

U3A Digital camera group

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 upon 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.

Why would you need to get the color right in your shots?

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 different sources of light have a different 'color' (or temperature) to them. Fluorescent 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.

Adjusting White Balance

Different digital cameras have different ways of adjusting white balance so ultimately you'll need read 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.



Adjust by Condition

This Nikon camera allows you to input a color temperature, or if you are not sure, to select a condition. You can select based on lighting condition like a cloudy day or a shady spot. You can also select by light source: incandescent, flash or fluorescent.

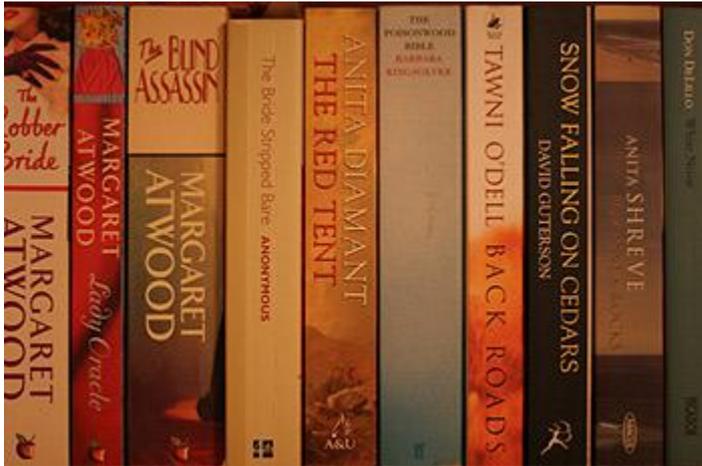
Manual White Balance Adjustments

In most cases you can get a pretty accurate result using the above preset white balance modes – but some digital cameras (most DSLRs and higher end point and shoots) allow for manual white balance adjustments also.

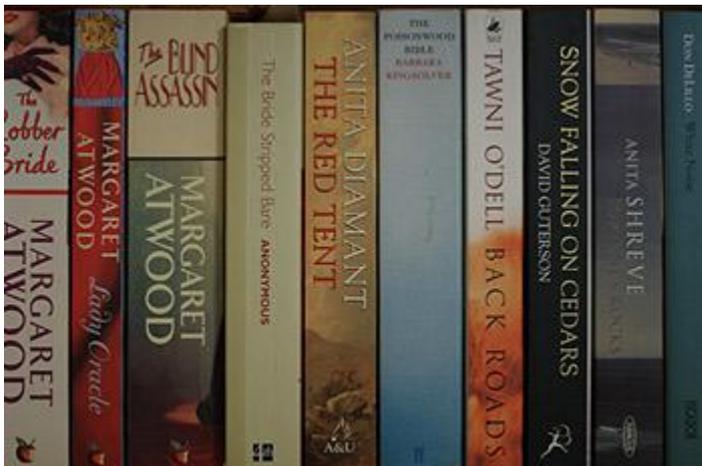
The way this is used varies a little between models but in essence what you do is to tell your camera what white looks like in a shot so that it has something as a reference point for deciding how other colors should look. You can do this by buying yourself a white (or grey) card which is specifically designed for this task – or you can find some other appropriately colored object around you to do the job.

I've done this with the following two shots.

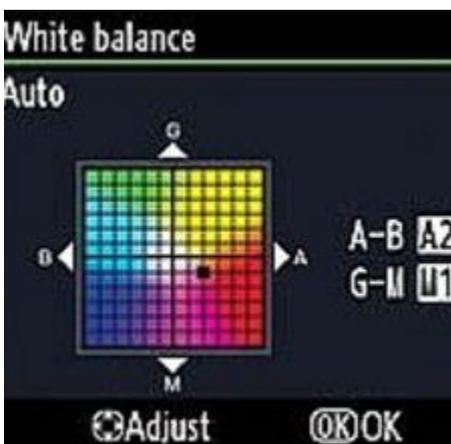
The first shot is one of some books on my wife's bookshelf taken in Auto White Balance mode. The light in my room is from three standard light bulbs and as a result the image is quite warm or yellow.



After taking this picture I then held up a piece of white paper to my camera to tell it what color white is. Then I took a second shot with this setting and got the following result – which you’ll see is a much truer color cast than the first image.



This manual adjustment is not difficult to do once you find where to do it in the menu on your camera and it’s well worth learning how to do it.



Here is a typical ‘in camera’ white balance adjustment display. Adjustments is made by moving the ‘black dot’ around the colour grid. Pressing OK will accept the selected colour and apply it to the image.



Auto White Balance. Photo made indoors while cloudy outside. Way too blue and ugly! 99% of people make this shot and never think anything more about it.

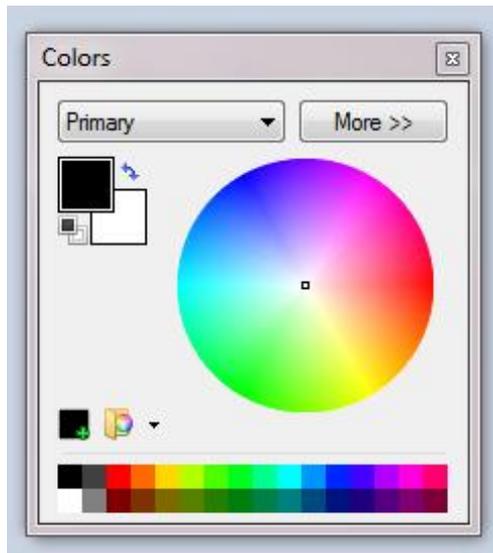


Cloudy White Balance. Wow! Warm, golden, and just like it's supposed to look. I did this on my [Canon SD700](#) point-and-shoot. Every digital camera over £50 and even most camera phones provide this adjustment.

Software colour correction

Post shoot correction of colour balance can also be achieved in software. Most Photo editing softwares have a semi automatic as well as manual correction facility.

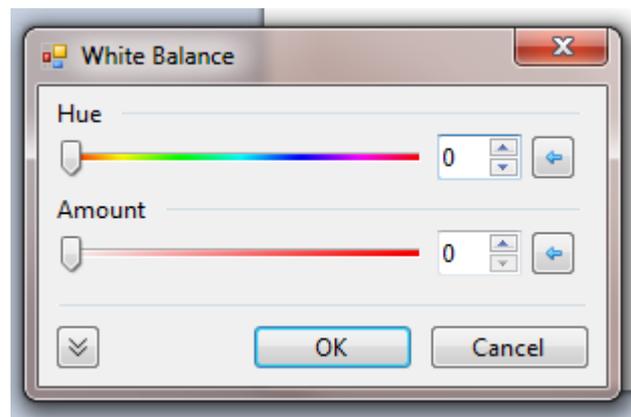
In Paint.NET there is are 'white balance' and 'colour' correction' plug-ins.



Colour correction uses a colour wheel method to indicate the range of colours available.

Moving the pointer around the wheel 'selects' the colour required, which can then be applied to the image

White balance uses a 'slider' style interface which is very user friendly and simple to use



Ref:

<http://www.digital-photography-school.com/introduction-to-white-balance>