

Take Control of Your Camera

With all of the technology packed into our cameras, it is easy to hand over control & blame our equipment when our images don't meet our expectations

In this workshop we will explore your basic camera settings & then we will look at how your camera's features can help you capture that **WOW** shot, when you press the shutter button.

Two of the most important factors in almost every image are **FOCUS & EXPOSURE**. Images which have an out of focus subject &/or are under or over exposed, will never compete with a sharp, well exposed image. Photoshop can do some magical things, but a well captured image will always result in a better finished image.

By taking control of your camera & understanding it's features & how to use them, we can all dramatically improve our photography & get that **WOW** factor in our images

Modern cameras are technological marvels & can be set to 'auto', pointed at a scene & capture acceptable images when the shutter button is pressed. Millions of images are captured each day around the world, but only a very small percentage of those images have the **WOW Factor** that a true Photographic Artist would happily to call his/her own

Taking control of your camera is the **first step** in making your images stand out from those millions of snaps.

Let's imagine that you have just unpacked your shiny new toy (Camera). You're dying to get snapping & blow all of your friend's minds, with some fantastic images, captured with your new mega camera! However, before you press the shutter button there are some things to set first

1. Viewfinder Dioptre adjustment.



subject & then adjust the dioptre wheel until the subject is sharpest or look at the focus point/s in the viewfinder & adjust the dioptre, until they are sharp.

2. Colour Space. Colour spaces determine the range (gamut) of colours that are captured in an image. Cameras generally give you a choice of two colour spaces sRGB & ARGB. These can be set via the menu system (see your instruction manual).



ARGB is a larger colour space than **sRGB**, so captures more colours.

So which colour space should you use? Firstly, if you shoot in RAW file format, the choice doesn't matter as the colour space is set via your computer software's RAW convertor (your choice when saving the processed file). If you are shooting in Jpeg or Tiff formats, in camera, then your choice will depend on your intended use of the image

Use ARGB if you are going to print your images on an inkjet printer, as this will maximise the available colours from the printer.

Use sRGB if you will be using the images for viewing on computers or uploading images to the Web, as the colour space will better match your computer monitor & the colour space used by most web browsing software. sRGB is also best if you print your images at photo printing kiosks, ie Harvey Norman, Big W etc.

One colour space can be converted into another, using your software (photoshop, Lightroom etc), however the conversion can result in some undesirable colour shifts (not really a problem for web images).

3. Which File Format? Most of the more advanced digital cameras give you a choice of saving your images in RAW or Jpeg (or both at once) file formats. This can be set via the 'Quality' menu option (see your instruction manual).

RAW files record all of the data that your camera sensor captures, without any processing. RAW files can be up to 10 times larger than Jpeg files. You need specific RAW conversion software to open & process RAW files (Basic RAW conversion software is supplied with your camera or you can use more advanced RAW converters included with Photoshop, Lightroom etc). RAW files allow much more latitude when 'pushing' brightness, contrast, colour etc. especially in badly over or underexposed images. There are many more advantages, which we will cover in later workshops.

Jpeg. This file format processes the RAW data from the sensor as determined by your picture style setting. These have names such as standard, portrait, landscape, monochrome etc. Each adjusts contrast, brightness, saturation/hue, sharpening etc. before the image is saved. Each of these adjustments are 'destructive' & once applied, cannot be undone. To reduce the file size the file is compressed ie. some file information is discarded, the lower the 'quality' setting that you choose, the more information is discarded & the lower the image quality (this will affect the amount of 'pushing' that you can do, in post processing). I recommend that you set the quality to the highest Jpeg quality setting. This setting is good for holiday snaps & any non critical photography (family get togethers, parties etc.) & small prints .

RAW + Jpeg. This gives you the best of both worlds. If your capture settings are good & your images don't need a lot of post processing, you can save the extra work of converting RAW files & simply use the Jpegs. If you find an image that needs a bit of extra pushing, you can use the RAW file.

Note: Some camera models also give you a choice of lower resolution RAW files eg. mRAW & sRAW (medium RAW & small RAW) which have smaller file sizes, to save storage space. I feel that you are better off using either full RAW &/or High quality Jpegs.

I recommend that you download your images to your computer ASAP after each photo shoot & then 'Format' your memory card/s in your camera.

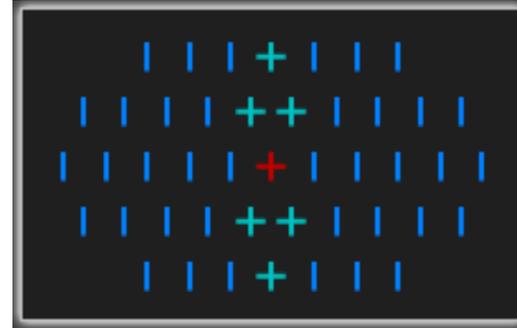
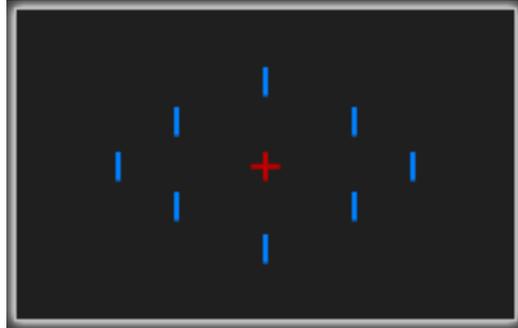
Focus System Settings

The most important technical aspect of almost any image is the subject & whether it is in focus. An image with the main subject out of focus should be deleted. Understanding how the focus system works & how to set it to ensure that your chosen subject is in focus is critical, if you wish to get those 'Wows' from viewers.

The More Focus Points the Better, right? Not necessarily! Quantity does not necessarily mean quality

Focus sensors work by detecting areas of high contrast & adjusting the lens's focusing system till the contrast is maximised. If there isn't a sufficiently contrasty area under the sensor, it will not be able to focus.

Here are a couple of focus sensor arrays with different sensor numbers & types.



Note that some of the sensors have single lines & some are shown as crosses. The sensors with single lines will only pick up contrast at right angles to the sensor, ie. horizontal or vertical subjects. The + sensors will pick up both horizontal & vertical contrast subjects, so are more likely to achieve focus. Also note that the centre points are marked in red. This indicates that the sensor will work in lower light & with lower contrast targets than the other sensors.

When you first turn your brand new camera on, all of the focusing points are active, by default. When you point your camera at a scene, with all focus points active, the camera will use the focus point closest to the camera, which has sufficient contrast to focus. This may or may not (most likely) be the subject you want in focus.

So how do you choose the point of focus? All advanced cameras allow you to select & use a single focus point. See your instruction manual for selecting focus points.

For stationary subjects I prefer to use ***'FOCUS & RECOMPOSE'***. In this technique you use ***only the centre focus point***. The centre focus point is generally more sensitive & accurate than any of the other focus points so will give more consistent & accurate focus performance.

Focus & Recompose

In the majority of images, for compositional reasons, you won't want your main subject to be centered in the frame. But how do you achieve that when using the center focus point?

Firstly ensure that your AF (Auto focus) is set to 'Single Shot' (not Ai-servo or Ai Focus). In this mode when you half press the shutter button the camera will focus & 'beep' when focus is achieved. ***The focus will now 'lock' & won't change as long as you hold the shutter button half way down.*** Now, without releasing the shutter button, move the camera to get the desired composition & fully press the shutter button to take the shot.



Here is an image taken, using the **Focus & Recompose** technique. The center focus point was placed on the subject's eye & then the shutter was half pressed & focus confirmed (beep). Keeping the shutter button half pressed, the camera was moved & the shot taken. Note sharpness of the eyes.

Back Button Focusing

Many advanced cameras allow you to remove the AF function from the shutter button & assign AF to a button under your thumb, this is called Back Button Focusing. If your camera doesn't have a dedicated 'AF-On' button, you can assign this to the 'AE/AF-L' or '*' button. This is set using the 'Custom Function Menu' (see your instruction manual).

This removes the focus function from the shutter button, so you no longer need to 'half hold' the shutter button, to lock focus. This makes Focus & Recompose very easy. Simply place the focus point over the desired focus point, press the Back Button focus. When you hear the focus confirmation, release the button & the focus is locked. You are now free to recompose & capture the image with the shutter button.



Back Button Focus may feel odd, at first, but will soon feel natural, after a bit of practice.

Note that BBF will only work in the 'creative' camera modes ie. Shutter Priority, Aperture Priority, Manual & Program mode. Auto modes such as Landscape, Sports, Portrait etc. will revert to shutter button focusing (AF-ON button will also operate AF).



Note: When half holding the shutter button it is easy to either accidentally take shots or to let the button go & have to re focus. BBF removes this problem.

Exposure

Along with missed focus, one of the most common errors is exposure. We have looked at how we can take control of focusing to ensure sharp subjects, now let's consider how to use your camera's exposure controls & aids to get the exposure right, at the moment of capture.

Light meters read the brightness of a scene & set an exposure level that gives an average level of 'Mid Gray'. Mid Gray is a combination of 18% black mixed with pure white. So when you capture an image the built in meter looks at all of the tones present, from shadows to highlights. The meter will balance the image brightness to mid gray. The exposure meter in your camera is 'dumb' & has no idea of the subject matter in an image, so you need to take control

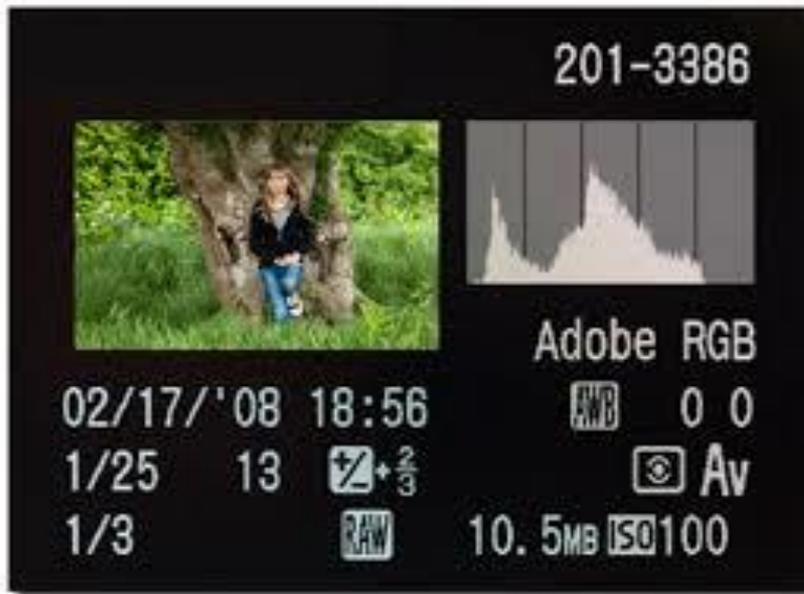
Here are a couple of scenarios which can 'fool' your exposure meter & how to take control to ensure a correctly exposed image.

1. **Bright Scenes**. If you are photographing bright scenes eg. snow scenes or images with lots of bright skies, the majority of the tones are highlights. Your meter looks at the scene & tries to make the average tone mid gray, so the captured image will be *underexposed*.
1. **Dark Scenes**. When you photograph dark scenes eg. Inside a cave or in a dark forest, the majority of tones are shadows. The meter will look at the average tone & will set it at mid gray. In this case the result will be *overexposed*.

We will now look at how you can correct these metering errors

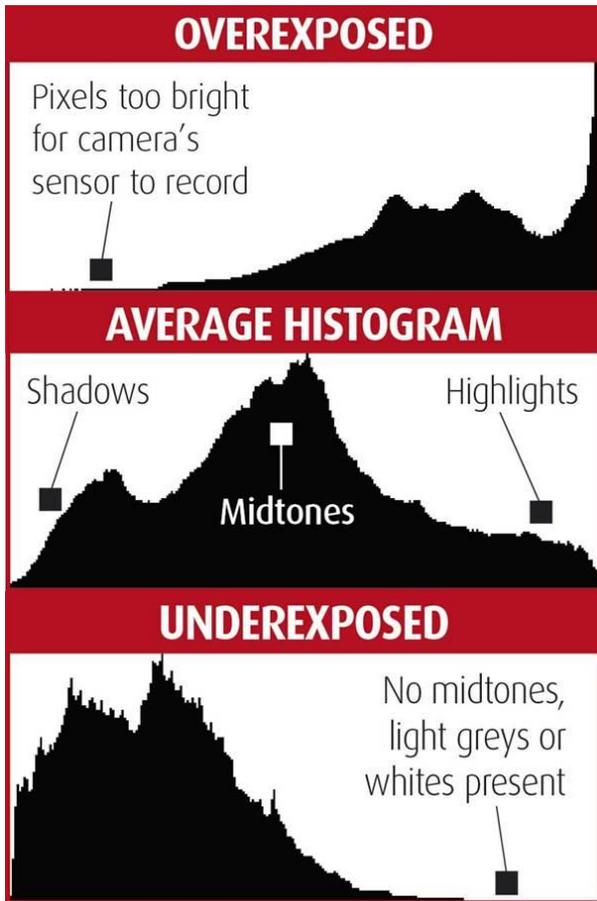
Exposure Controls & Aids

1. **Histogram**. Pushing the 'Info' button, when looking at an image on your camera's LCD screen, will reveal a histogram.



The histogram shows the tones in an image from pure black on the left, through mid gray in the center to pure white on the right. The higher the curve the more of the tone in the image.

Learning to 'read' your histogram will allow you to correct exposure errors easily. Here's how to use the histogram



When you review an image that you have taken, you can push the 'Info' button & after one or two presses you will see the histogram graph.

The centre graph, here, represents an 'ideal' exposure, with a nice spread of tones between black & white.

If your histogram looks like the top graph, your highlights will be pure white (burnt out), with no detail. Here you would apply negative exposure compensation & retake the shot, to darken the image.

If your histogram looks like the bottom graph, your image would be underexposed & the shadows would be pure black, with no detail. Here you would apply positive exposure compensation & retake the shot, to brighten the image.

Using the Histogram, we can see whether an image is under or overexposed. So how do you correct exposure metering errors?

Exposure Compensation

You can adjust the exposure set by the exposure meter using the Exposure Compensation control



This is the symbol denotes the **Exposure Compensation Button** of most Digital Cameras. When you press this button an exposure scale will appear in the viewfinder or on the rear LCD of the camera.



The '0' point on the scale represents the exposure that the camera's light meter chooses.

Using the left or right arrows or wheel on the rear of your camera, you can change the exposure setting to be darker or lighter.

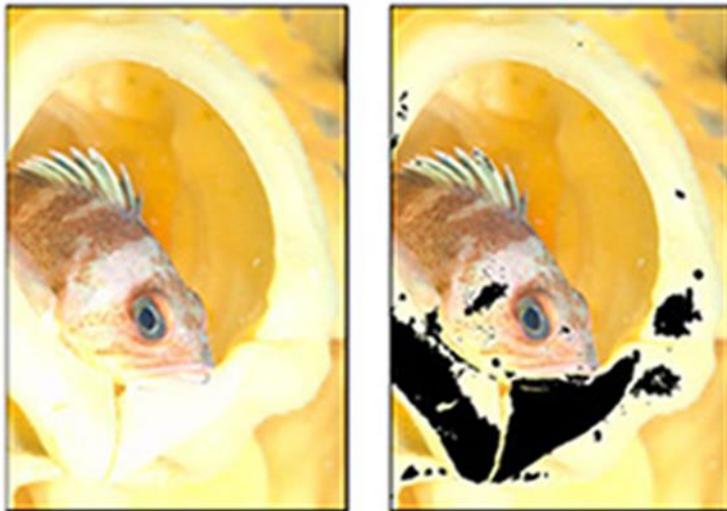
The results of the exposure compensation applied can be seen on the rear LCD of the camera, immediately after the image is captured. This can be difficult to judge using your camera's LCD screen, especially in bright sunlight.

So how do you know how much exposure compensation to apply? The secret here is to place the tone curve as far to the *right hand side* of the histogram, as this will record the maximum amount of tonal information. The aim is to record the brightest image possible, without 'burning out' (losing detail in highlights when they turn pure white, as no detail can be recovered in post processing) the highlights.

This technique is called 'Exposing To The Right' or ETTR.

So how can you ensure that you don't expose too far to the right & lose highlight detail in your image? Most camera's have a built in feature called

Highlight Warning.



HIGHLIGHT WARNING

Highlight Warning can be turned on via menu 'custom functions'. When enabled, any burnt out highlights will flash. Adjust your Exposure Compensation control until there is a little or no flashing areas.

Using the combination of Histogram, Exposure Compensation, ETTR & Highlight Warning indicator will minimise the number of poorly exposed images that you capture & will also minimise the amount of time wasted, trying to 'fix' poor exposures in post processing.

Remember that every adjustment, to brightness & contrast that you make in post processing is destructive & reduces the image quality. So getting it right at the moment of capture will result in a better final image.

Note: RAW files allow you to recover more highlight information than Jpeg files & that can mean the difference between a useless, blown out image & a WOW image.

Summary

Two of the most common problems with images are missed focus & poor exposure. While these problems can be partially corrected in 'Photoshop', getting it right 'in camera', at the moment of capture, will yield more & better images.

By taking control of your camera & making use of the many built-in features & tools, I am certain that you will capture more of those WOW images.

The best way to master these techniques is to get out & practice, practice, practice. It costs nothing, but your time, to learn to work with your camera & NOT against it!

The following you tube links will take you to a couple of videos which explain *Lens Aperture & Depth of Field* & *Lens Focal Length* & using it creatively

Lens Aperture

<https://www.youtube.com/watch?v=YojL7UQTVhc&t=51s>

Choosing a Lens

<https://www.youtube.com/watch?v=l891jvp6N7E>

These videos will help you to understand Lens function & choosing the right lens for your photographic subjects.

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