

## Introduction to White Balance

White Balance is an aspect of photography that many digital camera owners don't understand or use – but it's something well worth learning about as it can have a real impact on the shots you take.

At its simplest – the reason we adjust white balance is to get the colors in your images as accurate as possible.

You might have noticed when examining shots after taking them that at times images can come out with an orange, blue, yellow, etc., look to them – despite the fact that to the naked eye the scene looked quite normal. The reason for this is that images taken in different sources of light have a different 'color' (or temperature) to them. Flourescent lighting adds a bluish cast to photos whereas tungsten (incandescent/bulbs) lights add a yellowish tinge to photos.



The range in different temperatures ranges from the very cool light of blue sky through to the very warm light of a candle.

We don't generally notice this difference in temperature because our eyes adjust automatically for it. So unless the temperature of the light is very extreme a white sheet of paper will generally look white to us. However, a digital camera doesn't have the smarts to make these adjustments automatically and sometimes will need us to tell it how to treat different light.

So for cooler (blue or green) light, you'll tell the camera to warm things up and in warm light you'll tell it to cool down.


### **Adjusting White Balance**

Different digital cameras have different ways of adjusting white balance so ultimately you'll need to get out your camera's manual to work out the specifics of how to make changes. Having said this, many digital cameras have automatic and semi-automatic modes to help you make the adjustments.


## Preset White Balance Settings


Here are some of the basic White Balance settings you'll find on cameras:

**Auto** – this is where the camera makes a best guess on a shot by shot basis. You'll find it works in many situations, but it's worth venturing out of it for trickier lighting.

 **Tungsten** – this mode is usually symbolized with a little bulb and is for shooting indoors, especially under tungsten (incandescent) lighting (such as bulb lighting). It generally cools down the colors in photos.

**Fluorescent** – this compensates for the 'cool' light of fluorescent light and will warm up your shots.

 **Daylight/Sunny** – not all cameras have this setting because it sets things as fairly 'normal' white balance settings.

 **Cloudy** – this setting generally warms things up a touch more than 'daylight' mode.

**Flash** – the flash of a camera can be quite a cool light so in Flash WB mode you'll find it warms up your shots a touch.

**Shade** – the light in shade is generally cooler (bluer) than shooting in direct sunlight so this mode will warm things up a little.




Those of you who took the 10-week course know that I suggested that once you know the rules, you break them. Well, I've been reading a great book, Bryan Peterson's Understanding Photography Field Guide and he says he leaves his white balance setting on Cloudy. That makes his photos warmer than they would be taken in sunny.





## Exposure Metering Modes

The metering mode selected on a digital camera decides how the camera's exposure sensor will react when a photo is taken. Different metering modes determine how much light is needed and how long the shutter remains open.

 **The Center-weighted Metering Mode** – The Center-weighted metering mode is without a doubt the most imprecise of the three metering modes. Being more suited to casual photographers who want to take everyday snapshots, this metering mode takes into consideration the amount of light located in the center of the scene so that objects centered in the photograph are properly exposed. However, if you have a subject that covers a large area in the picture you may want to use this mode.

**Matrix/Multi-segment Metering Mode** – While the Center-weighted metering mode uses a simple and sometimes inaccurate method of measuring the light in your photographs, the Matrix or Multi-segment metering mode takes a more detailed approach. By splitting the scene into many segments and then measuring the exposure data based on the position of each segment, the Matrix/Multi-segment metering mode manages to deliver exceptional quality photos in various lighting conditions and levels of contrast.

Although it is not perfect for every situation, this metering mode is an excellent choice for photography in most conditions. However, when you require better exposure for very high contrast scenes, think about taking a look at the next metering mode.



● **Spot Metering Mode** – This metering mode can provide excellent results for high-contrast scenes, and it achieves them by measuring light in the center of the scene alone – anywhere between 1 and 10 percent depending upon your brand of camera – and exposing the photo with the subject in mind.

The next time you are trying to take a high-contrast shot (such as with a back lit subject), think about trying out the Spot metering mode – so long as your subject is in the center of the scene then this metering mode should avoid over or under exposure.

*Note: If your subject should happen to be off-center which is generally preferred for good composition, take an exposure reading with the subject in the center of the photograph, press the shutter halfway down to lock in the exposure, and move camera to place the subject where you want it.*

*Some cameras have an AF/AE Lock. In the menu, you can select whether you want to lock the focus or exposure or both. That way you can recompose the photo and not lose the feature you've chosen.*

## Exposure Compensation

**What is Exposure Compensation?** The exposure compensation control is one such setting that saves you fiddling with ISO, aperture, shutter speed or bracketing and achieves the setting of your choice. It comes in very handy when you just want to underexpose or overexpose a particular scene at your will. Depending on the mode that you're shooting in, the exposure compensation will vary the shutter speed or the aperture automatically. For example, let's say you want to shoot in aperture priority mode. This means you want to take control of the depth of field. Thus using the exposure compensation will leave the aperture to the setting of your choice and alter the shutter speed instead.

On my camera, the exposure compensation meter looks like a bar with a -1 on the left, 0 in the center and +1 on the right. The bar is set up in 1/3 stops. The original exposure is 0 EV (exposure value).

I can set my camera on Auto Bracket so that the camera automatically takes three pictures, one underexposed, one normal, and one overexposed.





## Uses of Exposure Compensation

**Capturing challenging lighting conditions** – For certain scenes the smart camera is really dumb. For example, for an evening scene the camera will automatically set the exposure so that the shot is well illuminated. This results in a scene which looks similar to one shot on a bright cloudy day – no harsh light but still so much that it doesn't look like the evening any more. Setting the exposure compensation to -1 will help you bring down the exposure level to portray the scene correctly.

**Fine-tuning** – At time you may not really like the default results of the camera. If you feel your shots are overexposed or underexposed in most situations, you can change the exposure compensation by 1/3 stop or 1/2 stop.

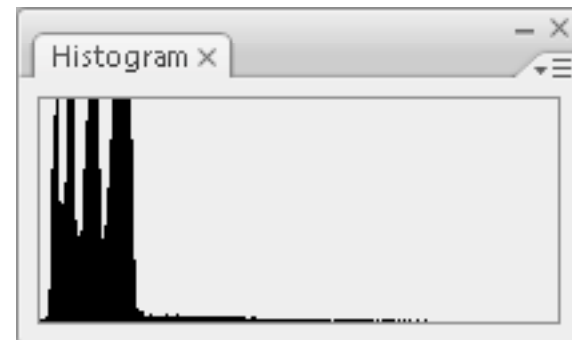
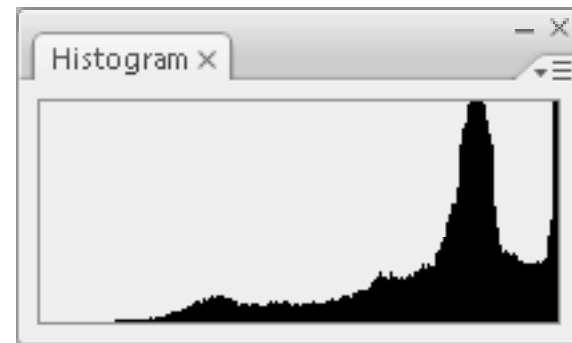
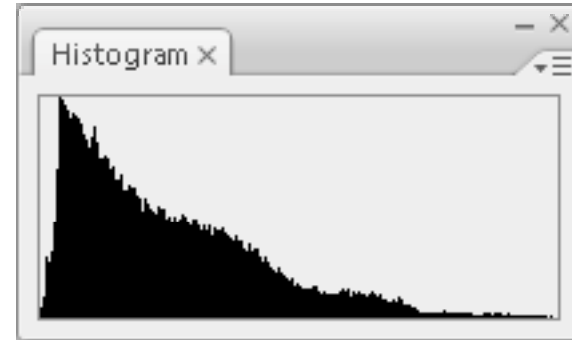
**Getting the Colors Right** – That red of the sunset will never come out right unless you set the exposure compensation to negative. Or you could bracket at the cost of wasted storage space. Hint: underexposing leads to darker colors. Overexposing leads to washed out colors. In other words the more the level of white (light/illumination), the less the level of colors. Or you could slightly underexpose to exaggerate the colors.

## **About your camera's histogram...**

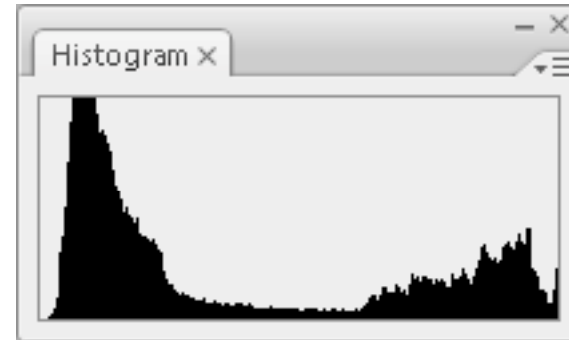
A histogram is a graph that displays brightness along the horizontal axis (black to white) and the number of pixels at each brightness level on the vertical axis. It allows you to easily check a picture's exposure.

## Your camera's histogram...

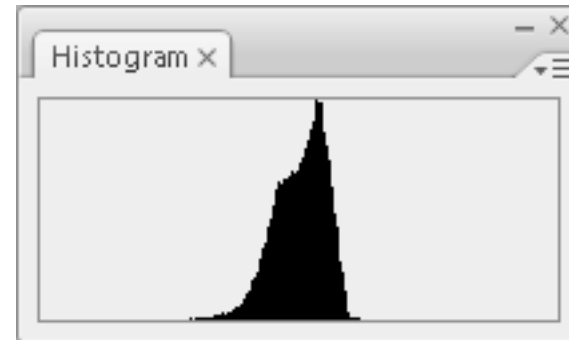
- The top histogram is a well-exposed photo.
- The middle histogram shows an overexposed photo. Photos with mostly white area will also have a histogram like this.
- The bottom histogram denotes an underexposed photo. Photos with mostly dark areas will look like this.



- The top histogram shows a high contrast photo.



- The bottom histogram denotes a low contrast photo.



You should keep in mind that there is no right or wrong histogram. It is simply intended to provide you with basic exposure information for your photograph. There may times when you want to purposely underexpose your photograph, as un a sunrise or sunset picture.

Personally, I don't use the histogram, but I know people who use it all the time. I usually am more concerned about the mood I want the photograph to portray and I can usually see that in my viewfinder.





## Using Your Camera's Auto Bracket

In this mode, three pictures are automatically recorded in the selected exposure compensation range that you select each time the shutter button is pressed. You can select the picture with the desired exposure from the three pictures with different exposures.

Or, you can use the three exposures to create an HDR (high dynamic range) photograph. The underexposed photo is used to bring out detail in the shadows and the overexposed photo creates depth of color. You can do this in Elements 8 or with separate programs like Photomatix and Dynamic-Photo HDR. If you're going to use the three exposures to create an HDR photo, you should use a tripod.



## Adjusting Your Flash Output



Similarly to how you set your exposure compensation, you can also adjust the strength of your flash. I used it when I was photographing people who would have been silhouettes in the photographs, but set the strength lower than normal. This is something you definitely want to experiment with.