Advanced Color Correction

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Welcome to the advanced color correction class offered by FPTV. This class is designed to help you familiarize yourself with some of the basic principles of color correction and Premiere Pro CC's built-in color grading systems. You will learn the fundamentals of Lumetri Color, selective color correcting, masking and other concepts. You will be asked to take a short assessment at the end of the class period.

Getting Started

In order to edit in the Fayetteville Public Access Television edit rooms you will need to log-in. You can do this by entering in the username as the password. For instance, if the username of the computer is "Public4" then the password would also be "Public4".

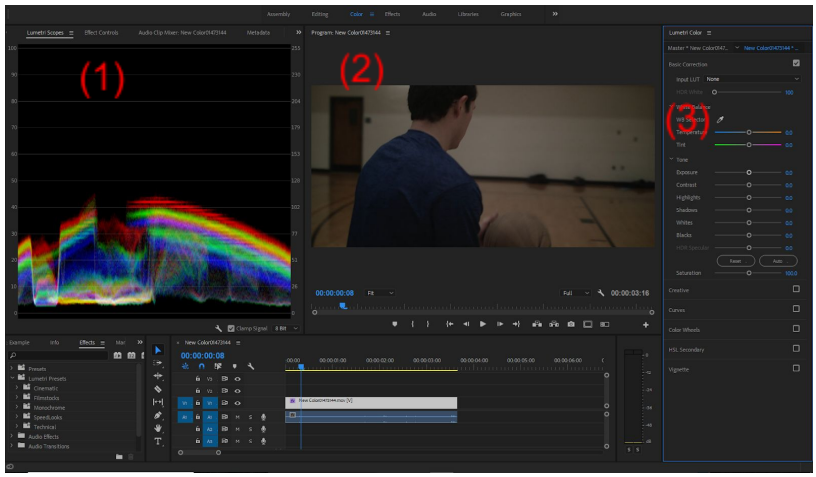
Video projects take up a LOT of storage space. We strongly suggest that you use your own external USB drive. Your instructor can give you a recommendation about what type of hard drive, where you can purchase it, and offer suggestions on size depending upon your planned usage.

If you don't have your own hard drive, you will be required to create a personal folder for your working files, either on the **"Media Raid 0"** hard drive (in the editing rooms) or on the desktop (if using the laptops).

Color correction should always be one of the final steps in your workflow. Because of this, we expect you to already have your video layed out on the timeline. From here, we can begin the process of color correction.

The first step is to navigate to the top of Premiere where you will see the "Color" tab. Click it and your user interface will change to be more of a color grading workspace.

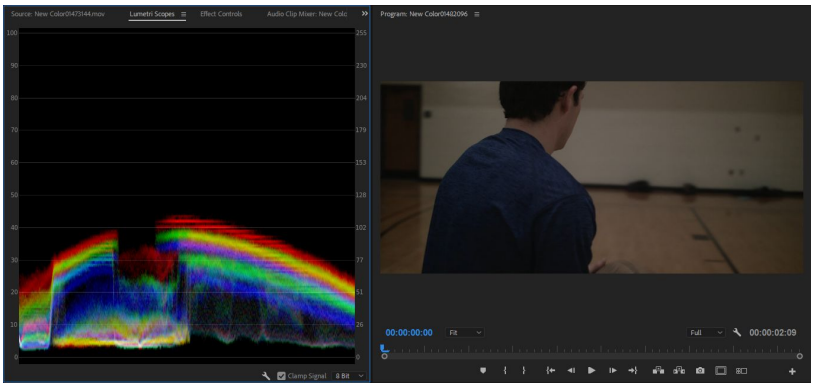
The Lay of the Interface



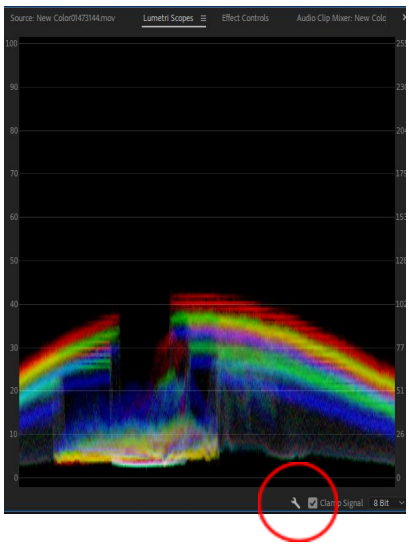
Knowing the interface is one of the biggest advantages you can give yourself when color correcting in Premiere Pro. At the left you can see the "**Lumetri Scopes" (1)** panel which assist you in

keeping colors balanced and making sure that nothing is over-exposed or clipped. The Lumetri Scopes will be explained in a minute. Moving on, we can see we have the **Project Preview Pane (2)** in the middle followed by a slightly smaller timeline underneath. Lastly, we have the "**Lumetri Color" (3)** panel on the right hand side of the project. Keep in mind that this is only one Lumetri Color corrector. Premiere has the tools to accommodate any number of Lumetri Color Correctors that you may wish to add. We will explore this concept near the end of this class. This is just the basic, yet capable, corrector that is provided to get you started color grading.

Lumetri Scopes



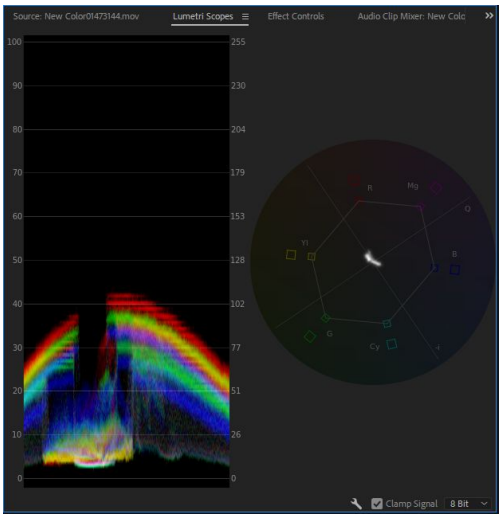
The Lumetri Scopes can be overlooked at times, but they do offer very useful information that can be helpful when correcting colors. We can see that the shot in the above picture is showing levels that are aggregated more toward the lower end of the spectrum. What this is telling us is that that the shot is underexposed, or too dark. Different monitors do not display color and brightness in the same way. Because of this, the Lumetri Scopes are very helpful for getting an exposure and color balance that will remain relatively consistent across many different types of screens and monitors. In order to get proper exposure we need to bring the levels of the waveforms up to about mid-way on the viewer. If the levels are too high, then the shot will be overexposed. Inversely, if the waveforms are too low we have underexposed our shot.

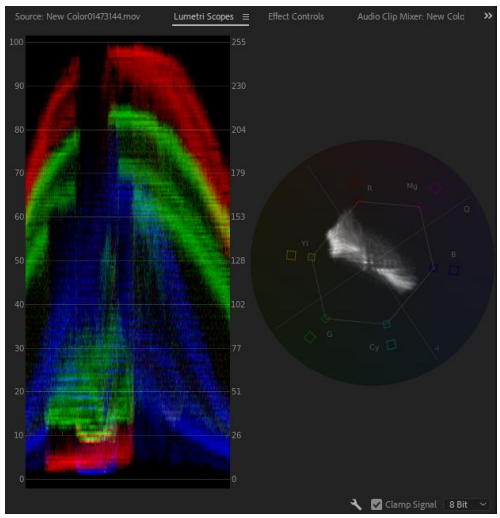


The shot above needs to have its exposure increased. We can do that through the **"Basic Correction"** tab.

One imperative feature of the Lumetri Scopes is the **"Vectorscope YUV"**. This can be accessed by navigating to the wrench icon at the bottom of the lumetri scopes. Clicking on it will open a menu where you can then select Vectorscope YUV. Selecting this will bring up the Vectorscope alongside the other scopes. The Vectorscope is a very important tool that is essential for any program that is to be broadcast on Television. You can see in the example below that there is a polygon-like line that is contained within the Vectorscope. This line

represents the maximum saturation that colors can be without being clipped during broadcast. In the left photo you can see that the image is still underexposed, but it is still well within the range of being broadcastable. In the picture on the right I have upped the exposure and saturation to a point where the yellow and oranges are going to be clipped and compressed by broadcast. This is something to keep in mind for Televised Broadcast.





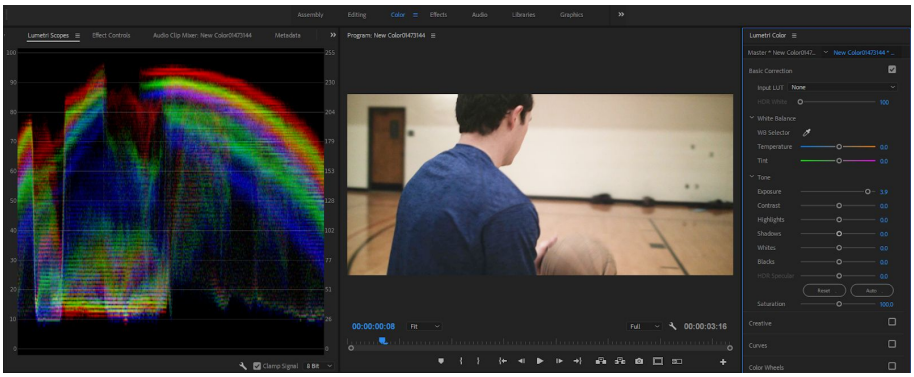
Lumetri Color Tabs

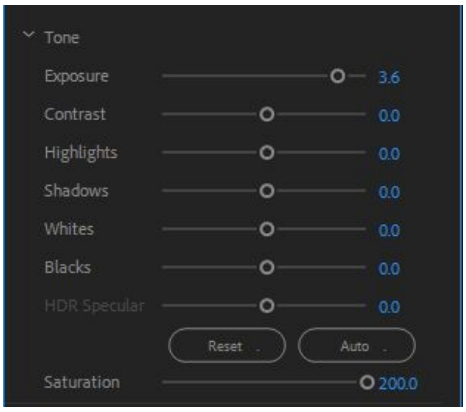
All of the following tabs are located underneath Lumetri Color on the right side of the layout.

Basic Correction Tab:

The first drop down of Lumetri Color is the Basic Correction tab. This tab is a perfect place to start when color grading your footage. You should always correct for exposure before you do any color adjustments; in simpler terms, you should make sure your picture is not too bright or too dark before you start tampering with the colors. If you do this the opposite way you can end up shooting yourself in the foot with an image that looked great, but the colors now look skewed because of the exposure adjustments you have made. After you have corrected for a proper exposure, you can then start messing with the white balance and tint sliders. Be careful not to go overboard with these, though. They can degrade an image very quickly if not used correctly.

This tab offers basic controls that are very useful. The **“Temperature”** slider can be used to adjust the color temperature of an image. For example, if you shot a scene outside but mistakenly white balanced for indoor lighting (around 3200K) then you can use this slider to somewhat adjust that back and make the image appear warmer and more natural. The **“Tint”** slider can be used for correcting some camera aberrations and inconsistencies. Some cameras and lenses can tend to shoot either a tad bit green or a tad bit magenta. This slider can be used to correct that effect. The **“Exposure”** slider brings the entire brightness of the whole shot up. My shot of the subject is underexposed and so I have increased the brightness using the Exposure slider. I have brought the exposure of my image to a level in which the waveforms are fairly balanced to be in the middle of the Lumetri Scopes viewer. Nothing is too bright or too dark in the frame. The **“Contrast”** slider adjusts the bright and dark values of the shot at the same time. When you increase the contrast what you’re actually doing is making the brights brighter and the darks darker. This, of course, increases contrast in the image.





The **“Whites”** slider allows you to adjust the white values independently of everything else. The Whites slider affects the areas of the image that are pure white. By adjusting this slider you are adjusting what the program determines as white. You are essentially adjusting the white clip point to be either higher or lower than it was when it was shot. This differs from the **“Highlights”** slider. The “Highlights” slider does not deal with pure white; rather, it deals with places in the image that are overexposed but still retain detail. You can control areas of higher exposure by adjusting the “Highlights” slider to determine how the program handles those colors.

Conversely, the **“Shadows”** slider adjusts the colors that are darker put not pure dark. Any area that the Shadows slider affects still has detail remaining that can be salvaged and used. The **“Blacks”** slider, on the other hand, adjusts the points that are

true black. There is no detail there to be seen or adjusted. The Blacks slider allows you to adjust the point at which the program clips the blacks and gets rid of the data. Below is an example that illustrates the difference between the two adjustments. The shadows have been pulled all the way down in the left image. The blacks have been pulled all the way down in the right image.

The last option is for **“Saturation”**. Saturation is the intensity of colors. A photo with zero saturation will appear grayscale and a photo with 100% will appear as if the colors are abnormally intense. You can adjust the saturation of your video by moving the slider to the right (increase) or moving it to the left (decrease).

There is one last option that we have overlooked until now. There is drop down box for **“LUTs”** at the top of the basic tab. I have skipped over it until now because it is a tad bit confusing and not something that many people will use. LUTs (Look Up Tables) are predominantly used in the film industry for cameras that shoot in a Log type of format that desaturates the picture when recording. There are custom LUTs designed for these cameras that take into mind the specific color space of each model of camera. LUTs are a starting point for many studios when they go to color grade footage. They often apply a LUT to their footage to bring it closer to normal before they even start tweaking each aspect. All that being said, you probably shouldn’t have to use any of these LUTs unless you are shooting on a camera that films in a a flat Log type of profile. Most cameras record into a regular format that reproduces colors in a way that is fairly accurate to what the human eye sees. All of the cameras at FPTV record in this mode.

Creative Tab:

The next tab is the **“Creative”** tab. You’ll notice that there are various **“Looks”** that can be selected from a drop down. These are mostly the same thing as the LUTs tab above. They have much of the same effect for your footage. That is, they apply a premade look over footage that can bring you closer to what you want. That being said, some of these LUTs can work for your image, but they can also throw the color balance off quite easily. If you decide to use them be careful with how you apply them.

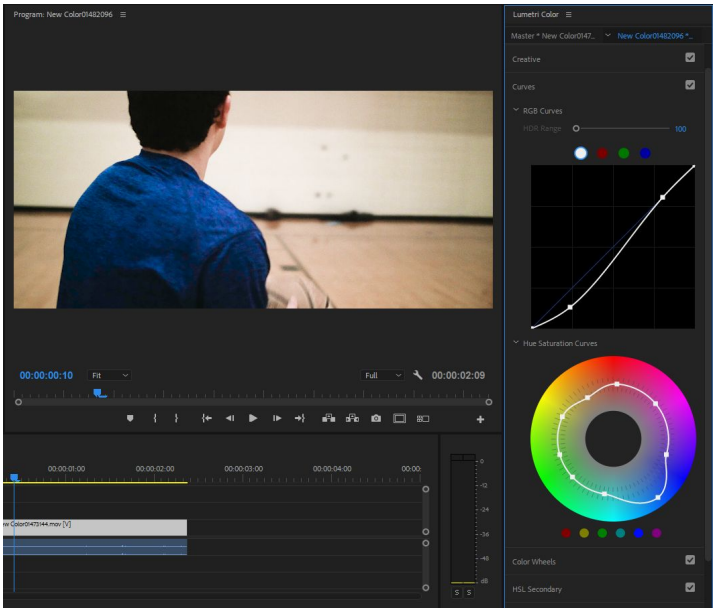
The **“Faded Film”** option applies a faded effect to the entire image. It is designed to simulate a film stock look of low contrast. In other words, if you choose to

crank up the Faded Film option then the blacks in your image will not be true blacks. They will be a shade of gray. In the same way, the whites will not be true whites, but rather be a shade of gray. This can be an interesting look when used correctly. The faded film aesthetic seems to have jumped into popularity in the last few years as it, to a certain degree, can make footage look less like video and more like film.

The **“Vibrance”** and **“Saturation”** sliders are ones that people usually cannot distinguish between. This is because they both control saturation in some form or another. The vibrance slider, however, most people find to be safer to use. Vibrance differs from saturation in that it prevents oversaturation in areas that are already heavily saturated or clipped. Use vibrance to preserve an image that is already very saturated. One thing to also keep in mind is that a certain degree of saturation that may look good on your monitor can look awful on another. Be aware of this fact when using the Saturation and Vibrance sliders. It is usually better to err on the side of being more conservative with your saturation.

Curves Tab:

The third tab is the **“Curves”** tab. This tab is very useful for specific targeting of colors. The white curve can be used for adjusting the Luma value, essentially the brightness, of different portions of the shot. The top of the line represents the highlights and the low part of the line represents the shadows. Clicking near the top of the line and dragging it up will make the highlights brighter. Conversely, dragging the top of the line down will lower the exposure of the highlights. Clicking near the bottom of the line and dragging up will bring the exposure of the highlights up. In the same way, dragging that point down will cause the darks to become darker. This is called “crushing the blacks” in the film world. You will also notice that there are colored dots at the top of the tab. If you click on one of them it will give you a curve of the color you have selected. For instance, click on the red dot and it will give you a red line. If you click at the top of the red line and move it up it will pump more red value into the highlights. In the same way, you can put more red in the shadows by clicking at the bottom of the line and pulling up. Similarly, you can suck red out by doing the opposite. This

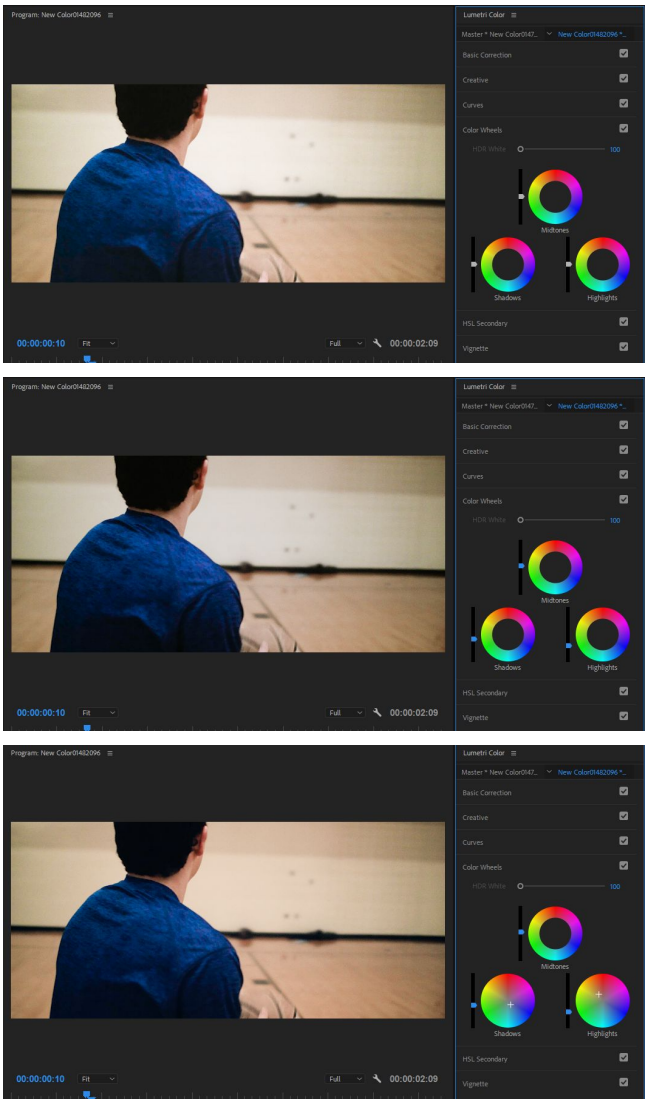


is an effective way of color grading because curves tend to protect the integrity of your image better than some other options.

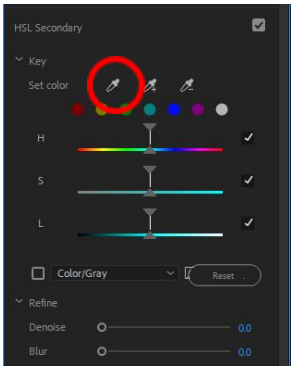
The **“Hue Saturation”** curve found below can also be useful in some circumstances. Click on the white line and it will lay down a point. If you lay down a few more points you can adjust the saturation of that color that your point is on. For example, if I was to lay a point down on the blue portion of the circle, I could then control the saturation of the blue by dragging the point around. Notice how in my case illustrated in the picture on the previous page I have chosen to up the contrast slightly by pulling the blacks down and boosting the highlights slightly. I have also used the Hue Saturation curve wheel to saturate the blues of his blue shirt and to pull the saturation of the oranges down a bit.

Color Wheels Tab:

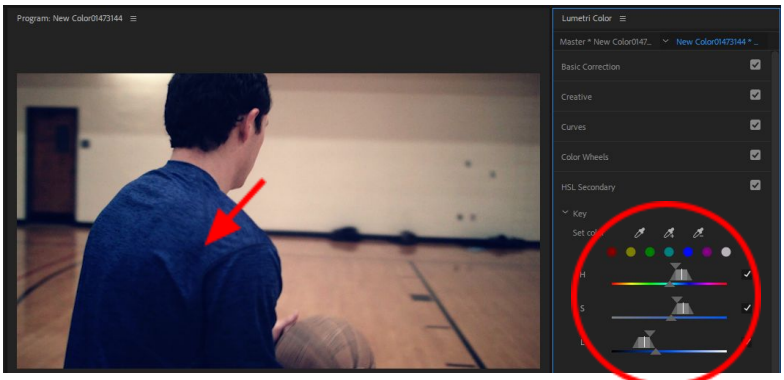
“Color Wheels” are useful for making adjustments to the dark, mid and highlight levels. Each color wheel controls one of the three and can be used to adjust the exposure of each channel as well as the color of it. Exposure can be adjusted through the lever to the left of each color wheel. Pulling the lever up brings the exposure of that area up, and inversely pulling the lever down will decrease exposure. In addition, clicking in the center of the color circle will give you a pointer that you can then use to recolor that channel. For example, if I were to click in the center of the shadow circle I could then drag the pointer toward the blue and make the shadows appear as more of a blue color. In the same way, I have pulled the highlights towards that orange spectrum with the same process. Many people use this to create contrast between the darks and lights. The main way that this can be done is the use of complementary colors in both the blacks and the whites.

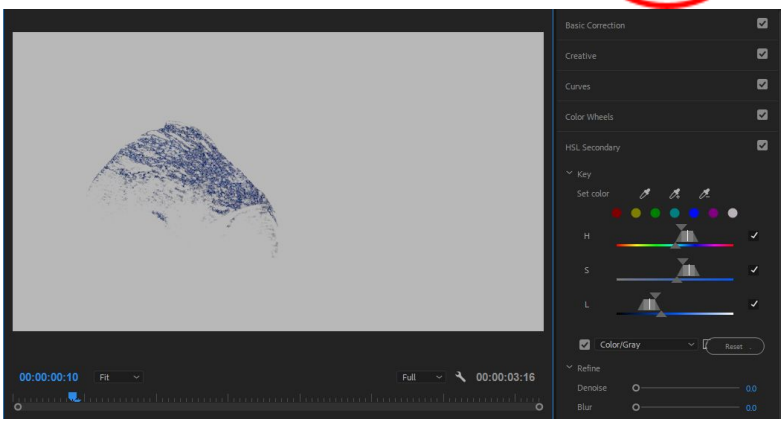


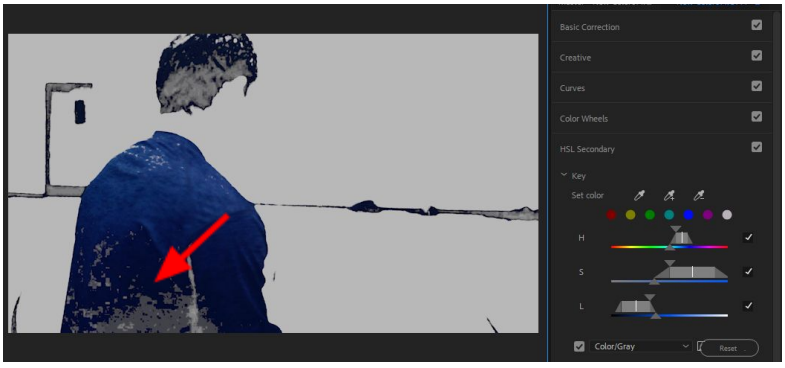
HSL Secondary Tab:



The **"HSL Secondary"** tab is probably the most powerful tool in Premiere's arsenal of color correction tools. However, it is difficult to understand and can take time to master and even longer to decipher how to effectively use it. The simplest way to describe its functionality is that it can isolate specific color channels and give you control over them. To get started the first step would be to sample the color you wish to change. To do this, click on the **"Eyedropper"** icon and click on an area of the image. Premiere will sample the color. In this example I have sampled the subject's shirt. Notice how the HSL (Hue, Saturation, Luminance) sliders went to the blue colors. To get a better understanding of the area that you are affecting, click on the check box next to the tab that says **"Color/Gray"**. This will give you a color map of what colors you are affecting. Notice how when I select that option, it puts the colors I am affecting over a gray background. This allows me to see in full clarity what colors I am going to be altering when I begin adjusting the color wheel.



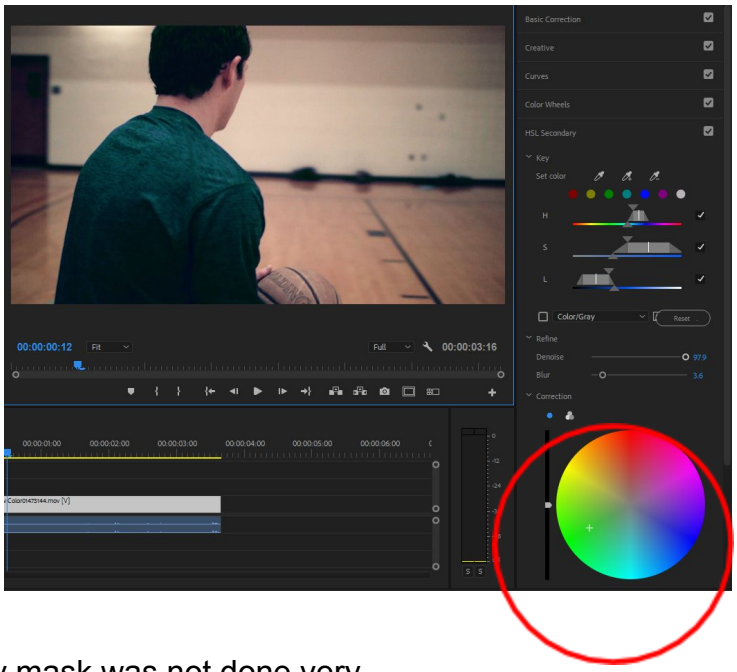




If you want to add colors to the selection you have made, then uncheck the Color/Gray box and select the Eyedropper icon that has a plus icon next to it. Click on any color that you want to add to the selection. Here I have sampled a darker portion of his

shirt. This action will add any color that you click on to your selection so that you will be affecting that color as well with your adjustments. In my example you can see on the preview how more colors have been selected and, therefore, the HSL sliders have been widened to accommodate more colors. I now have more control over more of the subject's shirt.

The **"Denoise"** and **"Blur"** functions can be helpful. In short, they can make the mask that you have created much smoother. Some people turn both to about 50 to soften up the mask. Denoise can be placed higher when much noise is present as in this example.

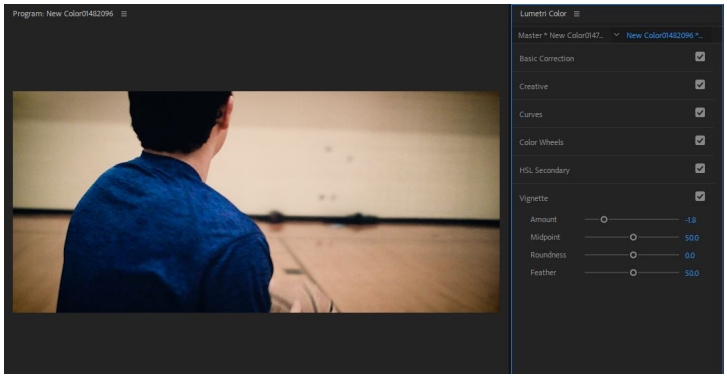


Now that our HSL mask is made, we can now make adjustments on the color wheel below. This Color Wheel works identically to the ones previously discussed. Simply click into the middle of the color wheel and drag the pointer to the color that desired. Uncheck the Color/Gray preview for this step. In my example you can see that I have turned his shirt into a more teal color. Be careful, though. If you push this too far you can start affecting other things as well. You can see how his hair is turning a bit green because my mask was not done very correctly.

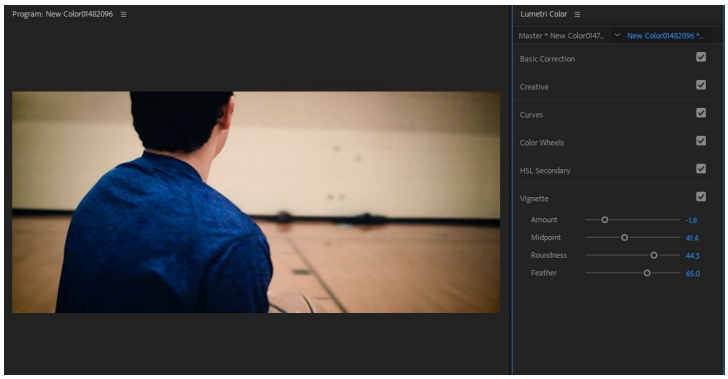
In conclusion, it is better to use the HSL Secondary tab as a very targeted way to adjust color slightly. It is not meant to be a life-saving grace for a shot that is improperly exposed or white balanced incorrectly. HSL Secondary is a very powerful tool that can serve a complementary role in helping a shot look much more appealing. Use it wisely!

Vignette Tab:

The final tab is the **"Vignette"** tab. Here, you can place a vignette over footage and adjust its parameters. Oddly enough, sliding the **"Amount"** slider to the right actually results in a white vignette over your footage



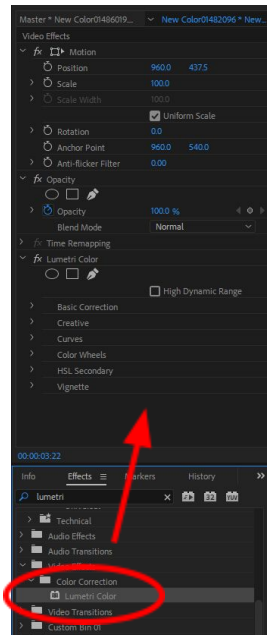
which is very uncommon. Usually the inclination is to put a dark vignette over footage. To do this, pull the slider to the left. The **“Midpoint”** slider adjusts the point at which the vignette falls off. Pulling the slider to the right will make the vignette widen and, adversely, pulling the slider to the left will collapse the dark edges of the vignette inwards. The **“Roundness”** option allows you to adjust the shape of your vignette. Sliding the slider to the left will form the vignette into more of a rectangle, and sliding it right will transform it into more of an oval shape. Finally, the **“Feather”** option allows you the ability to control the softness of the edges of your vignette. Utilizing an option such as this is highly recommended as a vignette can be quite distracting if it draws attention to itself.



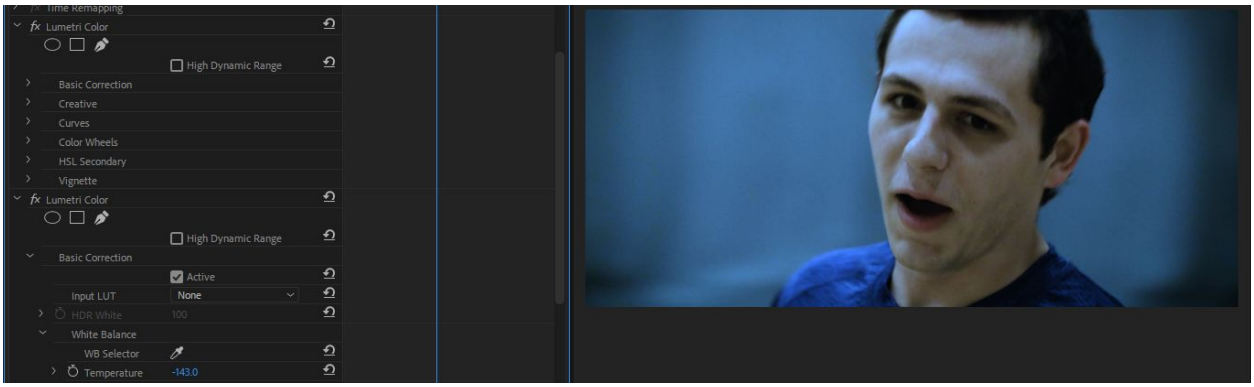
Vignettes are very useful and are an easy way to make an image more interesting. Many movies use this effect either by adding it in post production or having it caused by fall off from the lens in use. It is an interesting look because it creates contrast in an image. It does this by creating dark and light areas. However, like most things, it can be overdone quite easily. As mentioned before, a vignette that is too prominent can be very distracting layered on top of an image. Again, use this functionality wisely!

Masking Colors:

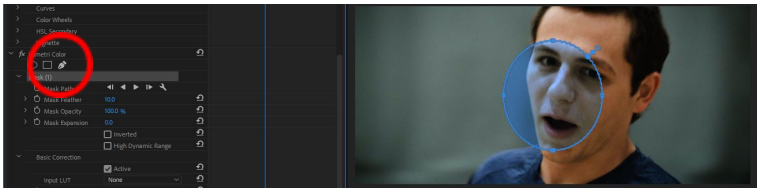
The last element of color correction that can be leveraged very effectively is the idea of masks to selectively change colors. For example, in the clip shown I want to make the background colder, but I also wish to retain the color in his face to prevent him from looking abnormally blue. This can be accomplished fairly easily if we understand masks properly.



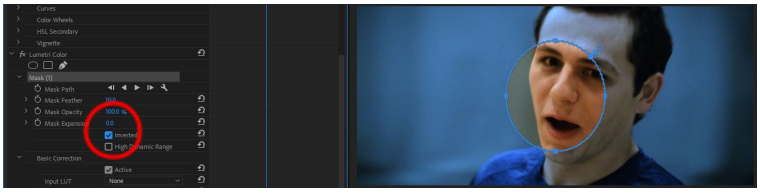
The first step would be to navigate to the Lumetri Color tab and select the Effect Controls tab on that panel. If we scroll down on this tab we will see all the controls for Lumetri Color. In order for this effect to work, we need to drag in a whole new Lumetri Color effect. Find Lumetri Color in the **“Effects”** tab and drag it to the Effect Controls of your current clip. Next, we are going to make the color adjustments that we want to this second Lumetri Color. Notice how I

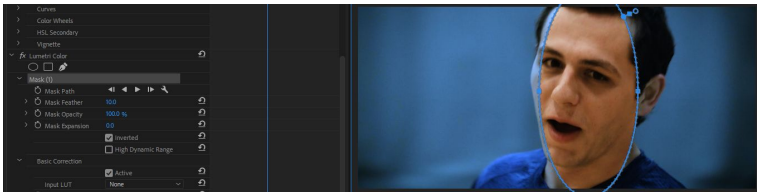


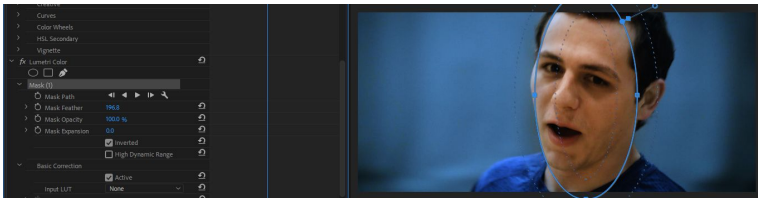
have drug the temperature down and made the background a bluer tone.



After we have made the color temperature adjustment we can see how this makes the entirety of the frame blue in tonal value. What we need to do is select the background and leave his face the same color. To do this, select the oval icon underneath the words “Lumetri Color” in your Effect Controls panel. After this is done, you will see a circle appear on your preview panel along with mask options in your Effect Control panel. You can see how the mask is affecting only what is inside it. We can reverse this by checking the **“Inverted”** box. This causes the mask to affect only what is outside of it. The next step is to form the mask to fit more closely to his face. To do this, we can make it more of an oval shape. This still looks pretty wacky, however. We can fine tune the mask with the **“Mask (1)”** tab. You will see options for **“Mask Path”**, **“Mask Feather”**, **“Mask Opacity”**, and **“Mask Expansion**. For this instance, we need to feather the mask out. This will cause the edges of the mask to become softer. If we click off of the layer we can see how effective this really is. We

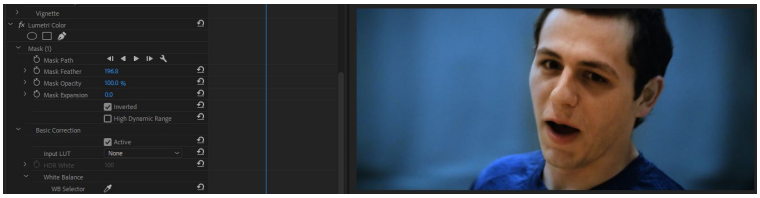






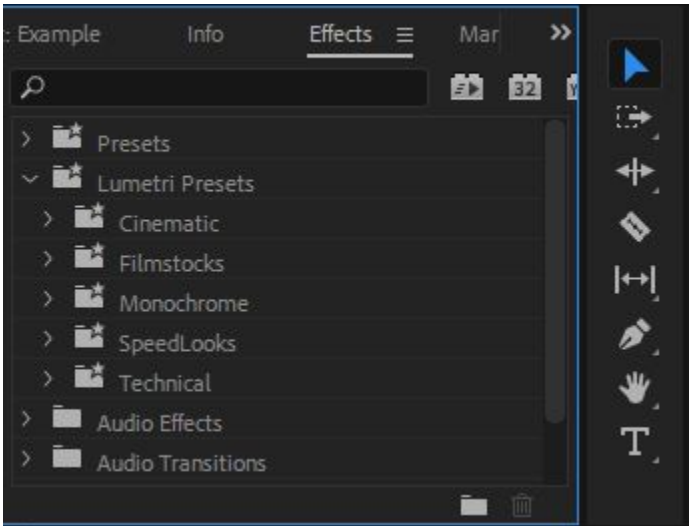
have successfully increased the blue of the background while retaining the natural tone of his skin.

Conclusion:



Once you have color corrected your footage you are free to either export or click back over into another tab and continue adjustments. The beauty of editing colors in Premiere Pro is that it plays very nicely into almost any workflow. Color correction is usually the last thing to happen in the post production process, but if you do wish to color grade a few clips while still editing then Premiere accommodates that very nicely.

The color grading tools in Adobe Premiere Pro can be very useful when in the hands of someone who is confident in their abilities and knows the workflow. In addition to the information that was given here, Premiere also has a multitude of other color editing options that can be found in the Effects tab under the folder entitled **“Lumetri Presets”**. Additionally, Premiere’s **“Video Effects”** tab also has many color grading options available. The steps that have been outlined above are to get you started on some basic concepts of color grading.



Ultimately, color correcting is a matter of personal preference. There are certain things you can do to achieve a look that is, in fact, more pleasing, but color grading is something that is heavily subjective. What looks great to one person might not look good to another.