

West Haddon Photo Club

Photography Glossary

Angle of view - is the width of view produced by a lens and is measured in degrees. Wide-angle lenses have a larger field of view than telephoto lenses.

Aperture - is an adjustable opening inside the lens the size of which can be changed to control the amount of light reaching the camera sensor. The size of opening is calibrated in f/stops or f/numbers e.g. f/5.6.

Aperture-priority - (A or Av) semi-automatic mode that allows you to select a lens aperture (f/number) while the camera sets a corresponding shutter speed for correct exposure.

Autofocus - is a focus mode where the camera focuses for you – just depress the shutter button halfway or use back button focus.

Autofocus modes – different autofocus modes are used when shooting either static or moving subjects. Single shot is best used for static or slow moving subjects. Once you've pressed the shutter button halfway, focus is locked. Continuous focus will continually focus on moving subjects as you track them with the lens while the shutter button is depressed halfway.

Back Button Focus – a method of activating autofocus without the need to half depress the shutter release button. Not available on all cameras, but if available this is a superior way to initiate autofocus.

Big stopper - is a 10 stop ND filter. These filters block 10 stops of light, which means you can shoot exposures around 30 seconds long in bright sunshine. In lower light conditions exposures can be as long as minutes. This can be great for landscape, seascape and architecture photography.

Bounce Flash - (see also Flash) is a means by which more flattering light can be obtained when using a flash gun. Most flash guns have a swivelling and/or articulated head that can be turned round or aimed upwards/sideways. If the light from the flash is directed up or to one side and bounced off of a white ceiling or wall the light is diffused and produces a more natural effect. Beware of strange colour casts if flash is bounced off a coloured surface.

Buffer – the buffer in a camera is an internal memory that is able to hold data recorded by the camera while it is waiting to be written to the memory card. Buffer capacities vary but generally speaking the more expensive and high end a

camera is the greater its buffer capacity is likely to be. Cameras with a deep buffer are capable of holding large amounts of data meaning that shooting in Burst Mode can continue at full speed until the buffer fills up at which time the shooting rate slows down. Once the data has been moved to the memory card full speed shooting can resume again.

Burst Rate – most digital cameras are capable of shooting a series of images by holding down the shutter button. Burst rates can be as low as 2 frames per second up to 14 frames per second for mechanical shutters although electronic shutter will allow even faster burst rates. The camera needs to be set in Continuous release mode to allow this.

Cable release - is a camera attachment that allows you to take shots without touching the camera. It's useful to combat camera shake when the camera is attached to a tripod and you're shooting at slow shutter speeds.

Camera shake - is movement blur that occurs when the camera is moved, even fractionally, during an exposure. As a rule-of-thumb, if you're shooting at 1/15sec or slower you may need to use a tripod and cable release. If hand holding the camera then switching on vibration reduction will help reduce camera shake as will choosing a shutter speed that is the reciprocal of the lens focal length. i.e. if using a 200mm lens set a shutter speed at least 1/200th sec. (see also Vibration Reduction)

Camera body - denotes the main part of a camera, without a lens attached.

Centre-weighted - metering method that reads light in the centre of the frame, and fades out towards the edges. See also Multi-segment and Spot metering.

Colour cast - is an unwanted blanket of colour over an image. It's often caused by using the incorrect white balance setting or from adding an ND filter on the front of a lens.

Composition - refers to the way objects in an image are positioned in relation to one another. The most common compositional devices for helping to give your images visual balance are the rule-of-thirds, lead-in lines and foreground interest.

Crop Factor – historically the most common format for film photography was 35mm. A full frame digital camera has a sensor that is the same size as 35mm film negative so gives the same size image as 35mm film. But many DSLR's and CSC's have a sensor that is smaller than full frame meaning the image falling on it from the lens is "cropped". In real terms this means the resulting image is effectively magnified by a factor of 1.5, 1.6 or 2 times depending on sensor size.

CSC - or compact system camera refers to a small and lightweight camera that uses interchangeable lenses. These cameras are mirrorless, so they use an electronic rather than an optical viewfinder. Some CSCs have no viewfinder at all and the LCD screen is used to compose shots – just like a compact camera.

Continuous autofocus – see Autofocus mode.

Depth-of-field - is the amount of the image that is sharp, or the depth of sharpness from the front of the image to the back. It's governed by the aperture in use and the distance between the camera and the subject that you've focused on.

Depth of Field Preview – in modern cameras the lens aperture remains wide open while composing and only stops down to the pre-chosen aperture at the point of releasing the shutter. This makes composing easier as the image in the viewfinder is brighter. But to see the effect that the chosen aperture will have on the image most cameras have a depth of field preview button – usually on the front of the camera body near the lens mount. By pushing this button the aperture is manually stopped down so that depth of field of the final image can be assessed.

Diffraction – the physics of diffraction in camera lenses is a bit scary but put simply it is a phenomenon that results in softer images when using very small lens apertures such as f22, f32 etc. Light waves passing through a very small aperture interfere with each other more than they do when passing through a wider aperture. This interference results in blurring creating a soft image. It is a problem for photographers because we often want maximum depth of field and maximum sharpness at the same time. To get good depth of field we stop a lens down to a small aperture but doing so can lead to diffraction. Sticking to apertures of about f8 or f11 should give sharp images and to ensure back to front sharpness, in a landscape for example, it may be necessary to focus stack two or more images shot at, say, f8 rather than stopping a lens down to f22. (see also Focus Stacking)

D-pad - is short for directional pad. It's a thumb-controlled device often found on the back of cameras. They're most often used to set focus points and navigate through menus. See also Wheel.

DSLR - stands for Digital Single Lens Reflex. 'Reflex' refers to the mirror inside the camera that flips up during exposure to allow light to reach the camera sensor via a prism.

Exposure - is the combination of the ISO, shutter speed and aperture used when taking a photograph. Shutter speed and aperture control the amount of light that

can reach the sensor, while ISO controls the sensitivity of the sensor to light. When the combination is good, it's referred to as a 'correct exposure'. (See also Exposure Triangle)

Exposure compensation - allows you to manually override the camera's chosen exposure when shooting in the semi-automatic modes Aperture-priority and Shutter-priority. Usually done using an exposure compensation button on the camera body the set exposure can be increased or decreased.

Exposure Delay – a mode on some DSLR cameras that raises the mirror a second or two before the shutter opens to minimise internal vibrations in the camera caused by the shutter.

Exposure Modes - are settings that can be used to make the camera behave in different ways. The modes include Manual, Aperture-priority, Shutter-priority, Program and Auto. There are also scene modes in some cameras that are designed to automatically select the correct settings for a number of different subjects or types of photography.

Exposure Triangle – this refers to the three elements necessary for making a properly exposed photograph. These are Aperture / Shutter Speed / ISO. The relationship between these three elements can be exploited to create a “properly” exposed shot or manipulated to modify the way a final image looks. For example raising the ISO will enable correct exposure in darkly lit situations by allowing shutter speed to be raised thus avoiding camera shake.

EVF - stands for electronic viewfinder. This is an LCD screen within the camera that's viewed like a traditional viewfinder to compose shots. Exposure settings, menus, images and much more can also be displayed on an EVF.

Fill-in flash - is used to help fill shadow areas with light. It's particularly useful for outdoor portraits on bright days, but can be used effectively in different conditions for a range of subjects. (See also High Speed Sync)

Filter – a filter is a square or circular screen of glass or resin that is fitted over the front element of a lens to achieve some creative purpose. Square filters are slid into filter holders on the front of the lens while circular ones screw into the filter thread present on most lenses. They fulfil a number of functions such as polarisers which polarise light and cut out glare or increase the depth of blue in skies, others are used to restrict light thus allowing long exposures so that water or clouds are blurred creatively. (See also Big Stopper, Little Stopper and ND Grad)

Flare - refers to the way that direct light enters the lens at an angle, creating bright halos and areas of haze in images.

Flash Photography - by adding a flashgun to a camera (or using a camera's in-built flash if it has one) the problems with low light photography can be overcome. But care is needed to ensure a creative image results as full on flash can result in loss of background interest and harsh lighting of the subject.

Flat - is a term used to describe images lacking in contrast. Another common term for this is 'muddy'.

Focal length - is a measure of how strongly a lens focuses or diffuses light, which determines how close or far away your subject appears in a picture. A 200mm lens will make the subject appear closer than a 50mm lens.

Focus points - are small points that can be seen in the camera's viewfinder, which are used by its autofocus system. They can be set manually or you can leave your camera to choose the one it thinks is best for the subject – often the object closest to the camera.

Focus Stacking – this is a process whereby a single image is produced from a set of images each taken at different focus points. A landscape photograph, for example, may be put together from three images of the same scene with one image being focussed on the foreground, a second on the middle ground and the third on the background. Merging them together in software results in front to back sharpness right through the final image.

Foreground interest - is a compositional term. It refers to an object in the foreground area of a photo that fills empty space and acts as a 'stepping stone' to help lead the viewer into the shot. It can also provide a sense of scale and distance, inviting viewers to compare the size of objects close to the camera with those further away.

Full Frame – a digital camera with a sensor that is the same dimensions as 35mm film negative is known as a Full Frame Camera. Cameras with smaller sensors are known as Cropped Sensor cameras (See also Crop Factor)

HDR – stands for High Dynamic Range and is a method used to capture all the tones in an image from the lightest to the darkest. Several images are "Bracketed" at different exposures 1 or 2 stops apart before combining them in software.

High Speed Sync – is a term used in flash photography where flash is used at shutter speeds higher than the sync speed of the camera. To allow this some

cameras make use of high speed sync. This makes the flash gun work differently by pulsing lower level light output from the gun the whole time that the shutter blades are moving. Doing this allows the light from the pulsing flash to be used to expose the image on the whole of the sensor as both shutter curtains travel across the sensor. High speed sync flash is often used when photographing back-lit portraits in bright sunlight where the photographer wants to expose both the portrait and the background fully. (See also Sync Speed)

Histogram - is a graph that shows the brightness levels contained within a photo. The graph ranges from blacks or shadows on the left, through mid-tones in the centre, to whites or highlights on the right. A well-exposed shot usually covers all tones from shadows through to highlights creating a bell shaped histogram curve, but if there's a high proportion of black or white in the scene the histogram will be bunched up on one side or the other.

IBIS - In Body Image Stabilisation – see Vibration Reduction.

ISO - stands for International Standards Organisation, and refers to sensitivity of the camera sensor to light. With higher ISO settings less light is required to make an exposure. Conversely, the lower the ISO the more light you need. Low ISO settings deliver finer quality results than high settings e.g. ISO 100 will produce better – less noisy – results than ISO 3200.

JPEG - or jpg, is the most common image format used in photography. JPEG's take all the information from a shot and compresses it down into a manageable file size. This file type is convenient because the camera processes the file automatically for you, but you don't have as much control and exposure latitude as you would with a RAW file.

Joystick – a small, multi directional, thumb operated lever on the back of some cameras that is used to move the focus points around the viewfinder area. They usually have a push-in function too that can be programmed to do various other tasks.

Lead-in lines - are naturally occurring linear elements within a scene that can be positioned to lead the eye from the outer portion of the frame towards the focal point. In landscape photography rivers, streams, walls roads and rocks etc. could all create lead-in lines. They're a successful device because they draw the viewer into the photo, and direct attention to the main point of interest.

Little Stopper - is an ND filter that blocks six stops of light from entering the lens. It's like a big stopper, but less dense, so it doesn't result in such long exposures.

Live View – in DSLR cameras this is a mode that allows composition and exposures to be made by viewing the rear screen on the camera rather than looking through the viewfinder. On point and shoot and mirrorless camera live view is sometimes the only way of composing unless the camera has an Electronic Viewfinder also. (See also CSC and EVF)

Macro – a term used to describe close up photography but more correctly the term relates to reproduction of an image at a ratio of 1:1. In other words an object 1cm long will be reproduced 1 cm long on the camera sensor. True macro lenses are capable of capturing 1:1 macro while others are called “macro” but can only capture at 1:2 or lower ratios. Some exotic macro lenses are capable of macro capture at variable ratios up to 5:1.

Manual Focus - refers to the process of using the lens focus ring to change focus, and your eye to judge sharpness. Modern autofocus systems are incredibly accurate, but there are times when manual focus reigns supreme.

Mirror Up – is a mode found on some DSLR cameras that raises the reflex mirror in the camera and holds it up until a shot has been taken. The act of raising the mirror during an exposure can set up vibration resulting in a blurred shot so “Mirror Up” would be used to eliminate as much camera movement as possible when making an exposure. It happens automatically in Live View. (See also Live View and Exposure Delay)

Metering modes - refer to the way the camera will read light levels in a scene to calculate a correct exposure. Also see Multi-segment, Spot metering and Centre-weighted.

Multi-segment - metering is also known as Evaluative or Matrix. It takes a number of light readings from different parts of the frame, and calculates exposure based on light and dark parts of the scene.

ND Filter – see Big Stopper and ND Grad.

ND grad - is an abbreviated form of ‘graduated neutral density filter’. These glass or resin filters come in sheet form and are dropped into a filter holder that attaches to the front of lenses. They’re available in light blocking densities of 1, 2 and 3 stops at the top of the filter, and graduate to no effect at the bottom. This allows you to expose for both a bright sky and a darker foreground in a single shot.

Noise - is a phenomenon that’s most commonly associated with high ISO settings. There are two types of noise. Luminance noise is grain, while colour, or chroma, noise is visible as flecks of colour. These days the average DSLR or

CSC can shoot at ISO levels above 3200 without noise being too much of a problem.

Point-and-shoot - is a term that refers to a fully automated camera setting. All the photographer has to do to take a picture is point the camera at the subject and release the shutter.

Post-processing - refers to any changes you apply to images after shooting. Changing any settings in RAW conversion software or Photoshop would constitute post-processing.

Program (P) - refers to a shooting mode where the camera automatically selects a shutter speed and aperture combination for you, while you retain control over other settings. While results in this mode are generally very good, it can seriously limit your creativity because you can't control depth-of-field or motion blur for instance.

RAW - is an image format that's like a 'digital negative'. It can cope with more extensive adjustments than a JPEG file. RAW files require extra post-processing using special software because the camera doesn't apply any automatic processing.

Red Eye - is a phenomenon in flash photography whereby a subject's eyes show as red in a photo. This is caused by light from the flash being reflected off the subject's retina and looks unnatural. It can be prevented by using bounce flash or by mounting or holding the flash gun to one side of the lens rather than being mounted on top of the camera in line with the centre axis of the lens. Some flash guns or cameras with integrated flash have a built in programme called red eye reduction. This works by giving a low power pre-flash which causes the subjects pupils to contract before the main flash effectively closing the eye's aperture reducing red eye.

Reflector - is a photographer's accessory that comes in white, silver or gold. They are used to reflect light onto a subject to lighten dark areas. If light is coming from one side of your subject, a reflector can be positioned opposite to lighten, or fill-in, any shadows.

Self-timer - is a mode that delays the camera from taking a shot for a fixed period of time after you've released the shutter button. This is useful if you want to get in the shot yourself, or can be used if you don't have a cable release to fire the shutter remotely.

Shutter - refers to the mechanical curtain inside the camera that controls the length of time the sensor is exposed to light entering the lens. On some cameras it can open for as little as 1/8000sec (a very fast shutter speed). Bulb or 'B' is a

setting that allows the shutter to be kept open indefinitely, as long as you use a cable release or wireless remote to 'lock' it open. In this mode you have to manually time exposure. Some digital cameras also have an electronic shutter that can be used selectively for silent shooting or very high shutter speeds up to 1/25000 sec.

Shutter-priority - (S or Tv) is a semi-automatic exposure mode where you select the shutter speed while the camera automatically sets a corresponding aperture for a correct exposure. This mode is useful for shooting fast-moving subjects.

Single shot - See Autofocus mode.

Speedlights - is another way of referring to flash guns.

Spot metering mode - takes a light reading from a very small area of the frame allowing you to obtain a very precise light reading.

Sync Speed - normally a camera's flash sync speed will be about 1/200sec or 1/250sec. This is because a flash gun emits a single burst of light that has to be captured on the sensor while the shutter is fully open so the shutter speed needs to be slow enough to allow the single burst of light to be captured on the sensor after the first shutter curtain opens and before the second curtain starts closing, i.e. synchronised. Images taken using flash at speeds higher than the camera sync speed will result in dark banding. But some cameras and flash guns can utilise High Speed Sync to allow flash operation at shutter speeds faster than the sync speed. (see also High Speed Sync)

Vibration Reduction - also called VR, Steady Shot, Image Stabilisation etc is a means of helping to get sharp shots by reducing the effects of camera shake. This can be achieved in some lenses by a series of motors within the lens that move lens elements to help keep the image still. Some cameras have IBIS or In Body Image Stabilisation which works by moving the sensor in such a way that the image is stabilised in the viewfinder. In some cameras both IBIS and lens image stabilisation work together to provide an even greater degree of stabilisation. Worth remembering that when taking photos using a tripod it is best to disable any VR as the system can set up unwanted motion in itself that can soften an image.

Viewfinder - is the small window located on the back of most cameras that you can look through to compose shots and focus on the subject. Optical viewfinders show a small amount of exposure information, while electronic viewfinders can display much more.

Viewpoint - is the height/direction/angle you shoot your subject from.

White balance - is a setting that controls the way your camera represents white objects under different lighting conditions (e.g. Daylight, Cloudy, Tungsten, Fluorescent, Kelvin and Auto). The human eye can automatically adjust to the colour temperature of different light sources. However, cameras rely on either Auto white balance or one of the other manual pre-set options to reproduce colour correctly in any given lighting situation.

Wheel – (or Control Wheel) some cameras have a wheel on the back and/or front of the body for changing settings. Also see D-pad.

Zoom Blur – a creative effect achieved by selecting a slow shutter speed and zooming a lens in or out during the exposure.

Zoom lens - is a lens with a variable focal length (70mm to 200mm for example). This is usually changed by rotating the zoom ring on the body of the lens but some cameras have power zooms controlled by a button or switch on the lens barrel or camera body.

Zoom Ring – one of two rings around a zoom lens the zoom ring is used to move the lens' zoom range back and forth. The other ring is used for manual focussing.