COLOR EDITING GUIDELINES

4K is four times bigger than HD thus it will provide more clearer and crisper details of the image seen on a 4kTV.

I. THE BASICS OF CAMERA SETTINGS

Filming is the beginning on the creation of your final video product to be delivered. This is the most important part since if you set the color settings wrong, the problem will go throughout the process. One of the most important elements for your clip to pass QC is the **color**. Your clip is being shot in 4K and the expectation is very high and should be able to produce very vivid details on TV. One of them that needs to be carefully considered is the **color**.

When shooting, every camera operator should be equipped with knowledge and experience in performing **manual setup** for its **white balance**, **aperture**, **shutter speed** and **ISO** settings.

Remember to always shoot in RAW format and not JPG and other else. RAW saves all the tiny pixel details on the video and can be further be used for color post processing.

WHITE BALANCE

Learning about right white balance settings on your camera with regards to the light environment is one of the most important settings in shooting. Below is a clear table show below is a chart for its color temperature measured in Kelvin and its corresponding description of its light sources.

COLOR TEMPERATURE	LIGHT SOURCES
10000-15000 K	Clear Blue Sky
6500 – 8000 K	Cloudy Sky / Shade
6000 – 7000 K	Noon Sunlight
5500 – 6500 K	Average Daylight
5000 – 6500 K	Electronic Flash
4000 – 5500 K	Fluorescent Light
3000 – 4000 K	Early AM / Late PM (Dawn / Dusk)
2500 – 3000 K	Domestic Lighting
1000 – 2000 K	Candle Flame

Here’s an example from the visual color sample below. We modified the colors according to its color temperature for visual comparison result from Auto, cloudy and tungsten setting.



White Balance (WB) settings presets:

Auto – The Auto setting helps in adjusting the white balance automatically according to the different lighting conditions. This is the default WB setting.

Tungsten (light bulb) – This mode is used for light under a little bulb like tungsten, and it is often used while shooting indoors. The tungsten setting of the digital camera cools down the color temperature in photos. Use this under when there is a warm light present in the place else it will get blue.

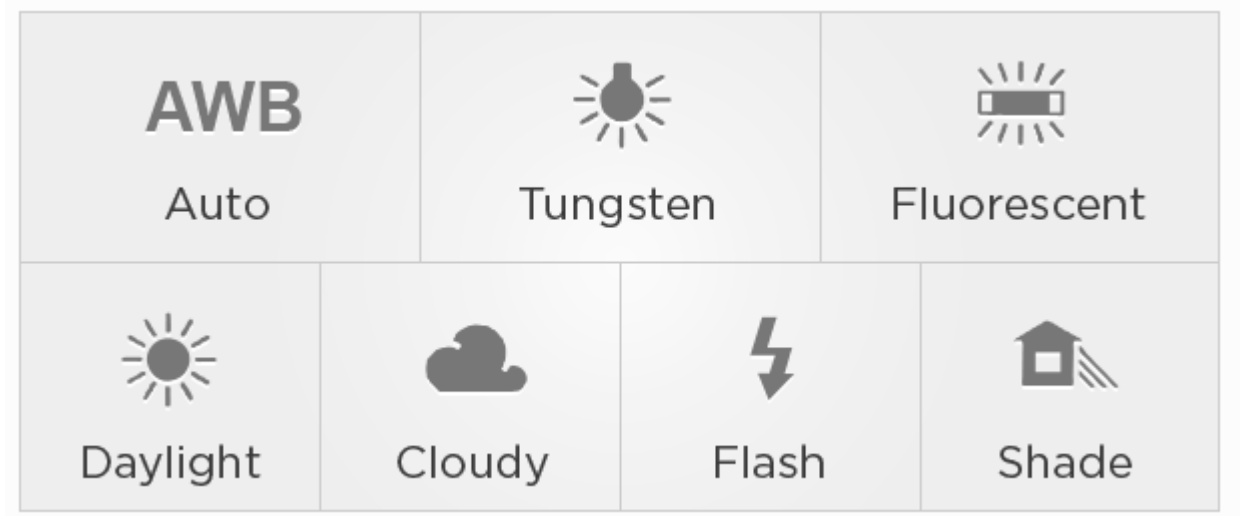
Fluorescent (glowing tube) – This mode is used for getting brighter and warmer shots while compensating for cool shade of fluorescent light.

Daylight – This mode is for the normal day light setting, while shooting outdoors. Many cameras do not have the daylight mode. This is used mainly for outdoors with good weather and light conditions.

Cloudy – This mode is ideal for while shooting on a cloudy day. This is because it warms up the subject and surroundings and allows you to capture better shots.

Flash – The flash mode is required when there is inadequate lighting available. This mode helps pick the right White Balance under low light conditions.

Shade – A shaded location generally produces cooler or bluer pictures, hence you need to warm up the surroundings while shooting shaded objects. Use it when it is warmer than clody which adds orange colors in the photograph. This is good for shooting on sunsets and shades.



When a white balance setting is applied correctly, you will gain better color results and will make it look more natural. Below is an example taken in a sunny weather from an outside shot using Daylight white balance. The left one is well balanced while on the right side meanwhile the right image fails to apply the correct white balance settings causing the overall impact to be a bit yellowish/brownish.



APERTURE, SHUTTER SPEED & ISO

These three camera components works together when filming to achieve a satisfying color and balance exposures to your subjects.

Aperture is a hole within a lens where the light travels inside the body on your camera. The higher your aperture setting is, the more light will enter and will make your video look more brighter and sharper. Higher aperture is usually used when there's no enough light to support your shot. This is the exact opposite for lower aperture where you are using this on a very well lighted place.

Shutter Speed is the amount of time in a camera shutter to open so that more light is exposed into the sensor of your camera. They usually measured on a fraction of a second if they are less than one second. Slower shutter speed allows more light to enter the sensor and is used for night shoots. Faster shutter speeds for higher light place.

ISO measures the sensitivity of the camera to the light available. The higher the ISO is, the more sensitive your camera lenses will adapt to the light, so you need to be very careful not to move your camera too much else it may cause your film to be blurry or judder during the camera panning.

OVEREXPOSED OR UNDEREXPOSED?

Based from the info above with regards to camera setting and by combining everything during the actually shoot, you may experience different light setup in the place and you cannot control the amount of light given in an event unless you setup your own event. Please note that it is easier to add color enhancement on an underexposed light compare to overexposed but let's not try to be easy on underexposed since it is not the color treatment will not be perfect. Here's an example below for the underexposed (upper left) vs balanced exposure (middle) vs overexposure (upper right).



II. FILMING

TYPES OF SHOTS.

Learning from the information above, you should be ready to shoot in 4K. Below are the type of shots with good and bad examples for your comparison.

1. OUTDOOR

• The shots can be an interview, establishing shots or an interview. Depending on the kind of weather situation from the outside, you should be able to have you camera adapt to its white balance settings to ensure the color details are still intact and noticeable.

Example of a famous structure in Antwerp in a dark cloudy sky.



Example of an ferry’s wheel shot in a sunny weather.



Example of an establishing shot of a day light shot with multiple colored subjects.



A shot with a group of yachts shot under a clear sky late in the afternoon.



A bad example of an outside shot somewhere in London. This was taken under the shade. The aperture and ISO settings were not properly set making the image blur. The cam operator uses Auto WB instead of shade setting that is why the overall temperature is bluish green.



2. INDOOR

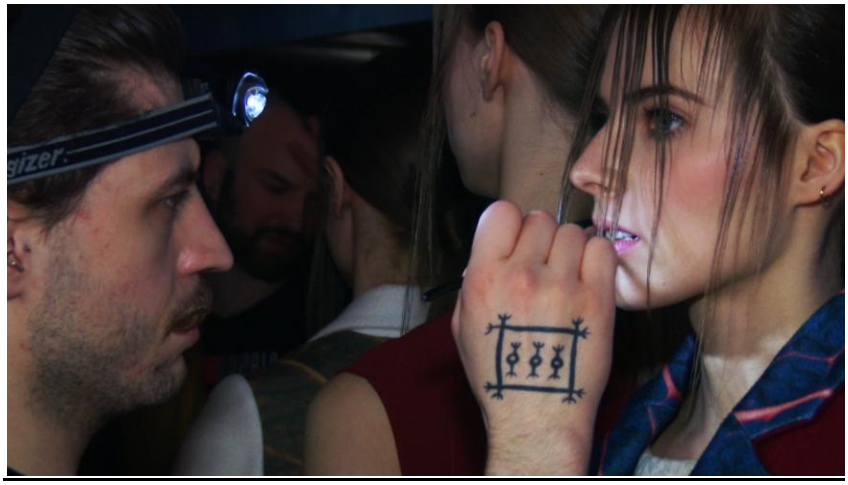
• Indoor shots can be have a different light setups because it does not rely on a natural light. The light source may come from a lighting equipments such as bulbs, fluorescent, incandescent and other forms for light sources.

• In an event where there's poor light condition, you need to have a backup lighting equipment to support the light to have a better image capture on your camera.

• Have the subject be clear as possible so choose a proper angle wisely in shooting.

EXAMPLES.

This is a good backstage shot. Camera operator uses light and higher aperture settings to capture more light and making the subject clearer.



A crew uses on-hand light camera in front of the interviewee. The result was that the skin tone remains natural and the noise is very minimal despire



There is a translucent light present in the event. What the camera operator did was he was able to setup his camera to a proper white balance manual settings that adapts with the different light environment and a less light location.



This is an example of a BAD take. The camera operator fails to use a light as a support to shot in a low light event. His video editor tried to save this shot by adding some color details to it. The result was a bad and pale skin tone. The color looks unnatural. Aside from that, aery bad video noise is also present which makes the color grading much harded to improve. With the current noise, you will be forced to use neat video which is not recommended to be applied in a 4K video for it will loose is sharpness of the image.



If possible, do not dare to shot at a very bad light setup unless there's a reason to. Here's a bad example of an irregular light changing during an event. Unless you are shooting a party event or such, then you may do so on a very minimal exposure on the video.



Sometimes, on an event, the light setup can be positioned well, but when it comes to color editing, it will be different. On the picture below, the color details seems to lack amount and saturation.



It is also very important to choose the shot at the right place at the right time. You need to adjust where the best light can be seen. On this picture below, half of the host's image is against the light making her face to be unappealing to the camera. This is an example of a bad choice of shot.



Example of an interview set-up. The crew uses a spotlight to focus the face of the interviewee to give more emphasis and color balance.



This interview set-up was done around 6pm. The background is almost dark which reduces the light amount of background in the interview. The crew uses their initiative to balance the light by using a standup light during the interview.



This shot lacks a bit of white opacity but a little improvement on its white balance can produce a better lighting. There is a white light present on the location but the intensity of its light is much strong on the right side portion of this image.



Positioning an interview that is against the light will cause the subject to be darker which loses the details of the image and added noise and pixilation with the corresponding unnatural color highlights seen on the edges due to shadows. This is a BAD example.

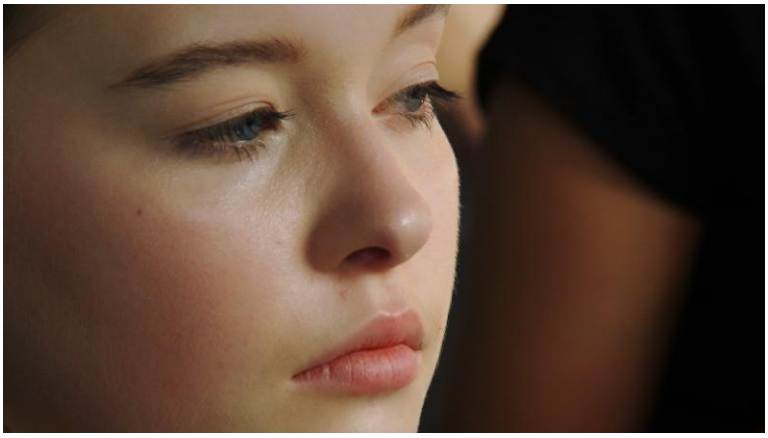


When shooting low lighted place, make sure to always bring an on-camera light everytime when shooting an event or interview. Shooting without light will lose the color and will provide hard time for video editors to add details of the color.



CLOSEUP / TIGHT SHOTS

• This the most interesting shot because you can see the expressions of the subject. This will have a big impact when playing the video in 4K. So we are very particular to see the tiny details of the subject as possible on the face or any subjects that not visible for HD. Take a look for the examples below.







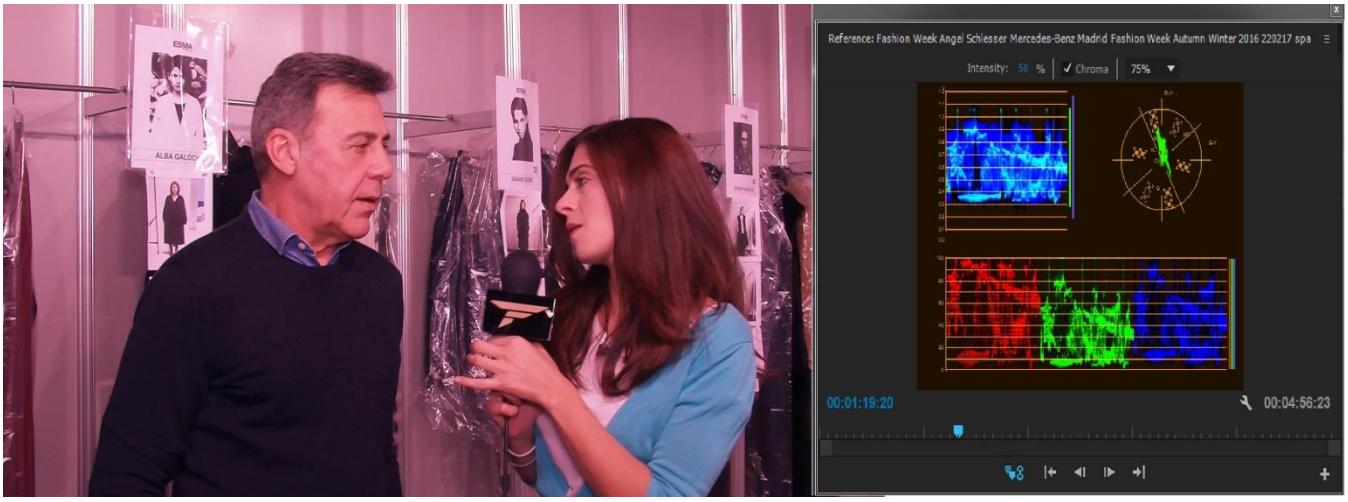
III. POST PRODUCTION EDITING

As soon as your camera crew is done shooting an event, your editor should be the one who should be able to clean up all the unnecessary shots and footage for the raw. They should know what is the best cut to be included on the video and calibrating the right amount of color.

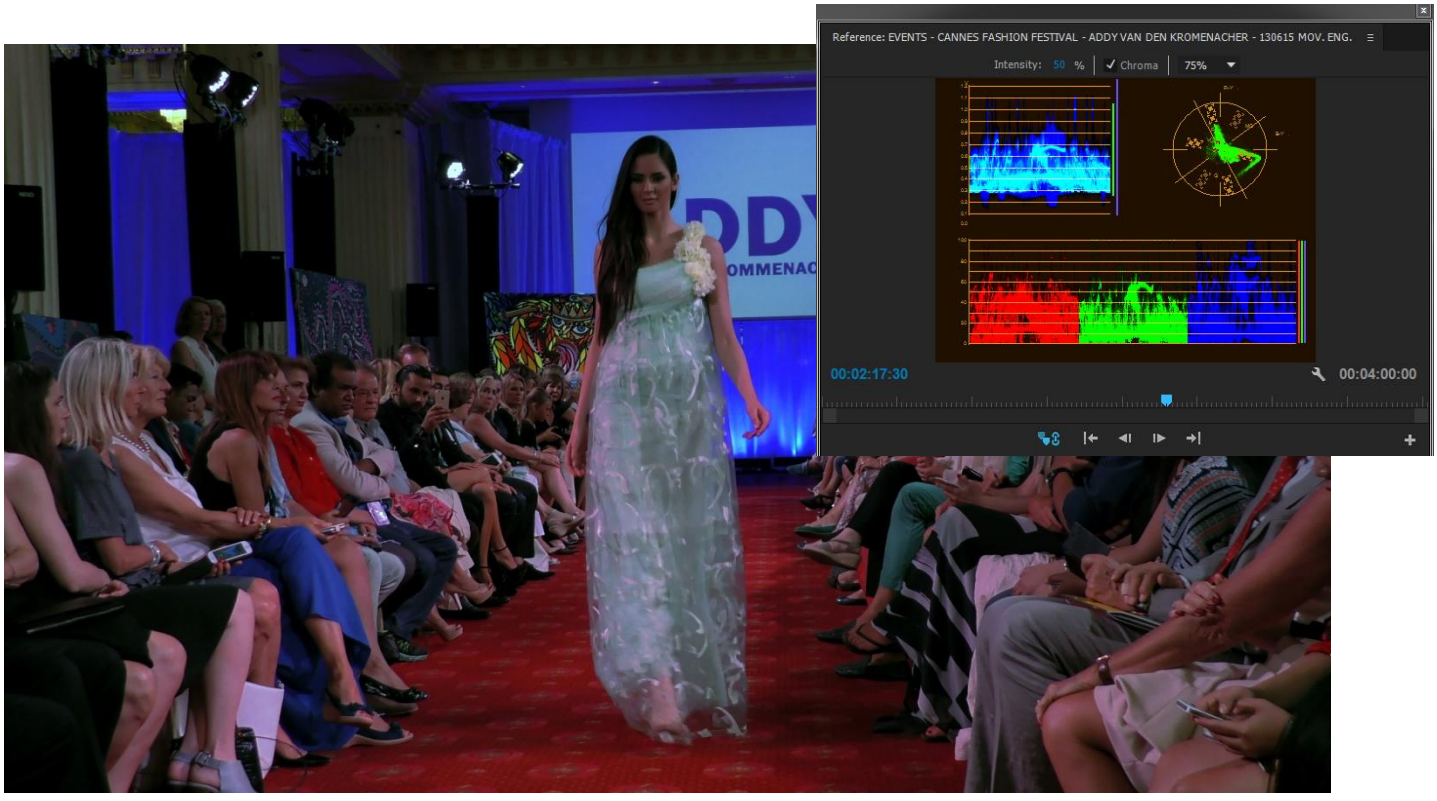
In the event when the place is lit up with added color lights such as on the image below, make sure that you will always set white balance to adapt the color environment. If you cameraman fails to set the color up, this will be the result:

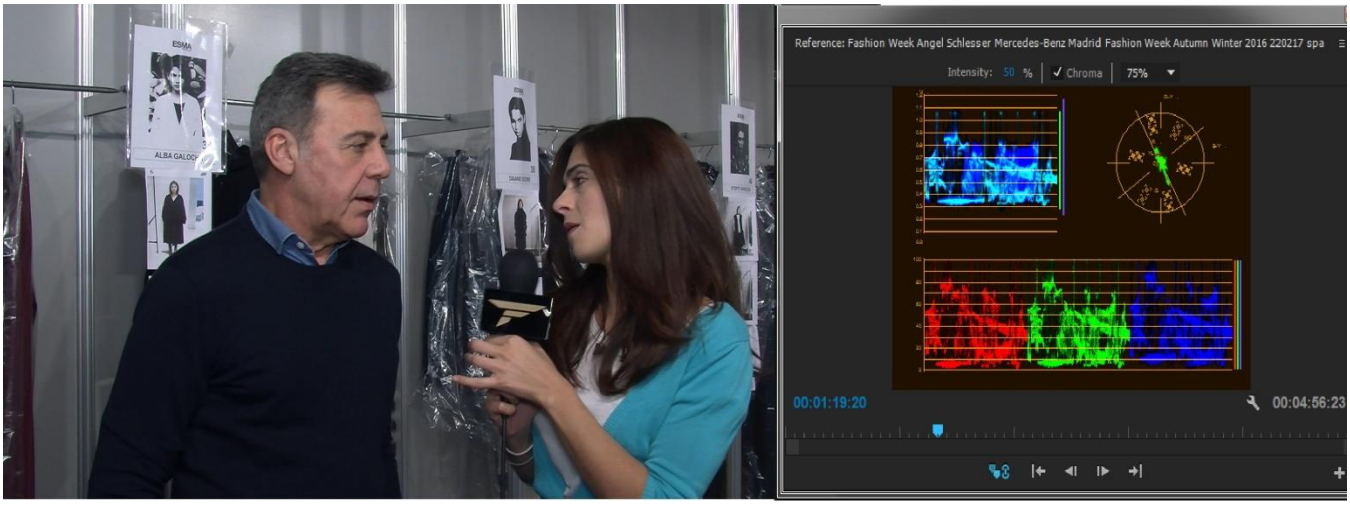
Use “Color Scopes” in your editing software and always trust the color levels. This fashion show has a very strong reddish light lit up around, thus the skin. The red level is also high as show on the color scopes on the upper right part of this image.





Corrected color balance.

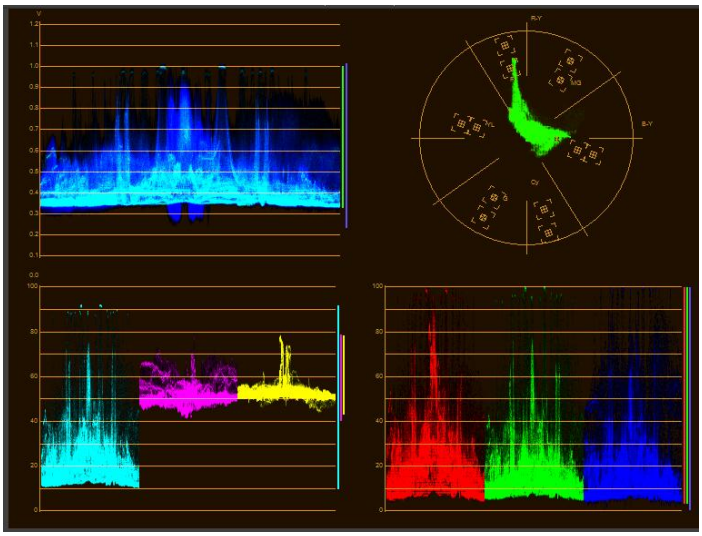




Tips on color correcting. This depends on the type of format for your raw materials and the workflow to your editing software program.

1. Remove artifacts and de-noise.
2. Balance your shots by adjusting BLACKS/MIDS/WHITES, SATURATION and WHITE BALANCE.
3. Relight within a shot using power windows or masks.
4. Add gradients, diffusion and other lens filters.
5. Grade your images
6. Simulate a film stock of your choice
7. Resize and sharpen

Adjusting your black first, you will have to get the baseline started to balance the image then expand the whites to expand the image and have a contract on it. Always trust the color scopes on your editing software. They read the color pixel count on your video. Below is a good example of a perfectly balanced color.



Coloring filters. On your editing software, there are several color correct video effects that are very useful in fixing the color. For instance in adobe premiere, there are, three-way color, color balance, color curve, color matte, masking and more.

IV. CONCLUSION

To conclude the guidelines, please take note the following color guidelines that we will not be accepting:

• We will not accept oversaturated / underexposed footage.

• Avoid cinematic effect look. Be natural as possible.

• Unnatural color will not be considered.

• Unbalanced color scheme is not accepted.

• Low color depths (pale).

• Unbalanced color.

• Neat Video filters

• Multi color transitions.

• Color filters (magic bullet, etc.) unless it is intended to be shown in artistic manner.

• Light effects – no need to add anything unless it is pre-approved by the manager.