

Photography & You

By Mike
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The “Legal” Stuff I have to add here.

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Digital Camera Terms and Acronyms

You may well come across some digital camera terms that mean absolutely nothing to you! There is a whole new “language” that is related to digital photography, as you may have already found when using computers. Never fear – Finding to the rescue! You will also receive a bonus report with many of the most common terms and acronyms used... Keep an eye open for that – it’s included in the free download at the end!

Digital Photography



Most people have a creative leaning, possibly without realising it! Some could be musicians, some could be artists and some could be writers....you name it anything is possible. An art form by the name of photography has been around for years, but it's certainly not the oldest art form.

In the 1800s the first steps into capturing an image were taken. Progress since then, especially since the digital boom, has been impressive! It also shows how quickly technology has advanced!

Starting up in digital photography has certain advantages over the “old” film photography. No waiting for several days for a film to be processed, the easier viewing of a picture straight away on the back of a camera and the added savings on the cost of dud photos in a batch of film based prints!

IF you happened to know anyone who processed their own prints you would know it was a tedious and occasionally messy process using enlarging gear and chemicals with light sensitive paper. I have spent MANY hours in a darkroom with a coloured “safe” light using developer, fixer and lots of water to wash finished prints! Time consuming but it was certainly fun to see a print materialise in the dish.

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My aim here is to help you to decide what you want to do – if you have an idea my eBooks might just give you the nudge in the right direction!

This eBook is about the camera; how they work and some of the points to look out for.

Subsequent eBooks and newsletters may well cover the “mechanics” and the actual taking of pictures and maybe a little bit about WHY we take pictures....hopefully MUCH more!

This eBook is meant to be a form of encouragement to ANY photography beginner to just get out there with whatever equipment they have available, that is affordable to them. Most of these points generally relate to both film and digital camera products. These days the “smart” phones generally have a very passable camera on board – so try that out!

The points raised are all ones I feel might help to make a start and get over the “Will I? Won’t I?” barrier..!! Unless you take a start you’ll never know what excellent results you could achieve.

Suffice to say – go for it and start to enjoy what can be a very absorbing hobby. Take it as far as you can – Just DO it!

My very best wishes to you – get that camera and take some pictures!

A handwritten signature in black ink, appearing to read "Mike". The signature is stylized with a large, sweeping loop on the left side and a long, diagonal stroke extending downwards and to the right from the end of the name.

To start off and just get to know what we're dealing with we need to just take a moment to see what the digital camera types and technology have to offer.

The topics covered in this first eBook:

1. What to look for in a Digital Camera
2. How Does a Digital Camera Work?
3. What type of Digital Camera?
4. How to Use a Digital Camera
5. DSLR or Point and Shoot Which Digital Camera is Best?



First - Who is Mike Finding? Well, I have been interested in photography for years – ever since my father let me use his 35mm film camera to go and take photos of a Young Farmers “fashion show” and the bug bit! That was some 40+ years ago....

I live in Dorset with my wife and we love the area and proximity to the sea! The county is a fantastic example of fabulous scenery very near to the renowned Jurassic Coast; it's a pleasure and privilege to be here!

Any photographs of my own in this eBook are meant to just interest or amuse and are not necessarily meant to imply any particular expertise – the fact that I have always been a VERY keen amateur who has been able to use photography for work is a great bonus!

Photo Credits

- ❖ Page 8. Mike Finding. Canon EOS 300D. Swanage Tattoo
- ❖ Page 10. Mike Finding. Canon EOS 300D. Kimmeridge Bay
- ❖ Page 11. Mike Finding. Canon EOS 5D. Arne Nature Reserve, Poole
- ❖ Page 13. Mike Finding. Canon EOS 300D. Lynmouth
- ❖ Page 14. Mike Finding. Canon EOS 300D. Our back garden
- ❖ Page 15. Mike Finding. Canon EOS 300D. West Bay, Dorset
- ❖ Page 17. Mike Finding. Canon EOS 300D. Our back garden
- ❖ Page 18. Mike Finding. Canon EOS 300D. Durdle Door
- ❖ Page 19. Mike Finding. Canon EOS 5D. Bockhampton Woods, Dorchester

What to look for in a Digital Camera

When looking at how to pick a digital camera there are four main factors which need to be considered and measured against your personal needs as a photographer.

Resolution

A piece of information you will be presented with will almost certainly be the resolution figure. The resolution figure is the number of pixels captured by the semiconductor (the digital “film” example see right!) that has replaced film. It is estimated that, what many consider to be old fashioned, film captures the equivalent of a 20 megapixels image so photographers who produce very detailed photos may still use this ‘old’ technology.



However it is now a fact that the top of the range digital single lens reflex cameras (DSLRs) ARE able to deliver film quality at 20 megapixels!

You will need to choose between a range of megapixel sizes varying from 1.3mp to 10mp or more.

Consider what size prints you will want to make. If you are happy with the 5"x7" images we used to collect from the photo processing lab then a 1.3mp camera will be all you need. If you are likely to want to print off anything larger you'll need a higher resolution camera.

You could of course simply opt for the highest resolution on offer - the downside of this is the cost and the storage capacity you will need as the more pixels you have the larger the image file sizes.

Only you can decide what the acceptable trade-off is for the type of photography you want to do. As you become a digital photography enthusiast you will quickly realise that most digital photographers have different cameras for different purposes.

(Note: DSLR is one of the acronyms that I mentioned in the beginning! It refers to a type of camera that has interchangeable lenses and other refinements compared to the lower end compact cameras.)

Aperture

The aperture refers to the open size of the lens. The larger the aperture, the more light can be collected, which in turn allows photos to be taken in poor lighting.

The lens aperture number will be offered to you as an f number but the numbers are not intuitive - in fact the smaller the number the larger the aperture. For example, f16 is a small aperture and used to restrict the amount of light into the camera and f2.4 would be a large aperture. It's just another thing that we have to accept as the norm!

The advantage of having a large aperture is that you can take photos in poor light without the need for flash and this is obviously an advantage if you are going to be doing a lot of your photography indoors.

Lens

There are two factors to consider with regard to the lens. One is the zoom range and the other is the quality.

A zoom lens changes the focal length or magnification capability of the camera.

For landscapes, panoramas and vistas a short focal length is best but if you want to capture the image of the brown bear on the horizon you'll need a telephoto lens with a long focal length.



When assessing options ignore anything described as digital zoom this is not what you are interested in because it is not a true zoom setting and is digitally produced rather than using the optics of the lens. The figures to concentrate on are the **optical zoom** options.

If you opt for one of the super zoom cameras think about how you are going to hold the camera still. To get the best images with such a camera you'll need a camera stand or tripod. Some of the more expensive cameras do compensate for camera shake so you could check to see which models offer that facility.

Lens quality is not something that can be assessed by numbers. Professional photographers only buy their lenses from camera companies as they know this is the

best way to ensure good lens quality. Many ordinary electronics companies moved into the camera market when digital cameras were launched, and they simply do not tend to pay the same attention to lens optical and component quality.

If you want a quality lens buy a camera lens manufactured by a camera company. It is that simple.



Storage

Some manufacturers use their own storage media, which means your files are not easily transportable between devices. Others use either Compact Flash or SD (Secure Digital) cards.

It is worth investigating what other devices you have which make use of this portable storage media and perhaps stick to one type otherwise there is not a great deal to choose between them.

Hopefully this will give you enough basic guidance on how to pick a digital camera - all you need to do now is, think about your needs as a photographer.



How Does a Digital Camera Work?

Just how does a digital camera work? How can a small device with no film capture such amazing images?

A digital camera looks like a traditional film camera and it appears to do the same thing - take photographs - but the technology within that little hand held device couldn't be more different.



Photography with a film camera was very much a mechanical and chemical process. Cameras didn't need a power source (although later models often had battery operated film winding mechanisms and lens drives) and images were captured by allowing light to land on a chemical coated film which then had to be treated with other chemicals to reveal the image.

A digital camera allows light through an aperture in much the same way as a film camera but the light is focused on a semiconductor which records the images electronically.

The digital image captured is in a format that makes sense to the computer on board the camera. The computer records the image as a whole load of tiny coloured dots - pixels - that fit together seamlessly to make up the complete image. Without getting too technical, the light waves are converted into a digital format.

The semiconductor that receives the light through the lens will either be a CCD, a charge coupled device or a CMOS, a complementary metal oxide semiconductor. Both act to convert the received light into electrons - they turn light into electricity. The difference between the two semiconductors is perhaps not a matter for discussion here as ultimately they produce the same end result. What is worthy of note is that cameras with the CCD technology tend to use more power than CMOS, which can affect battery life.

In order to determine colours, digital cameras use a colour filter array which breaks the incoming light down into red, blue and green pixels and uses interpolation in order to make an educated guess about true colours. The more expensive the

camera the more sophisticated this filtering process is and the better quality the resulting images.



The amount of light entering the camera is controlled by two mechanisms; the shutter speed and the aperture. There really is no difference between film cameras and digital cameras where these mechanisms are concerned.

Having decided what you want to photograph, you aim your camera at the target subject. Depending on the camera there may be an autofocus mechanism whereby the shutter button is depressed halfway until the lens is focused or there may be a zoom function allowing you get a close up shot of something in the distance.

Once the camera has focused the image the shutter button is depressed completely. There is a reassuring mechanical click noise built into most modern cameras, even though the process is not mechanical.

Whilst the shutter is open light streams into the camera and is focused on the CCD or CMOS. This is converted into an electrical charge and the computer processor and filter interpolates what colour each pixel should be. These pixels are then displayed on the LCD for you to view and decide whether or not the photo is satisfactory or needs to be shot again.

The images are stored on a memory card or chip until such time as they are downloaded for permanent storage or deleted.

From the photographers point of view there is much about digital photography that is similar to film photography but in case you are ever asked 'how does a digital camera work?' you now have a better idea.

Now that you have an idea as to how the digital camera works and what to keep in mind when choosing a camera, I will now list the main types of camera available although you may well have an idea as to what you actually want.

Looking at the types of camera set out below you can probably see the type you have in mind. The scope of this eBook is such that I'm trying to give ideas for you to

do a bit more research and make the final decision. As I have mentioned already – budget will dictate in the beginning and as you progress the goal posts could well change.



What type of Digital Camera?



Photography is now pretty much all digital and with that it comes in several different camera types and it will depend on what you are going to use the camera for as to the choice you make.. I'll add just the four most popular types.....plus a brief reference to one you probably already have! With thanks to Digicam help: www.digicamhelp.com.

Ultra compact digital cameras: Ultra compact digital cameras are capable of taking quality images. They are very small, lightweight, easy to use and can be carried in a shirt pocket. Ultra-compacts may have fewer features than compact cameras. Buttons and dials are small though usually work well. **Prices vary, depending on features.**



Compact digital cameras: Consumer-level digital cameras are compact and lightweight. They are great for those who only want to point-and-shoot. They are fully automatic; some have semi-automatic and manual controls. All but the cheapest models provide very good image quality. Some compacts with larger sensors do better in low light. Others have relatively long telephoto zoom lenses. **Low to moderately priced, depending on features.**



Advanced digital cameras: "Prosumer" digital cameras are geared to advanced amateurs with skill levels between a **professional** and **consumer**. They have high quality lenses and advanced features for creative control. Some have a zoom range from wide to super telephoto. Most advanced digital cameras accept a variety of accessories and add-ons such as converter lenses, filters and external flashes. **Moderate to high priced.**



Digital single lens reflex cameras: DSLR cameras, used by professionals and photo enthusiasts, are top-of-the-line. They have outstanding optics, produce high resolution images in all types of light, and accept interchangeable lenses and sophisticated accessories. DSLRs function automatically but also have a full range of manual controls. You can buy only a DSLR body, and purchase lenses separately. The

price of professional-level lenses can be jaw-dropping. DSLR models include entry level, mid-level (semi-pro) and pro. **Moderately high priced to extremely expensive.**

BUT we must not forget the “humble” mobile smart phone!! The mobiles are becoming more sophisticated as time passes! Very popular as well and used **everywhere...** Enough said for now!

The mobile phone is almost an extension to many people’s arms these days! Just ride the buses or tube systems and you will see people staring at the things or lining up the next music track, rather than talk to the next person!! BUT many of them also use these devices to take pictures or various events, objects that they feel might be of interest at some time in the future or worth sharing on their Facebook pages....

There will no doubt be the exception to the norm and some of these folks will suddenly think – “Hey, that’s not a bad picture!” and start to think about finding something to use to take better pictures.



DSLR or Point and Shoot

Which Digital Camera is Best?

Digital cameras can be broadly classified into two types, DSLR or Point and Shoot and it can be hard to know which digital camera is best. (See my Terms and Acronyms eBook for clarification of the terms DSLR and Point and Shoot.)



Technology is evolving all the time and what used to be significant differences between the two types of camera have now been eroded almost to the point where they are simply matters of preference.

In the simplest terms, the difference between DSLR and Point and Shoot digital cameras is one of quality and convenience. The DSLR camera still, arguably, produces higher quality shots. The Point and Shoot digital camera is undoubtedly convenient, quick and easy to use, being very simple to slip into a pocket or handbag.

There is a slight misconception that it is the pixel figure which determines the quality of the shot and this is not strictly true. The quality of the photographs produced by a digital camera depends on the semiconductor that receives the light and processes that information. The larger this image sensor is, the more light it can process effectively. Because Point and Shoot cameras tend to be compact and considerably smaller than their DSLR cousins, the image sensor is small; there is no escaping that. Selecting a point and click camera with a high pixel rating could be said to be a waste of money as the amount of pixels that can be properly handled is determined by the sensor size.

On the other hand, a DSLR camera, with its larger body and casing can accommodate a much larger image sensor. This means that even with a lower pixel rating the images produced will be a better quality because more of those pixels have been processed.

The lesson here is, if you are looking for a digital camera to produce images of the highest quality look for a DSLR camera rather than a Point and Shoot camera. To

keep within your budget don't be afraid to accept a lower pixel rating provided you have a large image sensor.

Another bonus with DSLR cameras - the lenses can be interchanged depending on the type of photos being taken. It is true that some of the compact Point and Shoot cameras have built in zoom but this is not as flexible as being able to attach wide angled or telescopic lenses and even filters - all the technical apparatus associated with traditional film photography.



Point and Shoot digital cameras are small, light and very portable. There's no excuse for ever finding yourself without a camera when you have one of these. The levels of automation offered by a Point and Shoot camera makes it very hard to take a bad photograph. If you have no particular desire to learn about photography but would still like to be able to take good photos a Point and Shoot camera is for you.

Only the main differences between the two types of digital camera have been covered here but if you want more technical data and information you will probably be happier with a DSLR camera anyway.

DSLR or Point and Shoot is a personal choice - only you can decide which digital camera is best for you.

But if photography is something you want to pursue further – buy what your budget will allow and just get started!

How to Use a Digital Camera

You may be wondering how to use a digital camera, especially if your last camera was an Instamatic or an old Box Brownie! Wow! That's going back a long way – or is it really? Think about it – it's NOT that far back....!

In truth, actually taking photographs with a digital camera is not so different from using a film camera. The main differences are in the way the photos can be viewed as soon as they have been taken, only the good images need to be printed off and the embarrassing ones can be deleted immediately without need to waste money on processing and printing.



As you gain more experience with digital photography technology you will even be able to correct some of your less flattering or less technically correct photographs by making adjustments and retouching them using one of the many computer software packages that are now widely available. I will cover some of these in later emails and reports.

The beauty of using a digital camera is that so much is automated for you. The digital camera cannot organise the pose or arrange the composition but it will automatically compensate for poor lighting, it will auto-focus and it will decide when the flash is necessary.

Depending on the digital camera model you own you will have a number of settings you can manually select to let the camera know what you are photographing. There may be different settings for landscapes and portraits and a fast shutter setting for those speedy action shots.

The different settings are usually indicated by small graphic icons. These icons should be self-explanatory, perhaps a mountain range for landscapes and a single flower or a person's head for portraits.

Rather than being captured on film photographs taken with a digital camera are stored on a memory card or on a memory chip within the camera. By purchasing



spare memory cards you increase the memory capacity of your digital camera. It's like carrying spare films. When your film was full you would rewind it, unload it and store it until you could drop it off to be processed.



If you had no spare film that was the end of your photography for the day. With digital cameras once the memory card is full you simply replace it with a second card and rather than dropping the cards off for processing you just download the images to your computer once you are home.

When taking pictures with your digital camera you may be offered an option to change the resolution of the images. The resolution is the number of pixels that make up the digital photographs you take. A 12 MP (megapixel) camera will have 12000 pixels and a file size of up to 3 megabytes. What does this mean in the non-digital world?

The file size is an important consideration depending on the size of your memory card. If you know the approximate file size of the images your camera takes on its maximum resolution setting, you'll know how many photos you can store or what size memory card you need for a photography project.

The more pixels there are in a photograph, the more detailed the image. Images with a high pixel number can be enlarged and manipulated without loss of quality. You can select to shoot images at a lower resolution and they may well be perfect for what you need - just remember that whilst you can manipulate a 12 megapixel image to a 5 megapixel image you can't do it the other way around. If the pixels aren't captured they are not there.

Only you can weigh up the ideal compromise between pixel density (resolution) and storage space required - it's a very personal matter that may even need to be considered each time you use your digital camera.

Learning how to use a digital camera is not as overwhelming as it may first seem - try it and be prepared to be pleasantly surprised at how easy it really is.

So – WHAT next?

Just get out there and learn by taking pictures!

The camera, whichever type you choose to buy and use, is just a tool. The picture is seen by YOU the photographer and THAT is what matters more than ANY of the technical stuff that surrounds the digital camera. It doesn't matter if the camera is in the form of a mobile phone device (surprisingly sophisticated and improving in image resolution very fast!!) or a top end DSLR and interchangeable lenses.



The ruling factor on choice of equipment will be your funds at the end of the day. BUT the choice of picture you take is free and totally in your hands.

For now this eBook is hopefully encouraging you to at least **“have a go”!**

As a free “gift for you, I have more free ebooks on a download link! All you have to do is click the link below and you’ll get a set of three additional books that could help you in a zipped folder.

Download Now!

Thank you for reading and I really look forward to hearing your successes and ANY photos you would like to show – I’ve opened up a [Facebook page here](#) to allow just that!

My very best wishes to you – **get that camera out and take some pictures!**

