

WHITE BALANCE

Our eyes are very good at judging what is white under different light sources, however since digital cameras are “colour blind” they have great difficulty with performing auto white balance (AWB). This manifests itself as colour casts in photos.

White balance (WB) is the process of removing unrealistic colour casts, so that objects which appear white in person are rendered white in your photo.










An incorrect WB can create unsightly blue, orange, or even green colour casts, which are unrealistic and particularly damaging to portraits. Performing WB in traditional film photography requires attaching a different cast-removing filter for each lighting condition, whereas with digital this is no longer required. Understanding digital white balance can help you avoid color casts created by your camera's AWB, thereby improving your photos under a wider range of lighting conditions.



Incorrect White Balance



Correct White Balance

		Auto White Balance
		Custom
		Kelvin
Increasing Color Temperature ↓		Tungsten
		Fluorescent
		Daylight
		Flash
		Cloudy
		Shade

Basics

Different settings change the amount of orange or blue color cast, usually to compensate for any cast in the lighting. If you have no blue or orange cast you get neutral whites, which is what you usually get if you use the settings suggested by the instruction book.

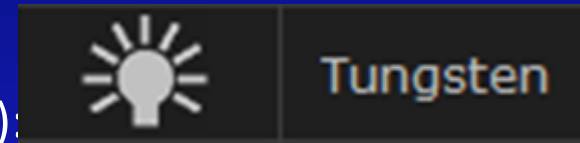
Shooting under orange street lights: they'll always look orange because they are orange. White balance only adjusts far enough to make lights that look white to us look white in photos.

AUTO (also called AWB) mode

Works OK with flash and indoors and outdoors. Usually the images will still be fairly blue in shade and pleasantly warm indoors at night. When the flash is on most cameras automatically switch to flash white balance.

The fun starts when you take it out of AUTO and set it yourself. Here's what the other settings do:

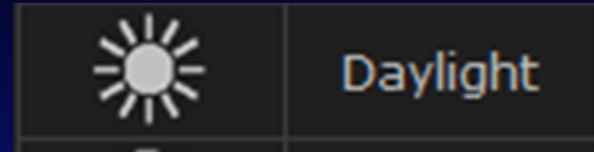
Tungsten (symbol of a light bulb also called "indoor"):



Very, very blue most of the time except indoors at night, for which it looks normal. "Tungsten" is the name of the metal out of which the bulb's filament is made. Even indoors many people prefer the warmer AUTO setting.

TRICK: Set -1 or -2 exposure compensation and use this setting in daylight to simulate night! In Hollywood they call this "day for night."

Daylight (symbol of a sun): Bluish normal.

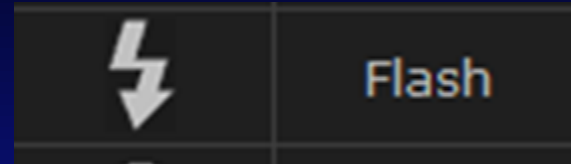


This is a little bit bluer .

Cloudy (symbol of a cloud):

It's a little warmer than the daylight setting and best for most shots outdoors in direct sunlight.

Flash (symbol of a lightning bolt):



Sometimes is the same as Automatic

Shade (symbol of a house casting a shadow): Very orange.

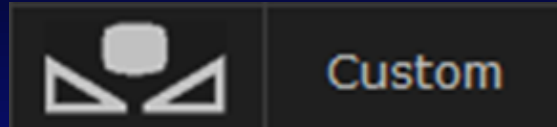


Shade

This is perfect for shooting in shade, since shade is so blue. It's also for shooting when you are under a cloud on a partly cloudy day since most of the light is coming from the blue sky. It's also for shooting in backlight, again since the subject is lit more by the blue sky instead of the direct sunlight.

TIP: Use this mode even in direct sun when you want to make things look warm and inviting. Try it and you'll probably love it. The SHADE setting is a professional secret for getting great images, pass it on!

CUSTOM WHITE BALANCE



Your camera will have a custom white balance.

You need to refer to your manual to see how you do this

The idea is that in a similar manner to using a Grey Card for exposure, you take a sheet of white paper and following the instructions that appertaining to your camera you set the white balance using the card as your reference.

TIP: Do not delete the image of white white card since you can use it as a reference in Photoshop.

IN PRACTICE: THE RAW FILE FORMAT

By far the best white balance solution is to photograph using the RAW file format (if your camera supports them), as these allow you to set the WB *after* the photo has been taken. RAW files also allow one to set the WB based on a broader range of color temperature and green-magenta shifts.

Performing a white balance with a raw file is quick and easy appropriate software. Hundreds of shots can be corrected in on go.

JPEG, unlike RAW locks the white balance in the file and trying to change it can not always yield the result you are looking for. It is “hard wired” or “baked” into the image.

Adobe Bridge CSS.1 File Edit View Stacks Label Tools Window Help

Camera Raw 6.4.1 - JPEG

Select All Synchronize...

MC_5517.JPG

_MC_5520.jpg

_MC_5521.jpg

_MC_5522.jpg



65.5% Image 1/4

MC_5517.JPG

Adobe RGB (1998) 8 bit 1620 by 1080 (1.7MP) 240 ms



R: 246
C: 250
B: 246

f/2.8 1/100 s
ISO 3200 70-200mm

Basic

White Balance: Custom

Temperature: -52

Tint: +40

Exposure: 0.00

Recovery: 0

Fill Light: 0

Blacks: 0

Brightness: 0

Contrast: 0

Clarity: 0

Vibrance: 0

Saturation: 0

Save Image...

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Adobe Bridge CS5.1 File Edit View Stacks Label Tools Window Help

Camera Raw 6.4.1 - JPEG

Select All Synchronize

MC_5517.JPG
_MC_5520.jpg
_MC_5521.jpg
_MC_5522.jpg



65.5% Image 1/4

Adobe RGB (1998) 8 bit, 1620 by 1080 (1.7MP), 240 dpi

Save Image...



R: 255
C: 230
B: 214

f/2.8 1/100 s
ISO 3200 70-200@70 mm

Basic

White Balance: As Shot

Temperature 0

Tint 0

Exposure Auto Default 0.00

Recovery 0

Fill Light 0

Blacks 0

Brightness 0

Contrast 0

Clarity 0

Vibrance 0

Saturation 0

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Automatic White Balance



Daylight



Shady

Cloudy

Fluorescent

Incandescent Tungsten



KELVIN TEMPERATURE SCALE

K

Kelvin

Colour Temperatures in Degrees Kelvin

