatest version.

I’m a self-confessed “cameraholic” and because I’m now in a situation, at my time of life, that I do have monies available to fuel my hobby then I will buy new gear as it tempts me.

As they say “you can’t take it with you when you go” so I’ve adopted a policy of not thinking about tomorrow but just enjoying today! We never know just how many tomorrows there may be!

So, my case in question is it worth speculating on so called “pro” grade lenses with the expectation that they will return the very best image quality compared to general consumer grade lenses.

My curiosity was aroused by my Olympus 40-150mm F2.8 Pro series lens with matching 1.4 x tele converter and the lack of critical sharpness that I was achieving.

Now this is not a cheap lens (£1250 complete with tele converter) so it had to be technically better than ordinary lenses of the same focal lengths.

With the matching converter to longest focal length is 210mm (or 420mm Effective Focal Length because of the micro four thirds 2x crop factor).

The other M4/3 lenses that I have that cover all, or part of this range, are the 14-140mm and the 100-300mm Panasonic Lumix lenses. I do have the Canon 70-200mm L grade IS USM lens and the 70-300mm IS USM lenses which I can use on the M4/3 bodies by using an “active” adaptor which allows full control of the lens aperture.



Lenses which I regularly use on Micro Four Thirds Cameras – including “adapted” Canon Lenses. 70-200mm L F4 IS USM & 70-300mm F4-5.6 IS USM from Canon. The 40-150mm F2.8 Olympus Pro and the 100-300mm F4-5.6 Panasonic Lens

So how did I go about testing the range of lenses to determine the image quality of each of them and additionally determine the sweet spot for each lens at various focal lengths?



Well this was my test set up. Shooting outdoors in overcast light gave a constant exposure during the whole series of tests. I set up the camera 15 feet (5 metres) from the 1 metre rule and set the exposure compensation to -0.3 EV to prevent highlight loss. Using the same fine JPEG & RAW file for all the tests I processed the JPEG's with the same sharpening value for every image. I also made comparison files from RAW but was happy that the JPEGs showed the same visual result so used those for the evaluation. I shot each lens at a series of focal lengths and throughout all the aperture range to find the sharpest central and edge area (sweet spot) and then closely compared the sharpest image at the same focal length from the lenses.

Here's the Olympus 40-150mm Pro lens versus the Panasonic Lumix 100-300mm at the same focal length.



The two lenses both had sweet spots at F8 at this focal length giving equal edge to centre sharpness.

Even being super critical it is hard to arrive at a conclusion that one lens is sharper than the other. There may be a slight contrast advantage to the Olympus lens but this is very marginal and could be processing differences.

One thing that I did observe was the lenses both held sharpness to F16 but at F22 noticeable softening of the images was apparent due to diffraction taking place in the lens.

At the wide-open apertures, where you expect the “pro” lens to be better optimised, I was slightly disappointed to find that it did not perform vastly different to the Panasonic consumer lens.



Enlarged section of the two lenses at F4 showing both lenses have equal resolving power at the edges.

So, having run tests at all the common focal lengths supported by the two lenses (100, 150 and 200 {using the tele converter on the Olympus lens}) I'm now convinced that there is absolutely no optical image quality advantage of using the vastly more expensive Olympus Pro lens compared to the Panasonic consumer grade lens.

It's a real pity that the manual focus ring is so badly implemented on the Panasonic lens. I find that it is quite stiff to turn and with the lens encoder needing to be rotated at a minimum speed for the system to register the fact that the ring is being turned make for very, well almost impossible, fine manual focus adjustments.

So, what about the adapted Canon lenses?

The 70-200mm and the 20-300mm lenses both designed for full frame camera sensors and as such cover more than the micro four thirds sensor size. It is imperative that the adaptor doesn't add flare from its internal construction materials which would dramatically cut the contrast of the lens image.

The Commlite adaptor has a matt black finish to the plastic baffle plate so doesn't cause too much of a problem. It's an active adaptor and allows both Lens IS and aperture control. It does not allow autofocus in the version1 of this unit.

I believe version 2 adds AF mode which works with some, but not all EOS lenses.

With the version 1 unit there is an issue with lens stabilisation.

There is a software glitch with the first version which manifests itself as violent shuddering of the lens IS system making it impossible to shoot video and sometimes occurs just as you are about to press the shutter button when taking stills. I've found that if I leave the lens IS switched off then I don't get this problem.

It does mean, of course, that I don't have image stabilisation on those camera bodies that don't have sensor shift IS.

The optical results from these two lenses show a little less sharpness than the native M4/3 lenses. Maybe these lenses are optimised for full frame resolution rather than the much smaller crop factor of M4/3 sensors. Maybe Canon EF-S lenses designed for APS-C sensors will fair slightly better. I will have to test those in the near future.

Here are the same F8 images from both lenses.



So apart from much better physical construction and fully weatherproofed the "PRO" lenses don't appear to add that extra "bite" that I was expecting these lenses to deliver. Had the Panasonic lens had better manual focus and had a tripod mount ring then it would have been a lens that I could have truly recommended – especially for those who need that extra image quality for their wildlife pictures.



An example of the image quality with the Canon 70-300mm adapted lens of the Panasonic G9

So, now, I'm happy to shoot with the adapted Canon 70-300mm lens giving 140 to 600mm EFL on the G9 or the Olympus OMD E-M1 mk2 using in-body image stabilisation.

There is a new active adaptor coming out in the next month which is a competitor to the Metabones speed booster.

It will incorporate a 4-element lens to reduce the image circle formed by an EF lens down to the size needed for M4/3. By doing so the light increase is in the order of one f-stop. From the release specification, it will have AF and lens stabilisation as well as the necessary aperture control. I'll keep an eye on this one.

Update:

During the testing of the Canon 70-300 versus the Lumix 100-300 I had a few more issues with the Commlite adaptor. Quite a few times it would not report the aperture being set and gave black images. Using the in-body stabilisation of the Panasonic G9 didn't give a great level of image stabilisation certainly not the 4 stops usually achieved with the lens OIS system. I had quite a few images that showed camera shake even though I was using shutter speeds of over 1/250 sec.

When it did work, it worked well as you can see in this image below taken at about 150mm (300mm EFL) f5.6, 1/800@ ISO 800



Digital Camera Sales Fall to a Record Low Level in the 1st Quarter 2018

In 2012 just over 100 million cameras were manufactured worldwide, according to CIPA data. In 2017 this had fallen to 25 million. It showed a further decline of 10% compared to the 1st quarter of 2017.

This fall is directly attributed to the rise in the use of smartphones for consumer image taking.

Of remaining the digital camera market, it seems that mirrorless compact systems cameras are still making good headway into competing for sales against the current sales of DSLR cameras.

When we do get full frame, mirrorless cameras will this reverse the trend?

With the advantage of continuous "live view" no black out during high speed burst shooting the mirrorless camera has great advantages – especially those with electronic EVFs.

I think that, even with full frame mirrorless cameras, the writing is still on the wall for consumer grade full frame kit as most people are now enjoying carrying around camera kit that is much smaller and lighter and still gives fantastic image quality.

Canon have tried quite a few times to tempt smartphone users to migrate to smaller mirrorless cameras and the new M50 that has much more of the controls being accessed via the touch screen seems to be getting good reviews.

It has a 4K video mode however it has a severe sensor crop when using this mode.

This is a real shame as a wide angle, 4K capable, camera would have been a real advantage for Canon in what will be a very competitive market place.



Remember Sony tried a hybrid system with their lens cameras, the Q10 and Q100 models.

The Q10 had the 18M 1/2-3-inch CMOS BSI Exmor sensor and the Q100 a 20M type 1 inch. These clipped onto the smartphone and used the smartphone as the viewfinder. Low resolution images were copied to the phone via wi-fi connection and the original image and video clips were stored on the microSD card within the camera.

I still have my Q10 but it doesn't see much use these days. This idea didn't catch on but did offer a lot of potential like x10 zoom, Image stabilisation, better low light images faster burst speeds and 1440 x 1080 30p MP4 video. Kodak had a similar device the, SL25.

At the same time smartphone manufacturers continue to innovate.

The latest Huawei P20 Pro smartphone has 3 cameras, apparently, all with optical image stabilisation!

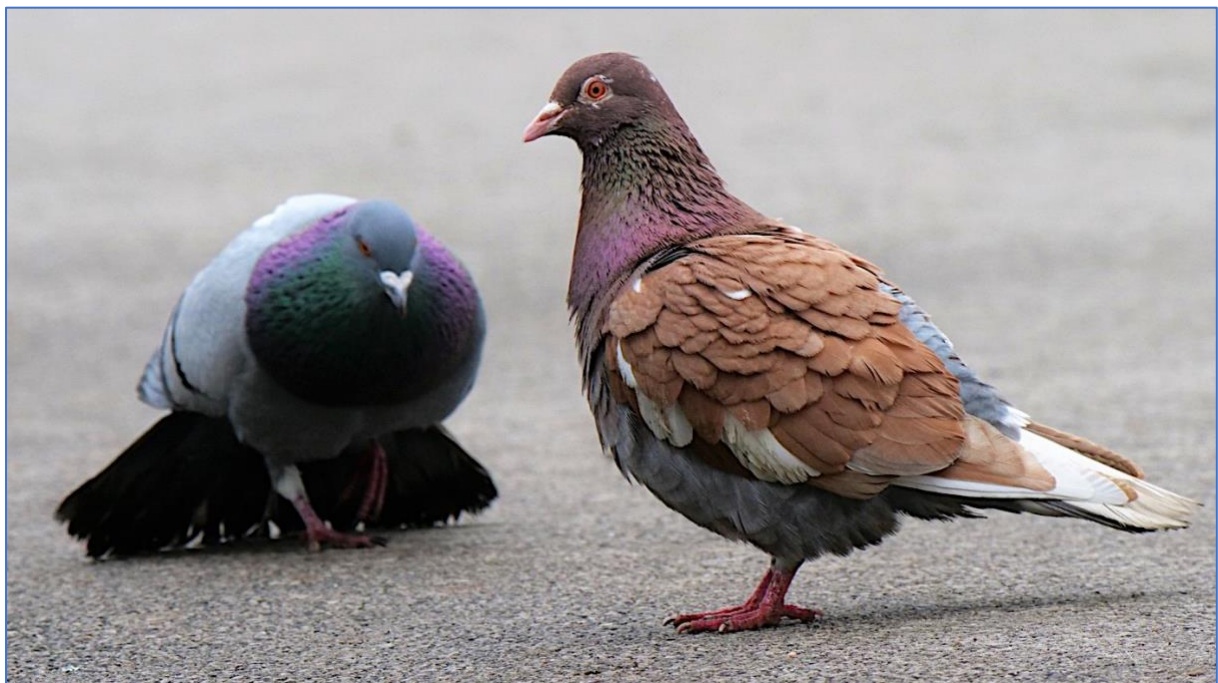
There are also lots of after-market companies producing accessories to try and increase the functionality of smartphones such as gimbals, selfie sticks, microphones, LED lights, close-up lenses and filters.

Some of these do make the smartphone almost as un-pocketable as the smallest compact cameras.

Park Life

On Saturday 14th April we had a taste of spring with temperatures reaching 12 degrees with some nice long spells of sunshine. I took a break from painting the fence panels around the garden to take a stroll to the local park just to see what was happening there.

The pigeons were certainly making the most of the warm spell with several doing their courtship dances.





Both images taken with the Panasonic G9 with the Lumix 100-300mm lens.
The apple and cherry blossom are still not making any appearance but the daffodils are still holding strong even after the very long cold snaps.



The Need for Exposure Compensation

The purpose of the camera exposure metering circuit is to give correct exposure when the subject being photographed has “average” brightness. This equates to a subject which has around 18% reflectance – hence the proliferation of 18% grey cards used for this purpose.

Generally, the camera metering can be set to one of 3 modes:

- 1) Using the whole area of the sensor (whole area or evaluative)
- 2) Using a central area of the sensor (centre weighted)
- 3) Using a small area of the sensor (spot metering)

If the ratio of the subject to the background is small (that is the subject area is less than the background area) then the light intensity of this background will have more of an effect on exposure determination. The converse can also be true. If the subject isn't of average brightness and it is proportionally bigger than the background, then again the exposure meter will be biasing the exposure because of this.

To illustrate this I shot the same model against a grey, black and then white background with the camera set to whole area metering and you can clearly see that the one against the black background is overexposed and the one against the white background is underexposed.





From these exposures, you can see how the white and black backgrounds have influenced the camera metering system. Also, the camera white balance was set to Auto and you can see that there is a SEVERE shift towards magenta in the exposures away from the neutral grey point.

When you identify the types of scenes which can influence the metering system, typically snow or beach scenes cause under exposure, you can be prepared and adjust the exposure using Exposure Compensation. As an example the same scene shot against the black background this time using negative exposure compensation of 1 EV unit (1 F-stop).



One way to overcome this metering system failure is to use the “spot metering” mode.

This mode uses a very small area of pixels to determine the exposure.

It does need a little more understanding of neutral tones as the area you select for metering will directly influence the result.

If you choose a darker than neutral (18% reflectance area) you will get over exposure and similarly if you choose an area of lighter tone you will get under exposure.

Here's the same scene using the spot metering method using the "skin tone" of the model to determine the exposure.



FZ330 - F4 ISO 100 -2/3EV

So, by using exposure compensation, normally applied for shots taken in Aperture or Shutter priority modes, you can get the perfect exposure irrespective of the background brightness. The real beauty of digital cameras is the fact that you can preview the result even before the image is captured.

Lens Focus Distance Measurements

Many times, when shooting close-up shots or portraits you often get a warning that you are too close for the lens focal length selected. This might be the 2m to infinity when shooting in the AF mode or the 1m to infinity when shooting AF macro mode.

Now on many cameras this distance is from the subject to the film or sensor plane.

But what of the bridge camera like the FZ200/300/1000 etc., where is this distance reference point as there is no indication for the sensor plane position.

Well I tried to determine this with the FZ300/330 by setting the camera first to the full focal length of 600mm and then to the point where the camera changes from 1m to 2m (about 230mm EFL) and measured the closest focus distances.



As you can see the actual distance was exactly 1 metre when measured from the lens front face to the subject with the camera set to 600mm EFL and at the macro AF setting.

When switching over to normal AF position, which has a minimum focus distance of 2 metres, I found that the distance was 1.84 metres when measured to the lens face again.

So, there doesn't appear to be a definitive point where the focus point can be measured.



This is a bit of a shame as it would be nice to be able to set the camera to known distances for close-up shots.

My FZ2500 Returned After Second Repair

When my FZ2500 suffered catastrophic failure after an 8.4v power supply went over voltage and needed the replacement of the lens, main circuit board and flash circuit board it was returned with the external mic not working. From the schematics, it was almost certain that the ribbon cable from the mic input board to the main pcb may not have been connected, or connected properly.

From having previously split the camera to make my own assessment of the failure after the power supply problem I knew that this little ribbon cable could easily be missed. I was in two minds whether to check this myself but in the end decided to return it for repair under the repair agents guarantee.

It was returned with a note to say that a ribbon cable was re-fitted!

I subsequently tested the camera in video mode and verified that it all worked well.



A FZ2500 camera test after return from the repair agents, lovely rendering of the blue hues.

The Case for USB In-Camera Battery Charging

Quite a few manufacturers are now adding USB charging ports to their cameras. I guess this follows the trend that we are using more and more products that are recharged by USB.

USB power sources are now virtually everywhere that you travel, on some airplanes, buses and coaches, trains and airports and coffee shops etc., so it is convenient to recharge devices here.

So, what are the advantages and disadvantages of this this method of charging the battery.

The travel zoom cameras like the TZ70 (ZS50) has the facility to recharge the battery via the USB port, in fact you don't get an external battery charger with the camera, only a mains voltage to 5V USB power supply.

It has now found its way into larger cameras such as the Panasonic Lumix G9.

The camera has a USB 3.0 port which does allow higher charging currents but this does carry one of the disadvantages. The heat generated by the charging circuit when boosting the 5v to 8.4 volts must be dissipated within the camera. This does have some potential safety issues. Remember the Samsung battery failures in mobile phones or the Sony laptop batteries bursting into flames during charging.

I must admit I prefer out of camera battery charging using USB chargers.

They can charge the battery much faster than the in-camera charging circuit in which the charging current is reduced to keep the heat rise down.

Second Bridge Camera Tutorial Now Uploaded on YouTube.



The second video in my new series is now live on YouTube.

In this tutorial, I show how I set up to capture the first cherry blossoms in a local arboretum.

I then give some hints and tips whilst shooting some trees and flowers at this location.

The video [can be viewed HERE](#).

In a later video, I will show how to I edited some of these images.

Agonising Choice of Camera to take on Stag Weekend

This weekend I will be joining my son on his “stag” party ahead of his wedding in two weeks’ time. We are off the France (Nice) and then on to Monte Carlo for 3 days.

I want to capture not only the occasion for him but I’m hoping to get some free time to explore Nice, its cathedrals, parks and marina.

I want to shoot 4K video but want to keep the kit list down to the essentials.

I could use the FZ2500 but this camera does have a very large footprint.

The FZ330 would be the next choice having the bright f2.8 lens but I was debating the GX8, G9 or the Olympus OMD-EM1 mk2.

I know what you are probably thinking!

My choice would have been to take the Canon EOS M5 but it doesn’t shoot 4K video and it doesn’t have a fold out screen.

As there will be a lot of hand held video image stabilisation will be paramount. Some of the lenses don’t have any stabilisation so in body stabilisation will be needed. The Olympus by far has the best image stabilisation but is quite a heavy camera but this is the compromise I have to make.

I’ll be keeping the lens choice very simple, the Panasonic 12-35mm f2.8, the ultra-sharp 20mm f1.7 and the 14-140mm lenses. This should cover all the options from candid shots, city walks and church interiors etc.

I’ll be using the iPhone 8Plus for Panorama shots and some 4K video in places where the use of cameras may be possibly not allowed.

I’ll be using the Manfrotto Pixi tripod as both a tripod and hand grip.

I’ll take a minimalist selection of polarising and ND filters and my Rode Video Micro microphone.

I’ll upload my images/video at the end of each day using my iPhone and card reader to my iCloud account using the hotel wi-fi.

As this is my first trip abroad for several years I don’t know what to expect at airport security but I’ll put all the spare batteries in their own plastic case and take the USB charger for recharging at the end of each day.

I hope I will get some great images to share with you in the next newsletter.

New Email and Data Sharing Laws

During May, there will be a mandatory requirement to inform you of the changes to the way data is used from the email newsletter. As I don’t use any of your email addresses for anything but this newsletter I thought that the impact would be minimal but it appears that I must inform you of the changes.

During the next few weeks I must include the new sign up forms for your continued subscription. As soon as I understand the process I’ll get back to you.