Premiere Pro CC: Create a Green-Screen Key

Posted on February 26, 2016 by Larry

[This material was first presented in my webinar: "Green-Screen: From Production to Post." Download it here.]

Green-screen key, also called a chroma-key, is the process of removing a background color from the image so that you can place an actor in front of another background.

NOTE: The reason this process is necessary is that no camera shoots an image with depth. Because we can't tell our software to: "remove everything that is more than ten feet away from the talent," we use chroma-key instead.

Premiere Pro provides several different ways to create this key. In this tutorial, I'll show you the preferred method: the Ultra key. The big benefits to Ultra Key is that it is fast, flexible and looks great.

GETTING STARTED

The best thing you can do to improve the quality of your keys is to improve how you light and shoot them. Here are seven basic production rules:

- The green background should be as smooth as possible. Paint is always better than fabric; avoid wrinkles and folds.
- The green background should be lit smoothly, both from side to side and top to bottom. I try to have the green background display between 40-50% level on the waveform monitor.
- Light your background for smoothness. Light your actors for drama.
- There is NO relationship between how the background is lit and how your actors are lit. (This example will illustrate that.) Always use separate sets of lights for background and talent.
- Actors should be at least 10 feet in front of the green screen. This avoids light from the background "spilling" around their body or shoulders.
- In general, don't cast shadows on the green screen. Be very careful shooting feet.
- Don't worry about having the green background fill the frame. It only needs to completely surround the edges of your actors. Garbage mattes are used to get rid of the junk.

NOTE: The chroma-key effect uses the color of the source clip and ignores any color correction you add to the image. This is why some of the foreground shots in this article are a bit green, I haven't done final color correction to them.
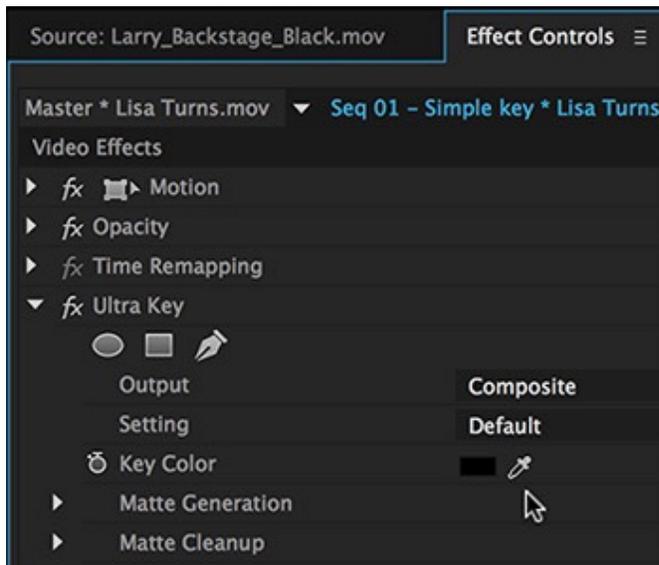
THE ULTRA KEY

This is Lisa. We want to remove the green background and replace it with something more interesting. Note how dramatically she is lit, while the background is very even and flat. This is intentional.

In the Timeline, put the background clip on **V1** and the foreground (green-screen) clip on **V2**.(In this example, I'm not using audio, but the process is the same whether you have audio or not.) Select the **V2** (green-screen) clip.
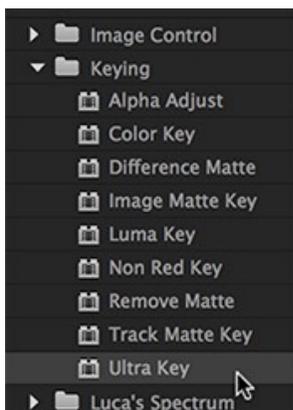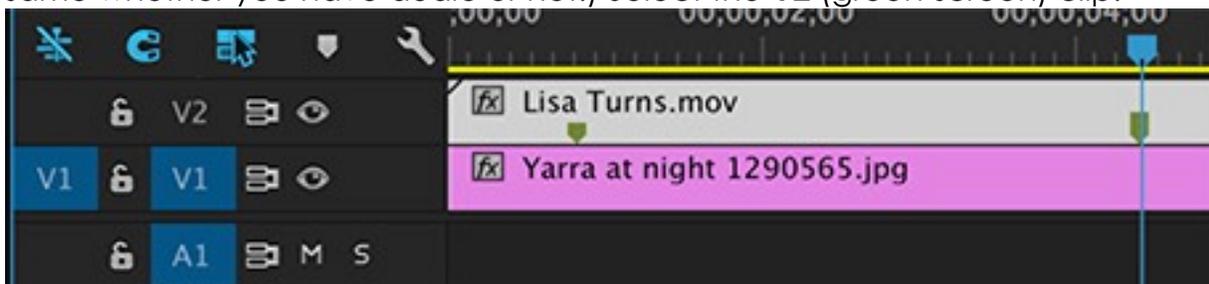

In the Effects panel, double-click **Video Effects > Keying > Ultra Key** to apply it to the selected clip. (You can also drag the effect on top of the V2 clip.) This applies the keying effect to the selected clip, or clips.

In the Effect Controls tab, click the twirl-down arrow next to Ultra key. Click the eyedropper next to **Key Color**. This allows you to sample the background color of the image (i.e. the green background) so that the Ultra key knows what color to remove. (The default color selection is a dark gray.)


Then, click near the face of the subject; but not so close that you run the risk of getting either skin or hair as part of the color sample.

KEY TRICK: Press the Command key when you click the eyedropper, which allows the eyedropper to select a 5×5 pixel square, rather than the default 1 pixel under the eyedropper. This makes for more accurate samples. Notice, when you press the Command key, the eyedropper gets "fatter."

There are two schools of thought about where to select the background color. One side says to select something in the mid-range of the background, not too dark or light. My point of view is to select the color nearest the face. If the face keys well, people won't even notice other problems. If the face doesn't key well, nothing else in the key will matter. Every key is a bit different and you are welcome to form your own opinion.
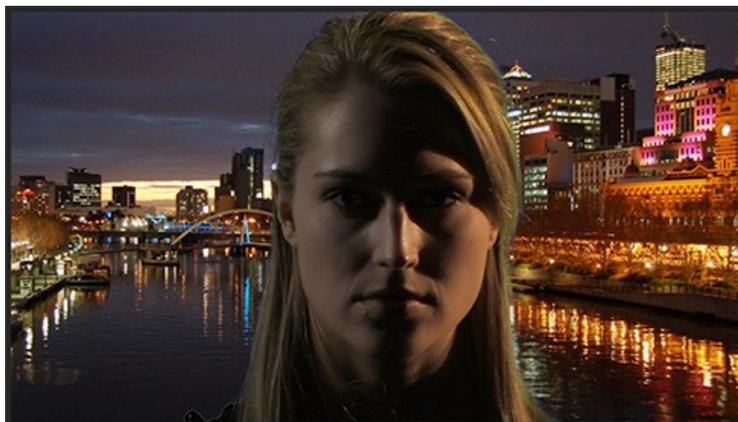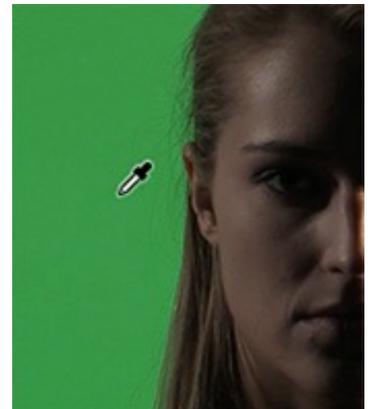
Instantly, we have a pretty darn good looking key. But, before moving on, let's check the matte to be sure it really IS OK.

Change the Output menu from Composite (the final result) to **Alpha Channel**. This displays the key in shades of gray. Your goal is to get the foreground solid white (opaque), while the background is solid black (transparent). Any shades of gray indicates translucency which, in general, you want to avoid.
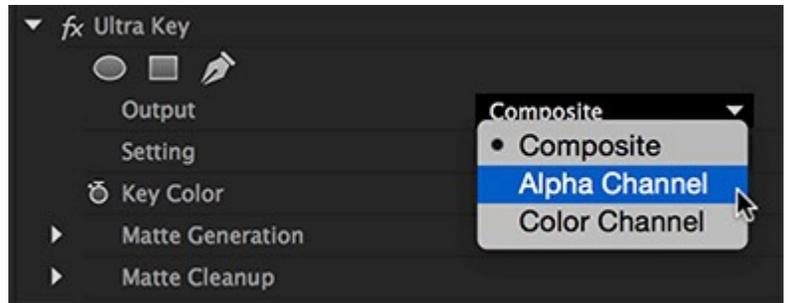
This image was shot and lit pretty well, notice there is a clear delineation between foreground (white) and background (black.)
Switch the Output to **Composite** and you could stop here. But, let's make two other tweaks.

Click the **Motion** icon, to enable dragging the image in the Program Monitor, and drag the image off-center to frame it better against the background.

Then, add a **Video Effects > Blur > Gaussian Blur** to the background and adjust the blur to make it look like the shot has depth of field.
Now, we are done.

TWEAKING THE KEY
However, not all keys are that easy to pull. Let's try something more difficult.

Here's a key with an uneven background, wrinkles in the fabric, and "garbage" in the frame. In other words, a typical production shot.
I'm a big fan of having a process to follow when creating effects. This is especially true of green-screen work. So, here's mine. To begin, follow the steps above, select the color and then switch to Alpha Channel mode.

Hmmm… notice all the white "dust" in the background? The green background is more gray than black. Worse, even the garbage is white. Not good. Here's how to fix it. We are going to take this in three steps:

1. Adjust the foreground so it is solid white
2. Adjust the background closest to the talent to be solid black
3. Apply a garbage

matte to get rid of those areas that we don't want, the "garbage"

In the Effect Control panel, twirl down **Matte Generation**, then adjust **Transparency** until the foreground you want to keep is solid white. This slider controls the foreground separation. The best way to adjust this is to slide it until you find the point where the foreground becomes transparent, then move the slider a little bit until the foreground is back to solid white.

Check carefully for subtle shadows, which will allow the background to bleed through.
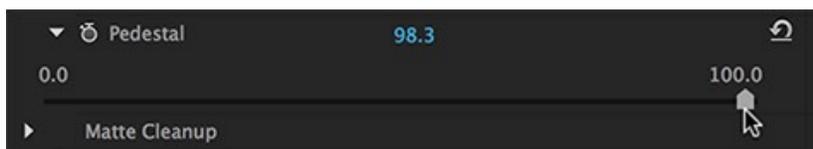
Next, twirl down **Pedestal** and do the same thing, except now you are adjusting the background to be solid black. Switch the Output back to **Composite** and take a look at the finished results.

Your goal, even with bad keys, is to get the background immediately behind the talent to be solid black, even if other areas of the frame are not. We'll get rid of them next.

These two controls should allow you to nail the key, though, in this case, the poor lighting is making our life difficult.

TWEAKING THE EDGES

If you need to adjust the edges to remove excessive spill, or halos, twirl down **Matte Cleanup**.

Here, start by GENTLY adjusting **Choke**. This crops in the edges of the image and a little goes a long way.

Then, add a bit of blur to the edges with **Soften**. Again, small amounts are always the best option.

To remove green around the edges, twirl down Spill Suppression and tweak Desaturate. Remember, the easiest way to avoid excessive spill is to separate your actors from the background.

NOTE: There are also color correction settings with this filter, but we have far more control over color using the Lumetri Color Panel; which is what I would normally use.
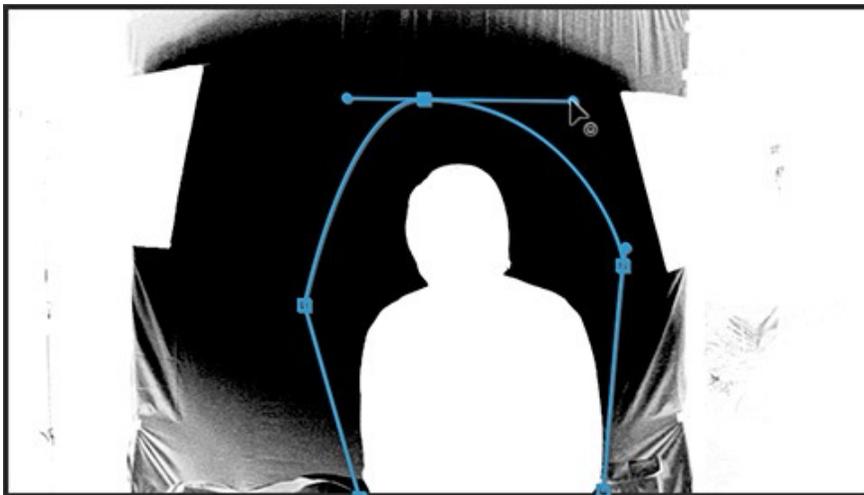
ADD GARBAGE MATTE

Garbage mattes are used to get rid of stuff in the frame that you can't key out.

Make sure the green screen clip is still selected, then twirl down **Opacity** in Effect Controls.
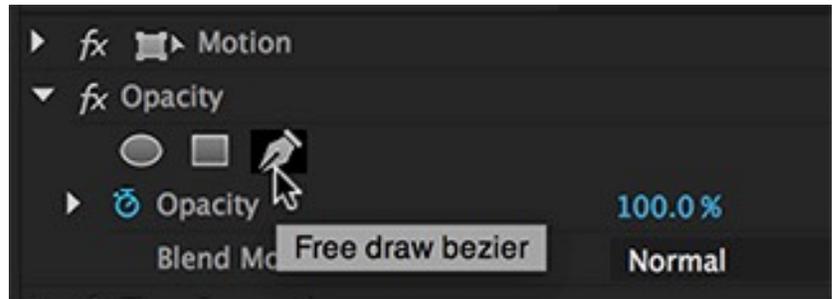
Select one of the three masking tools; I tend to use the Pen tool.

Then, click to draw a border around the objects you want to keep. To add a curve, click-hold-and-drag. Click the starting point to close the circle.
To adjust a curve, click one of the square control points with the Pen tool.

When the circle is closed, you'll instantly see the finished key. And, yup, I moved the foreground image to the right and added a Gaussian Blur to the background. Before I totally finished, I'd do a bit of color correction to his face.

Done!