



## Capturing Photos in the Field

Follow the setup instructions in your camera manual to shoot RAW files or use JPEG at their highest resolution and lowest compression. You should regard RAW files as the equivalent of a digital negative where no corrections have been made in the camera. In the case of JPG files a number of parameters are set at the time of taking the picture. RAW files also use up more space than JPEGs, so have enough memory available.

### CORRECT WHITE BALANCE (WB) FOR OPTIMAL COLOUR QUALITY

The key to correct colours is getting the WB right. White balance depends on the light source or sources that illuminate the photographed scene.

If you only use RAW file formats, the WB can be corrected later. For fine art photography, the true colour isn't what really counts (e.g. the use of Velvia in conventional photography).

Digital cameras allow you to measure the right WB (custom WB) at the time you take your photograph. This might be optimal, but is not always easy in the field. Therefore, set the WB to "auto" and adjust the WB later in the RAW converter.

Correcting WB (and colour in general) is very tricky, highly subjective and needs a lot of experience. With practice, you will get better.

In addition, one thing has to be observed: The judging of colours is very much a function of mood and preference. Sometimes you may prefer cooler colours (bluer) while at other times you may go for a warmer balance.

### UNDERSTAND OBJECTIVE AND SUBJECTIVE WHITE BALANCE

There is a big difference between pleasing and correct colours. Only in a few photographic disciplines do you really care about the right colour. This is the case for photographing fabrics and catalogue shots. Otherwise you mostly aim for pleasing colours. Skin tones in particular create a lot of discussion and disagreement. In fact, there are even some cultural differences on this subject.

Start with a white balance you like, optimise the contrast and only change colours selectively if there are major issues. Some might need to correct skin tones, while others the colours of boring skies.

### SELECTING THE CORRECT ISO

Digital cameras allow you to change the ISO value on the fly by just dialling in a new value. This is a big advantage of digital because you can change ISO speed on a 'picture by picture' basis.

A low ISO normally means lower noise (better image quality) while a high ISO setting means higher noise (lower image quality), but is more sensitive in low light conditions.

Note: Stay at low ISO whenever possible and use a tripod! If you need to use a higher ISO then try to improve your photos by using a good noise removal plugin such as **Neat Image**, or **Noise Ninja**.

### WHY USE RAW

- RAW files will often provide the best solution due to their technical advantages and the decreasing cost of large memory cards.
- They offer the highest possible quality from your camera and lens.
- RAW files are 16 bit depth and therefore contain more tonal detail than the equivalent JPEG file.
- The RAW file format usually provides considerably more "dynamic range" than a JPEG file. Dynamic range refers to the range of light to dark that can be captured by the camera. In other words there will be greater detail in the highlight and shadow areas of your image.
- RAW files give the photographer far more control, but this comes with a trade-off of speed, storage space and ease of use.
- On the down side, RAW files need to be processed via a suitable conversion program, and so require more time in post production.

### SHOOTING WITH JPEG

There are a couple of reasons as to why you may want to use JPEG:

- Your camera has no, or poor, raw support
- You want to get your images ready processed from the camera
- Raw converters seem too much of a hassle for you
- Raw files use too much space on your memory cards

Even though we list the main advantages of using raw files, it does not mean you cannot get excellent results from your JPEG images. Actually you are also using a raw processor, but this one is built right into your camera.

As it is harder to correct white balance (WB) and exposure with JPEGs you should pay even more attention to:

- Getting the best possible WB from the camera. Some digital cameras deliver quite good auto white balance.
- Make the exposure as perfect as possible and also avoid any kind of overexposure. In this case the histogram is your friend.

The settings in your camera can also directly affect your images, and it is best to use Photoshop (or a similar image editing program) to tweak your images, rather than allowing this to happen in-camera.

Try to use the following camera setting:

- Sharpening in camera to low or off
- Contrast in camera to low or normal
- Colour to natural and low saturation (you can improve saturation later)
- Use Adobe RGB 1998 colour space if possible
- Set saturation to low or normal
- Use highest resolution JPEGs if possible with the lowest compression available

Once you start processing your images convert the results to TIFF or PSD to avoid further quality loss due to JPEG compression.

In conclusion, you should use RAW files whenever you feel comfortable using them, and require optimum quality from your camera. But that does not mean that you cannot get good results from well exposed JPEGs straight out of your camera, and by following a good workflow in post production. Many cameras can now shoot both RAW and JPEG at the same time, thus giving you flexibility in deciding what file format to use at a later time.

### SELECT THE CORRECT IMAGE FILE FORMAT

We will only cover the file formats that are the most relevant to digital photographers.

#### TIFF

TIFF is a standard image format that comes in 8 and 16 bit variations. TIFF is a lossless storage format. That means you can open and save a file in TIFF as often as you like without changing the quality.

TIFF can be compressed (lossless). Photoshop and other imaging applications normally do not have problems opening these files. However, there are still some applications out there that cannot open compressed TIFFs.

Photoshop now supports ZIP compression (is slower though). 16 bit layered files will compress better using ZIP compression.

Tip: Use compressed TIFF when working with Photoshop and save uncompressed if interfacing with other unknown third party tools. TIFF files can also

save Photoshop layers. TIFF is clearly the format of choice if it comes to flexibility.

#### JPEG

JPEG files offer great compression. JPEGs are the files of choice for the web and file transmission over slower lines. Most JPEG compression is lossy, so the quality suffers (especially saving/opening multiple times). JPEG also only supports 8 bit files and no layers.

Photoshop numbers the compression from 1-12:

- ❖ 11-12 very high quality and low compression, hardly any loss
- ❖ 9-10 decent quality and better compression
- ❖ 7-8 ok quality and even more compression
- ❖ 1-6 we never use that strong compression

Note: Never use JPEG for images that you need to keep their optimal quality.

#### JPEG 2000

Offers many improvements over JPEG, but is not really in the mainstream right now. You can install a Photoshop plug-in to work with JPEG2000 files (on the CD).

#### PHOTOSHOP PSD

Photoshop PSD (another lossless format) is our file format of choice when we need to save images with layers, or know that we still have work to do on the image.