

Adobe Studio on Adobe Premiere Pro 1.5

A change of scenery is easy using green screen techniques

Using green screen keying techniques, you can make a person appear in different locations or environments. In the Lord of the Rings films, for example, green screen tarps were hung up around actors to enable full flexibility for incorporating computer generated background elements.

In this tutorial, you will learn how to set up and light a green screen shoot, as well as how to key the recorded green elements in Adobe® Premiere Pro® 1.5 so that you can introduce different backgrounds for the material.

To complete the second half of this tutorial, you'll need two clips: some green screen footage and the background footage that you want to replace the green elements you'll key out.

Get started

To get things started, let me first give you some tips about the fundamentals for setting up a good looking green screen shoot.

Hang a green screen

Any place where you can rent lighting or grip equipment you can likely pick up a big roll of thick green screen paper. The rolls are typically six to ten feet wide, and you can hang them from the ceiling and unroll them to reveal a flat, pure green background.

Set up your lighting

Your screen is hung, now you need lights. Figure 1 illustrates proper lighting for the subject and green screen in medium to close-up shots. Do the best with the resources you have. Premiere Pro can help you later.

1 Position your subject far enough from the green screen that the shadows created from the lights on the subject don't cast on it. Keep an even light source on the green screen itself (L1 in Figure 1), producing an even tone. An evenly lit green screen background can be more effectively keyed out. If a green screen is lit too brightly or the subject is too close to the screen, you risk the green color reflecting off the screen and spilling onto the subject. The spill color, which could end up on clothes or the side of your subject's face, is the same color as the screen; when you key the screen, the spill area will be keyed out as well.

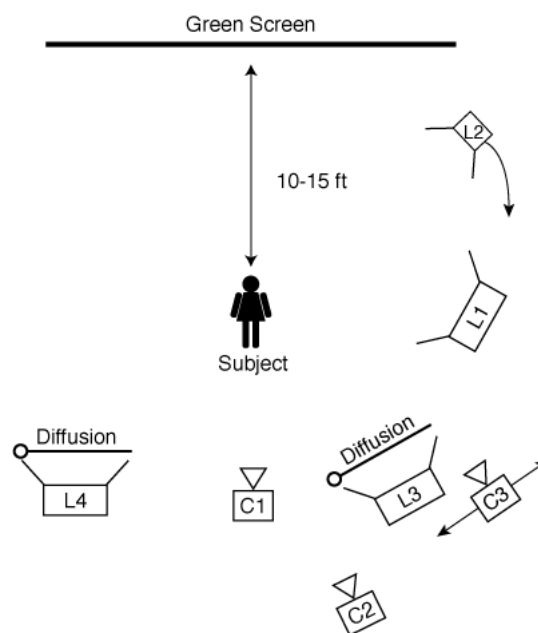


Figure 1: In this overhead shot, cameras are marked as C1 through C3 and lights as L1 through L4. Note the distance between the subject and the green screen. Also notice that both the green screen and the subject are lit from a host of angles.

2 To prevent a flat effect, place at least two lights at or slightly above head height, pointing downward on the subject (L3 and L4 in Figure 1). Of these two lights, one light should be half as bright as the other. With each light coming from a different angle, the lighting has some mild depth.

3 To create a clear distinction between the background green screen and the foreground subject, you need a back light. This third light (L2 in Figure 1) should be small, bright, and narrowly focused at an angle so that it hits the back of your subject's head and shoulders. (See Figure 2.) In terms of exposure, the background green should be equal to the exposure of the foreground subject. The back light should be brighter so that it is visible above the lighting of the other elements. With your subject well lit, both front and back, you can more easily get an exact edge to your subject, meaning it will integrate better with whatever is keyed into the green screen.

4 With your lighting set up, you're ready to find the right camera angle and start recording.

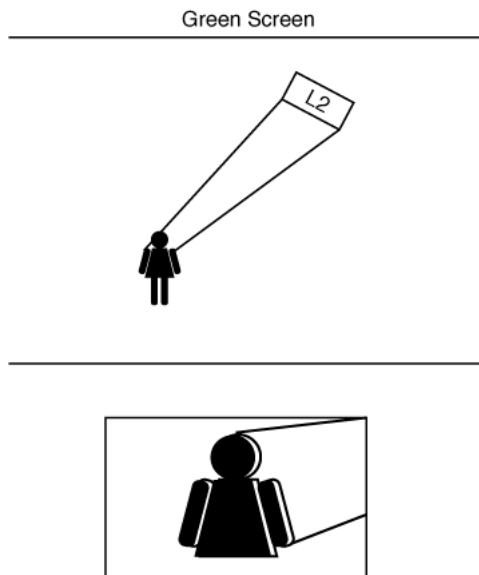


Figure 2: In the aerial view, you can see that the back light (L2) is pointed at an angle at which it can spread light over the entire back of the subject without pointing directly into any of the shooting cameras. In the head-on camera view, the outline to the subject shows the result of the light.

Key out the green elements and add background footage

Now that you have your green screen footage, you will key out the background from your shoot. As you work, you quickly will understand why you must have a bright and strong green screen background to get good results in Premiere Pro.

You'll need a background clip to complete this part of the tutorial.

1 Open your project file containing your green screen footage.

In the Timeline window set up the proper hierarchy for keying a green screen. Drag the green screen clip to Video 2, and the background clip to Video 1. (See Figure 3.) If the clips are different lengths, press the X key to activate the Rate Stretch tool, and extend the tail of the added clip to snap to the end of the clip on Video 2. The Rate Stretch tool can extend the duration of the background clip by slowing its speed while preserving the clip's assigned In and Out points in the timeline. Rate Stretch will also speed up a clip if you need to shorten it. (See Figure 4.)

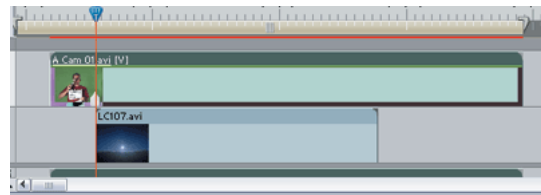


Figure 3: For the key effect, you must move the green screen clip above the content that you want to appear through the key. Here the green screen is on Video 2 and the background is underneath.

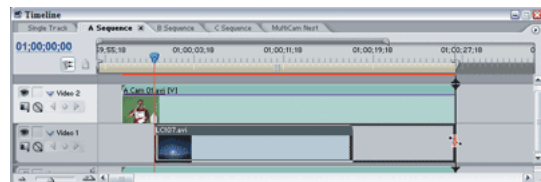


Figure 4: Rate Stretch is the perfect tool for adjusting a clip's speed to accommodate a set duration. Here, you use the Rate Stretch tool to extend the end of the background clip to the end of the clip on Video 2.

2 Drag and drop the Green Screen Key effect from the Effects/Video Effects/Keying folder onto the clip in Video 2. In the Effect Control window, drag and drop the Green Screen Key effect so that it is applied after the Color Corrector. Twirl down the Green Screen Key effect listing, adjust the Threshold to 70, and set Smoothing to High. (See Figure 5.)



Figure 5: By default, the Green Screen Key effect applies itself to the clip keying through the green screen. Because the green screen background of this image was not incredibly bright, the composited background appears through a slight haze. Note that you will want the Program Monitor's Preview mode set to Highest Quality for the most accurate results.

Next, you'll use the brand new Auto Contrast effect to adjust the contrast of your corrected image. Setting Smoothing to High ensures a higher level of sensitivity and smoothness when differentiating between the edge of what is keyed out and what is not.

3 Position the Edit Line at the beginning of the sequence. Drag and drop the Auto Contrast effect into the Effect Controls window below the Color Corrector effect listing and above the Green Screen Key effect listing. Twirl down the Auto Contrast effect listing, and assign White Clip to be 0.01. (See Figure 6.)



Figure 6: The current frame before contrast adjustments (top) and the results of the Auto Contrast adjustment (bottom). Although this slightly changes the color structure of the image, it clearly does a more accurate job of removing the key and reducing the transparency of the subject. The Auto Contrast also reduced the flat, washed out coloring of the original image.

By applying the Auto Contrast to the results of the Color Corrector effect, you can reduce any gray, washed out coloring of the clip. Once the contrast of the clip is more defined, the Green Screen Key does a more accurate job of keying out the background and green area.

You can also manually create a noticeable contrast difference for the clip by going into the HSL controls of the Color Corrector effect, and selecting and adjusting Master Tonal Range Contrast.

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Figure 7: The original image (top), the result of applying Auto Contrast to the clip (middle), and the result of adjusting the Master Tonal Range Contrast to 40 in the Color Corrector's HSL controls.

4 Save your work.

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