

WHITE BALANCE

An area often neglected by many amateur camera operators. Basically, the whole concept is related to colour temperature.

Take a look at these approximate colour temperatures:

Light Source	Colour Temperature in Kelvin
Clear Blue Sky	10,000 - 15,000
Overcast Sky	6,000 - 8,000
Camera Flash	5,400 - 6,000
House Lighting	2,500 - 3,000
200 watt bulb	2,980
100 watt bulb	2,900
60 watt bulb	2,800
Candle Flame	1,200 - 1,500

So what does all this mean? Well, the human eye can distinguish between the various colour temperatures due to experience so that if we look at a piece of white paper we know what the real colour of white should be. This also stands with other colours such as a blue car or a yellow box.

Cameras, however, can't always make the necessary adjustments under different lighting environments despite having built-in sensors which use an algorithm to determine the correct values that should be displayed on the screen. This is particularly so under difficult lighting situations.

Some cameras have presets such as "Strong Sunlight" that will change the internal setting to expect excessive blue light and less red light. But if you start filming indoors for example, the shift in colour settings will produce a reddish/yellowish image which isn't true to the original picture. The opposite effect will happen if the camera is set for indoor use and the camera algorithm will be more sensitive to red light, therefore filming outdoors with this setting will produce a very bluish image.

A good camera will have a manual white balance option whereby you can fill the lens with an image that you know should be white. Most commonly a good videographer will point the camera at a piece of white paper (because we know for sure that the colour is definitely white!) and set the white balance. This tells the camera what colour temperature should be white and subsequently the camera's algorithm will adjust accordingly for every other colour whilst recording under those specific lighting conditions and the results will be far more precise than preset options.

Care must be taking to reset the white balance if you move to a different environment.