Kawartha Camera Club

All levels of photographers are welcome to participate

White Balance

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Understand what white balance is and how it affects your digital camera's picture:

Different kinds of lighting look the same to the human eye (although once you, as a photographer, know that there is a difference, you'll look for and notice it everywhere!). Our brains compensate for it automatically, so that a white thing will look white under any light. But a subject in the shade is *slightly* bluer than the same subject in bright daylight, and incandescent lightbulbs are very orange in comparison. The reason for this is that images in 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.

A digital camera can digitally alter the colour information from its sensors to compensate for the different colours coming from various light sources. The setting which controls how and to what extent this is done is called the *white balance*. Apart from compensating for the colour conditions, though, the white balance control can be used to warm or cool colours for artistic effect.

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Left to right: automatic, tungsten and fluorescent white balance settings.

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Digital SLRs & bridge cameras will usually have a button on the top or back of the camera that says "WB". You hold the button down while spinning one of the control dials, to adjust it.

The white balance on your compacts, is generally buried fairly deep in the menus, because they really don't want you messing with it, but you can get there. Hit the menu and it's generally in the camera or shooting mode, you'll find the setting white balance or WB and once again, press the button and choose which white balance you want to use.

Setting this differs from camera to camera, so read your manual.

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Automatic white balance. The icon for this is either "AWB" or "A". The camera will analyze the image and set the white balance automatically.

Daylight. This is for shooting in direct sunlight

Cloudy light. The light on an overcast day is somewhat cooler (bluer) than it is in direct sunlight, so this setting compensates by warming the photograph.

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Shade. Subjects in shady areas will be slightly bluer than daylight (and bluer than with overcast weather, too), so this setting compensates by warming the colours even more. You can also use this setting to get warm colours even in daylight. (The photograph at the top of the page compares Auto" with the Shade setting.)

Flash. Flash light is slightly cooler than daylight, using this setting will warm the picture a tiny bit compared to the "Daylight" setting.

Tungsten. Light from tungsten / incandescent bulbs is substantially more orange than daylight, so the camera compensates by adding blue to the picture.

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Fluorescent light. Fluorescent lamps are somewhat redder than daylight (less so than tungsten bulbs, however), so this setting will compensate by cooling the picture somewhat.

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Try your "Auto", "Daylight", "Cloud" and "Shady" white balance settings under daylight. Most of the time the colours will be too cool in "Auto", and you'll also find that things will look much nicer in the other settings. This differs from camera to camera; some cameras (specifically camera phones) have terrible white balance algorithms in some settings.

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Use white balance to get your colours perfect.

You might find, for example, that under certain kinds of indoor lighting your camera *almost* gets the white balance perfect in its "Auto" setting, but could do with being a little cooler, or that your sunsets would be perfect if they were a little bit warmer. This is where white balance trims (called "hue adjustment" on some cameras) come in: it allows you to take one of the camera's white balance presets, and adjust them slightly warmer or cooler to get perfect results. You can do this by holding the white balance button and spinning the *front* control dial. Many cameras lack this adjustment entirely.

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Tips:

•The white balance control only has an effect on your image if you are shooting JPEGs.

• If you're shooting a raw format, then it merely gives a hint to your raw processing software as to how it should set your colour balance.

•You can tweak the colour balance of JPEGs in post too, but extreme colour shifts are best done either with raw files or in-camera.

•You can make your photo look like it was taken at night by setting the "Tungsten" white balance setting and deliberately underexposing your shot by anywhere from 1 to 3 stops.

•This is an old trick used in Hollywood called "day for night".[2]

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Information in this presentation is acquired from:

Introduction to White Balance
by Darren Rowse

Adjusting Your Digital Camera's Colour
http://www.videojug.com/interview/adjusting-your-digital-cameras-color

See the WIkipedia article:
http://en.wikipedia.org/wiki/Day_for_night

Lewis Collard, *Kodak Ektar 100 review*
http://lewiscollard.com/films/kodak-ektar-100/

Ken Rockwell, *How to Set White Balance*
http://www.kenrockwell.com/tech/whitebalance.htm