

PHOTOGRAPHY GEAR GUIDE



WHAT TO LOOK FOR IN A CAMERA?

Sensor type

Megapixels

Lenses and sensors

Accessories



SENSORS

KNOW WHICH ONE FITS YOUR PURPOSE

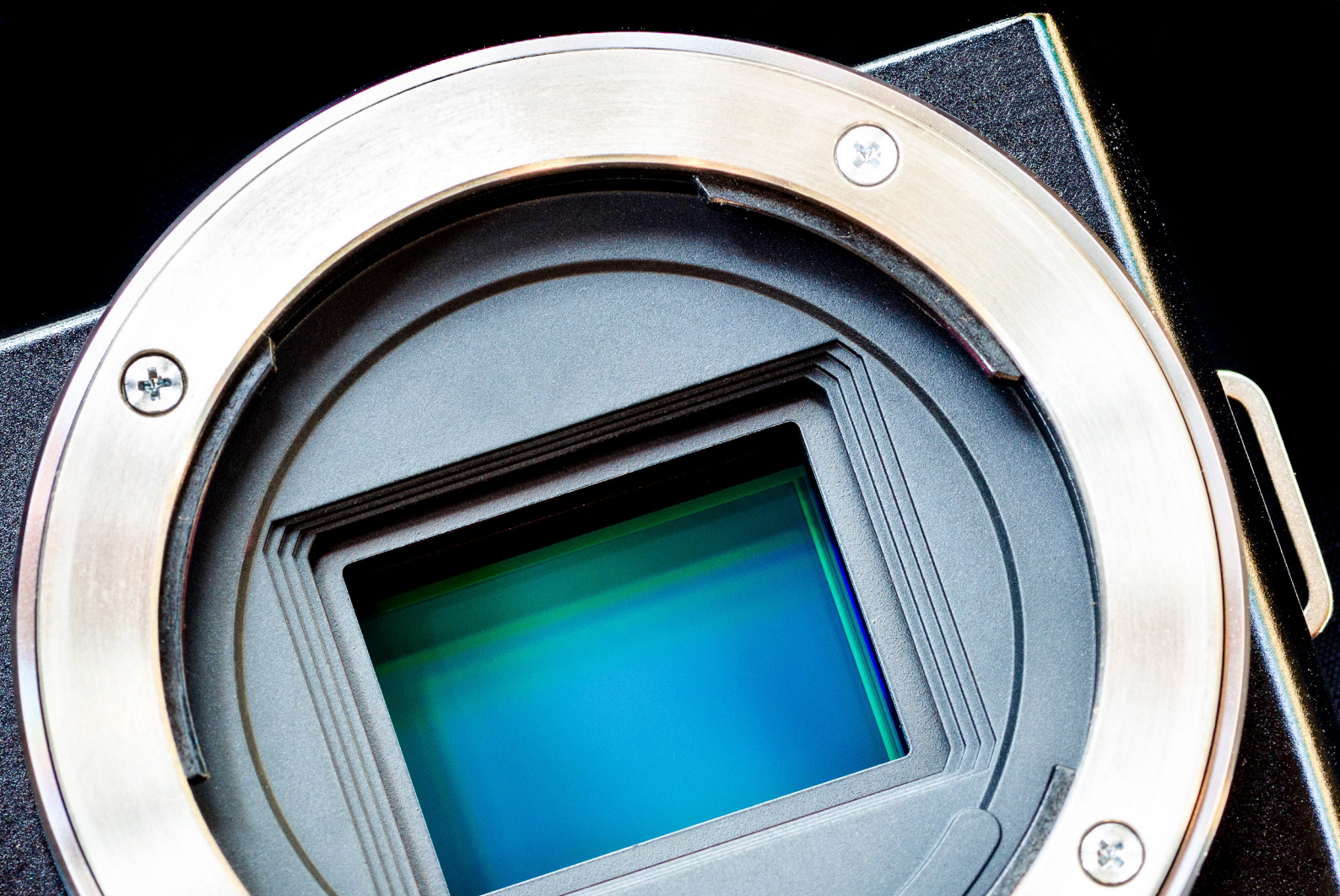
There are two types of sensors. CCD and CMOS.

A CCD stands for a Charge Coupled device sensor. CCDs are less common now than they were in cameras and are found more in Video cameras.

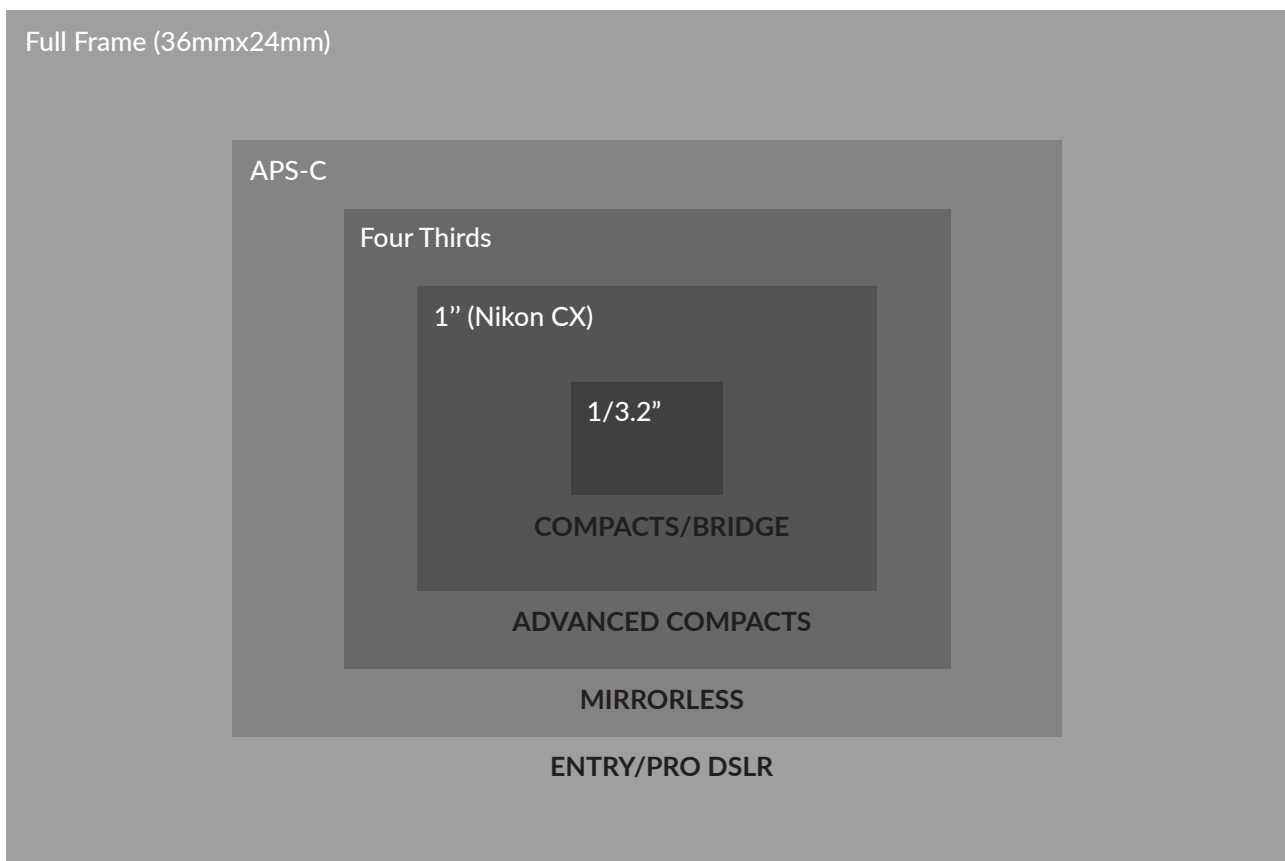
In most cameras you can find a Complementary metal-oxide-semiconductor as a CMOS Sensor.

CMOS sensors consume much less power and for this reason are found in the majority of cameras now.

What is important to know is the size of the sensor.



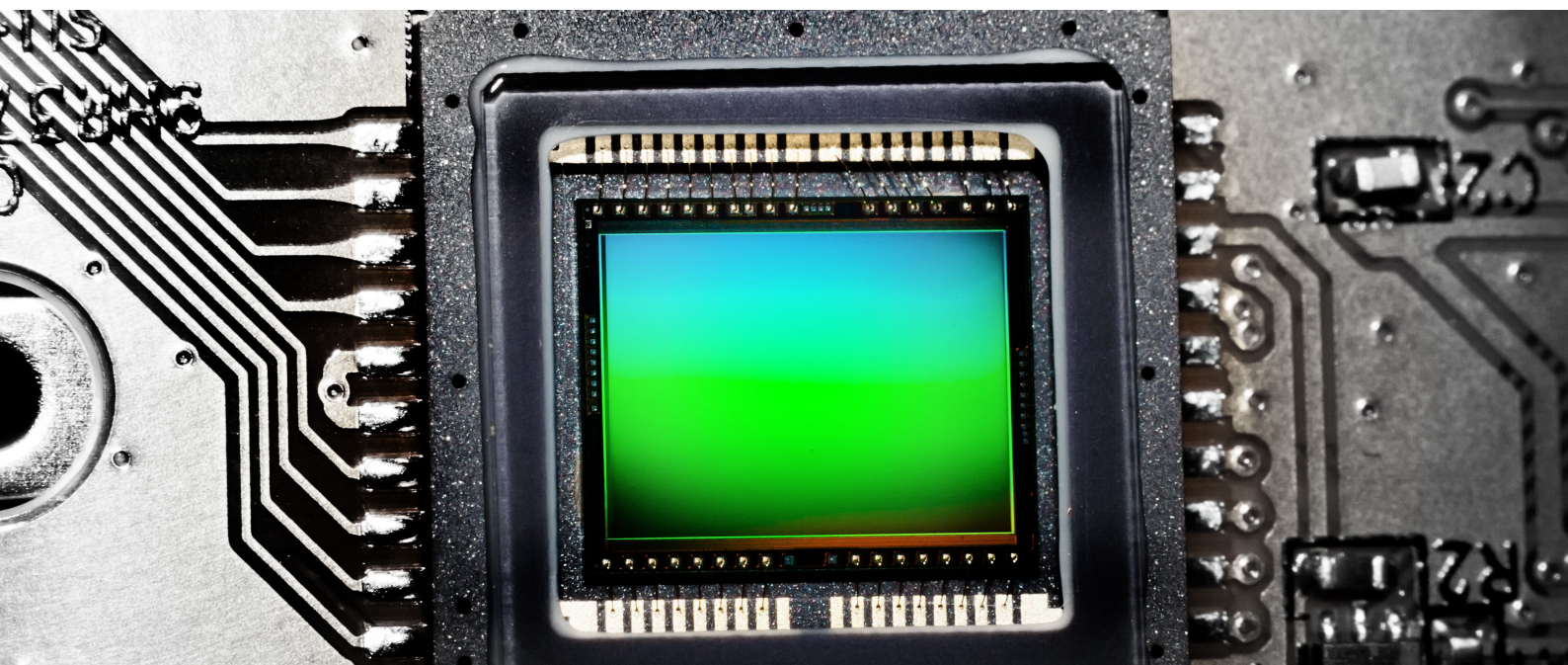
SENSORS



ENTRY/PRO DSLR

There are many different sizes of sensors and they have a direct relationship with your camera's lens, we will explore this later.

A larger sensor will generally give you a higher quality photo. But you will also pay a lot more for this. Professionals tend to favour the Full Frame sensor.



PHOTOGRAPHY GEAR GUIDE



COMPACT



BRIDGE



ADV COMPACTS



MIRRORLESS



SEMI-PRO DSLR



FULL FRAME



MEGAPIXELS, THE MORE THE BETTER?

- Most camera sensors now will carry a megapixel range from 16 MP upwards, depending on the camera type
- The more megapixels you have the larger you can print a photo or the more you can crop in in postproduction
- The more, the better? MP will have no effect on the actual quality of the photo (i.e. how good it looks) and this is down to the quality of the lens and sensor.
- A smaller number of MP can be an advantage. In certain cameras A smaller number means the MPs are physically larger and this can mean less noise in a photo. This is camera dependant!



KNOW YOUR CAMERA

COMPACT

- Have sensors of 16 up to 20 MP
- Zoom range from 5 to 12 x times optical zoom
- Very basic: simply a point and shoot



BRIDGE

- They are a bridge between the compact and DSLR worlds
- Very powerful zoom ranges going from 40x to a whopping 80x zoom
- Most will offer manual modes, lower end models will have restrictions on shutter speeds and apertures.



KNOW YOUR CAMERA

ADV COMPACTS

- Offer full manual control, a larger sensor so therefore better image quality
- They have very bright lenses as in f1.8 or f2.8
- Capable of shooting in RAW as well as JPG



MIRRORLESS

- They get their name because unlike DSLRs that have no mirror that opens up when you press the shutter release
- Less weight, same quality as DSLR
- Lacking a mirror means these cameras can shoot very fast FPS.



KNOW YOUR CAMERA

ENTRY/PRO DSLR



- Offer full manual control
- Exceptional colour depth, better dynamic range and so on
- Higher FPS, so if sports or quick action is important to you these are a better choice

FULL FRAME



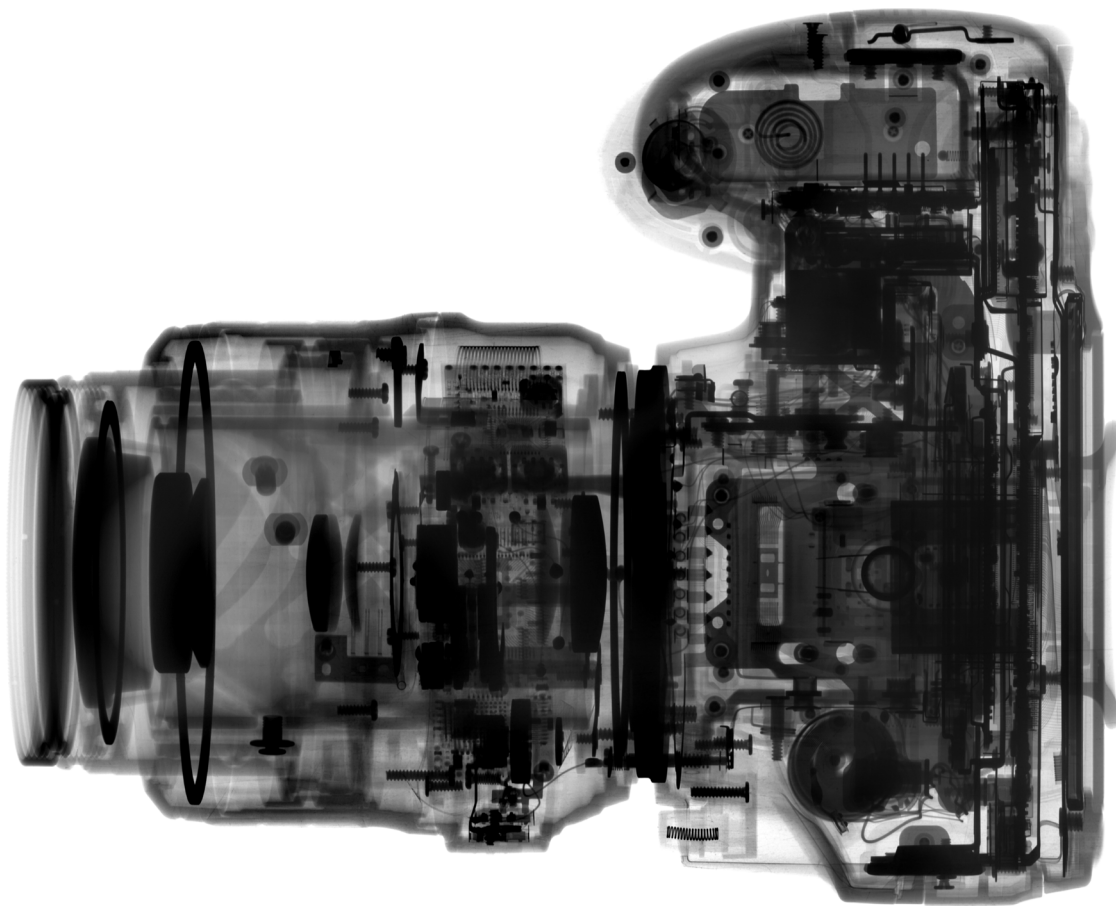
- The sensor size here is 35 mm
- Unrivalled image quality due to the sensor size, and will come with the most upto date image processors for better colour depth and dynamic range
- They are also very bulky cameras so if you are shooting all day it can be very tiresome.



LENSES AND SENSORS

- Understand how lenses relate to different sensors
- You may experience a crop factor (circa 1.5X) if you use a full frame lens on a smaller sensor
An important thing to understand with lenses is their relationship with the sensor. And this can be confusing if you are not aware of this.

As we have seen there are many different sizes in sensors. With the mirrorless cameras you will be using mainly lenses that are suited for these cameras so for the purpose of this guide I will stick to looking at Aps-c and full frames sensors and lenses.



LENSES AND SENSORS



Here is a 50 mm lens. On a full frame sensor we are seeing the total area of the lens. But on the cropped sensor we see less as the sensor covers a smaller area. For this reason we get an increase in the focal distance. In this case the 50 mm becomes 75 mm on the APS-C Sensor.



Full Frame Lens

The grey area represents the lens and the green area is the sensor.

The sensor matches to the edges of the lens

Full Frame Lens

The area covered by the sensor is much smaller

We can see a cropped sensor with a full frame lens

This means an increased zoom on the focal length



LENSES

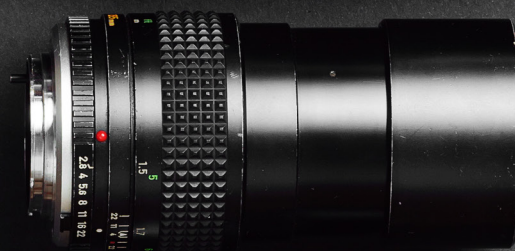
TELEPHOTO



ZOOM



WIDE ANGLE



MACRO



PRIME LENS



Lenses are a good investment in the sense that if they are well looked after that they will last and last and also have a high resale value, again depending on the quality of the lens.



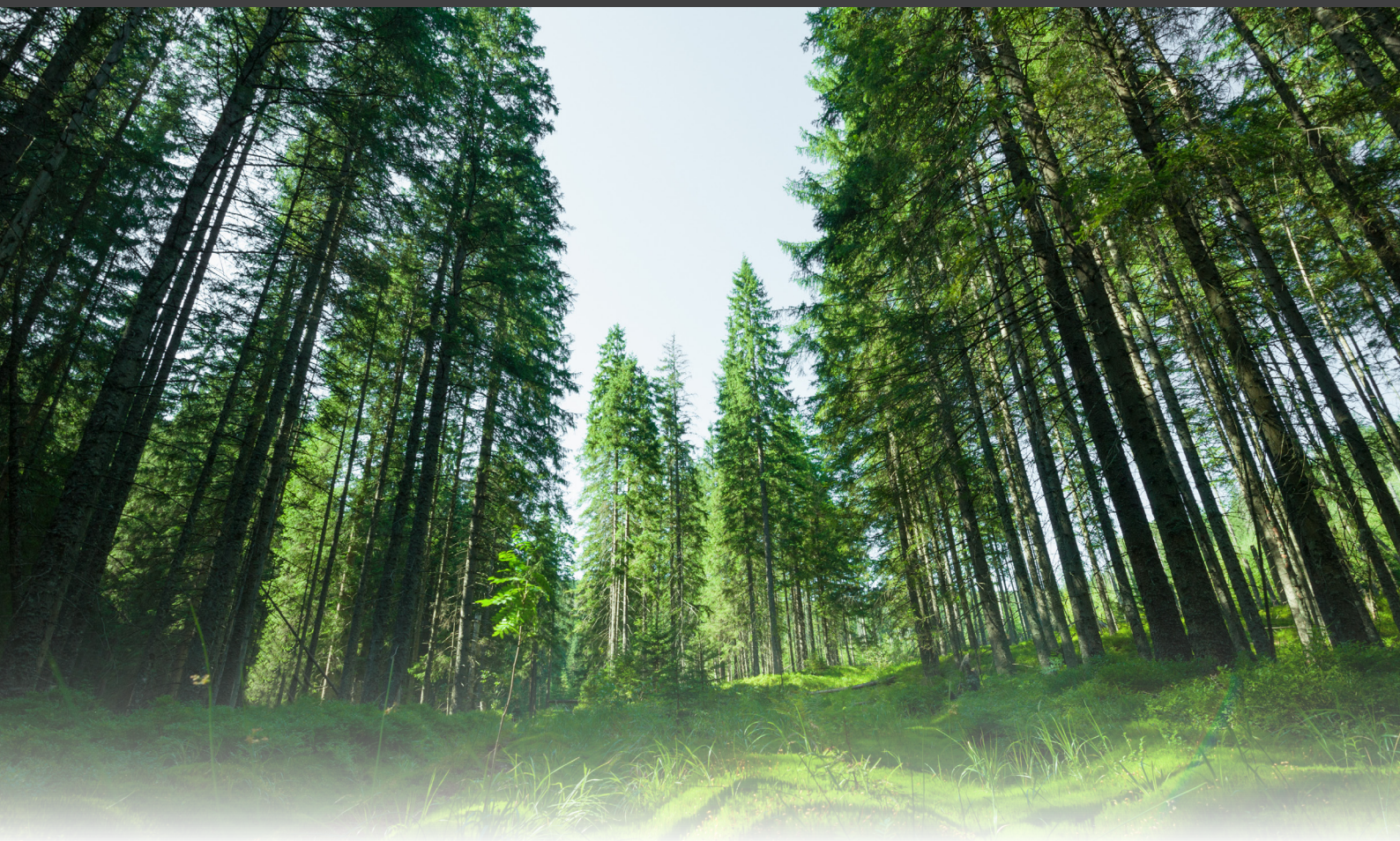
GENERAL ZOOM



Most cameras are going to include a general purpose lens as inclusive with the camera. These are going to most likely be an 18 -55mm to around 135mm on a cropped sensor or 24 -105 mm on a full frame or similar. Used for almost every scenario you encounter!



WIDE ANGLE



You would use these for architecture, interiors shots, landscapes and for group photography. As you can see in the photo here, the edges of these lenses can appear distorted and curved. This can be corrected using software. These lenses are not great for portraiture because they can distort the face if you get too close!



TELEPHOTO LENSES



Telephoto lenses are very popular. You may be very familiar with these lenses. If you ever see any press or sports or wedding photographers you will probably see them carrying a few of these around. They are used for taking photos of subjects or objects from a distance. Perfect for wildlife.



FIXED LENSES



A fixed focal length refers to a lens that is not able to zoom in or out. Sometimes they are referred to as prime lenses. Fixed Focal lengths will have wider aperture ranges, and because of the quality of the glass in them they are often much sharper than their zoom counterparts.



FISEYE



These are specialist lenses that will allow you to photograph a subject very closely. They are usually fixed focal lengths but some telephoto lenses will allow a macro function at certain focal lengths



MACRO



These are specialist lenses that will allow you to photograph a subject very closely. They are usually fixed focal lengths but some telephoto lenses will allow a macro function at certain focal lengths



CAMERA AND LENS MAKERS

Nikon **Canon**
PENTAX **FUJIFILM**
Panasonic
SONY And many, many more!

3RDPARTIES LENS MAKERS

TAMRON **SIGMA**

These other brands can produce lenses that are as good or in some cases superior to the branded lenses, often at a big drop in price compared to the branded originals. But always double check that you are getting a good lens and always, always be sure you are buying the correct mount for you cameras body!



ACCESSORIES



Camera Bags

Tripod

Filters

Memory Cards and Card Readers

So in this part of the guide let's explore the accessories that we can buy for our cameras and lenses to help protect our equipment, to improve flash photography, inside and outside. What to look at in filters, tripods, memory cards and card readers. All the essentials really and then some extras we might use to branch out into specialist areas or solutions for us who are tight budgets.



CAMERA BAGS



There are as many types available as there are cameras. The selection of camera bags available to us is so vast I could not possibly cover all the types here.

A good camera bag will be rain resistant, and have a pull out rain proof cover. Inside it should have Velcro to move the compartments around to adapt it to you camera lenses and accessories. Some, Like this one here, will allow you to attach a tripod to it as well.

Like tripods a comprise is needed here. Honestly, most photographers will have a few different bags for different scenarios. A large one if many lenses are required, a medium one if two are needed and a small one for everyday use.



TRIPODS



Tripods are universal. This means they will fit any camera. A good tripod will last and last, so are a good investment. Tripods are made of different materials. You can get them made of plastic, aluminium and carbon fibre.



FILTERS

There are 3 main filters to use in modern photography

- UV
- Polarising
- Neutral Density

Keep in mind! Every filter has a specific diameter, so check out the size of your lens before you decide to purchase one!



UV FILTERS



UV filter is for filtering out ultraviolet light from the lens. Nowadays these are mainly used to protect your lens!



POLARISING FILTERS



A Polarising filter reacts to bright sunlight to darken the photo and add more contrast, usually to the sky. It can also serve to reduce reflections of water or other reflective surfaces. These are most effective in bright sunlight.

You will see when you look through the lens one area getting darker in the photo, usually the sky. Imagine them like a pair of sunglasses for your lens.



NEUTRAL DENSITY FILTERS



An ND filter will increase the length of time needed for an exposure.

This filters will help darken a scene helping you to avoid over exposure



GRADUATED NEUTRAL DENSITY FILTERS



If you have ever taken a photo where you have the ground perfectly exposed and the sky completely blown out, and Graduated ND filter will help you to maintain that sky.

This system will attach to the lens via an adapter that is easily screwed onto the lens. You can then slot in the different filters.



MEMORY CARDS

The first thing to note is the capacity of the card, or how much memory it has. This is ever increasing. You can buy a whopping 256 gb memory card now. That is as much as a small hard drive! However just because a card has this much memory it doesn't mean it is going to work with your camera. Many cameras, compacts in particular, will not hold beyond 32 gb. Older camera models may not even hold this much. And this is simply because the cameras processor was not designed to take this amount of memory, as it is highly possible that much memory didn't exist when the camera was manufactured!

There is another important number on the card as well as the capacity or memory. This is an indicator of how quickly the card can transfer information onto it. And this is very important if we are shooting very large file sizes or very high FPS (frames per second). If the card is too slow, the camera can lag, or take a long time to buffer or process the info. So if you have ever wondered why some shops charge a lot more for a seemingly identical card, look closer and you may see that it is very different.

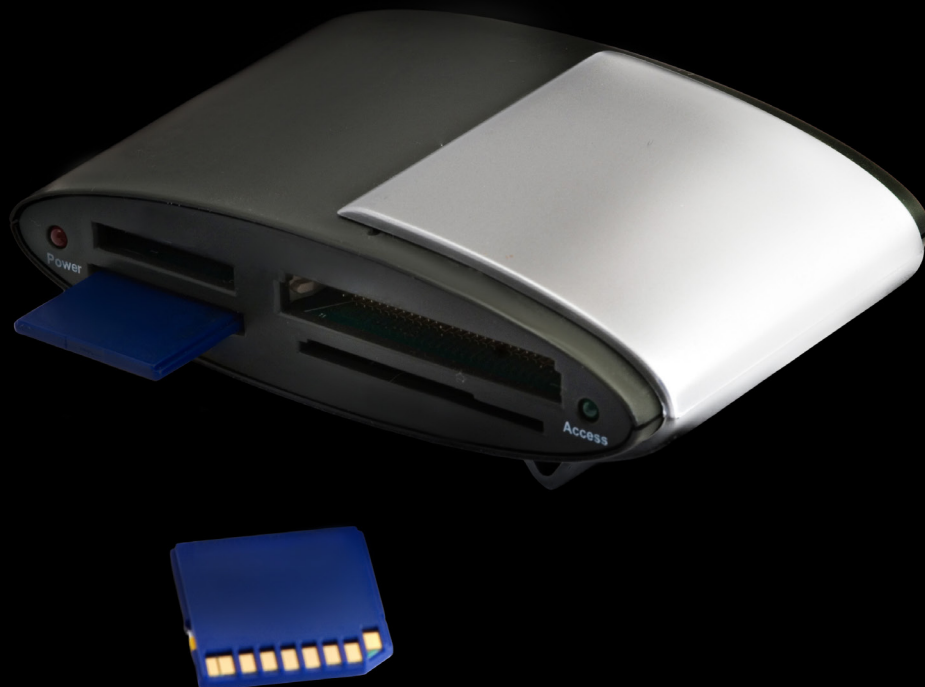


CARD READERS

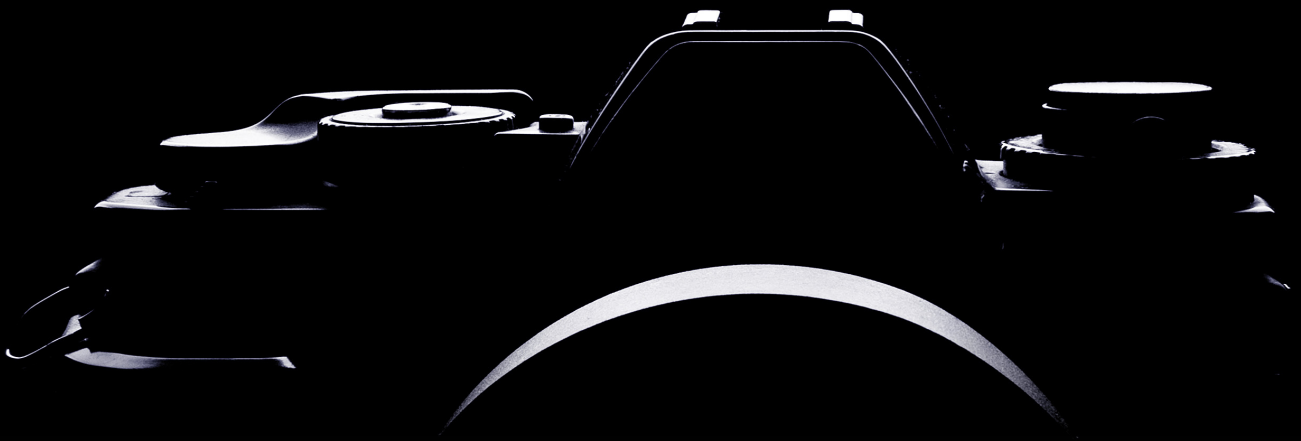
Card readers are a way of transferring photos to your computer or device. Like memory cards there are high speed versions that will transfer your photos faster should you need to work quickly.

The advantage of these over having your camera connected to the computer is:

- 1) your camera's battery won't waste or you won't have to wait to charge it to transfer pics.
- 2) If you are uploading on the go you can transfer over and go continue shooting while the photos transfer. You can also buy multi card readers that will take all types of cards as well so if you use multiple cameras you may have a few types of cards.



LAST BUT NOT LEAST
ALWAYS REMEMBER TO
CLEAN YOUR EQUIPMENT!



CAMERA MAINTENANCE

Cleaning the sensor is a whole different story. And is more complicated. Firstly, you cannot ever use an normal cleaning kit on the cameras sensor. Or to put it more clearly, never ever touch the cameras sensor except with these specialist sensor cleaners. The camera sensor is incredibly delicate and any pressure on it can damage pixels. Replacing a cameras sensor is the most expensive repair you can get. So in this case visiting a camera shop for a professional clean is recommended!



THANK YOU!
WE HOPE YOU FOUND THIS
GUIDE USEFUL!

Contact the team!

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