

## Light Wrap

by Chris & Trish Meyer, Crish Design

(formerly known as *CyberMotion*)

### Help your keyed footage and 3D renders sink into their new backgrounds.

A common visual effect is to place a person originally shot on greenscreen or bluescreen over a new background, which may well be stock footage of a city or other location you otherwise did not have access to. After you get an acceptable key, you may find that the two just don't seem to fit together: For example, the lighting may be different, making your keyed action appear to be in front of – rather than actually in – the new scene. The same applies for objects created in a 3D program.

When confronted with this problem, one of our favorite techniques to employ is “light wrap” where the background scene subtly wraps around the edges of the foreground action, helping the two merge together just as they would in the real world. We'll show you how to manually create this effect in Adobe After Effects, and then reveal a plug-in set which automates this process for you.

#### Creating a Feathered Edge

The core of the light wrap technique is to take the alpha channel of your keyed or rendered footage and create a blurred or softened copy of it. After matting, the result is a feathered edge for the alpha of the foreground object. This newly-feathered alpha is then used to reveal a small portion of the background footage, which is composited on top of your original foreground element to give the illusion of the background image wrapping around that element.

As we will be re-using the same source elements (the keyed footage and new background) more than once to create this composite, we like to place the original versions of these shots in their own “precomps” (preliminary compositions). The precomps are used in place of the actual footage. This way, if we

need to make a change – such as to improve the key, or to swap in a different background – we only need to do it once in the corresponding precomp, rather than multiple times throughout the project.

After setting up your footage in their precomps, create a new composition, and call it something akin to “Light Edge Precomp” so you can keep track of it. Place a copy of your foreground precomp into this new composition. Then apply a blur to this footage. The amount of blur will control how far the background will wrap around the foreground element. If your blur has a Repeat Edge Pixels option, enable it, so that the edges of your overall image frame are not blurred.

Next, drag another copy of your foreground precomp into the Light Edge Precomp, and place it below your blurred copy. Set the Track Matte mode for this second copy to Alpha Inverted. This will yield just the differences between the alpha channels of your two copies of your foreground elements, resulting in just a feathered edge that travels inside of the element's original alpha.



Figure 1a

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Figure 1b



Figure 1c

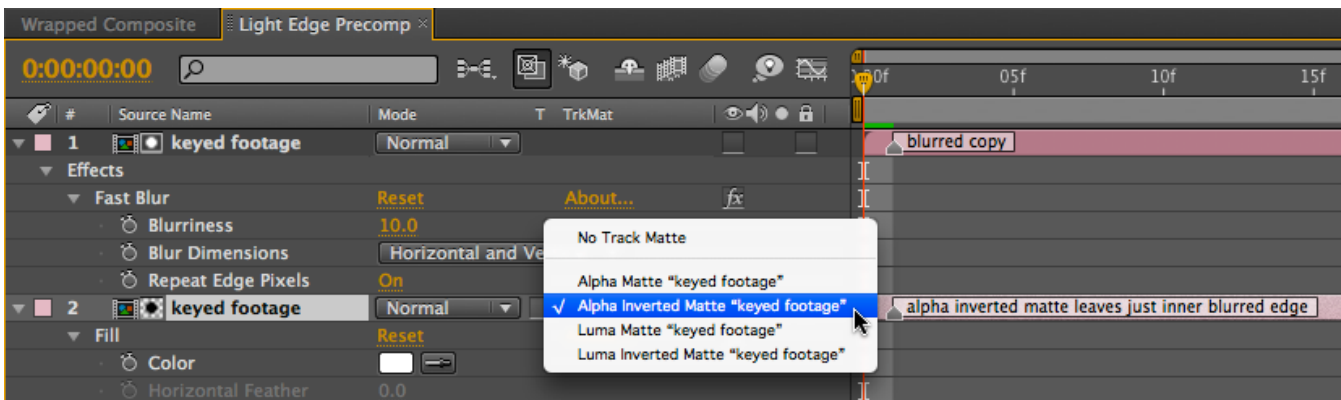


Figure 1d

Figure 1: Take your foreground element with alpha channel (a) and apply a blur to it (b). Use this blurred version as an inverted alpha matte for a copy of the original foreground (c). The After Effects timeline is shown in (d). We've filled the foreground with white to make the result easier to see here. Keyed footage courtesy of Photron, creators of the Primatte keyer.

## The Composite

Next create another composition and call it something like "Wrapped Composite." This composite will eventually contain four layers: two copies of your new background, a copy of your foreground, and a copy of the feathered alpha you created above.

First, place a copy of your foreground precomp over a

copy of your new background precomp – this is your normal composite. Unless you're very lucky or very good, chances are the foreground will stick out a bit, exhibiting a hard edge, and maybe with a bit of color spill from its original background screen.

On top of this pair, add your Light Edge Precomp as well as another copy of your background precomp, with the Light Edge Precomp as the topmost layer. Set the track matte for your second copy of the background (the one just underneath the Light Edge Precomp) to Alpha Matte mode. This will have the effect of appearing to soften the edges of the foreground.

Next, choose a blending mode for the "edge" copy of

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the background to cause it to interact more with the foreground element it is wrapping around. Different modes give different results; which one to use depends on the effect you're after. For example, Screen will brighten all of the edges, which may work well if the new background is supposed to be illuminating the foreground element (as is the case in our example here). We may also try modes such as Overlay or Hard Light, as dark areas in the background (shadows) will darken the corresponding edges in the foreground, while bright areas in the background will illuminate their corresponding edges. Adjust the Opacity of the "edge" copy of the background to control how strong the effect is.

Figure 2: A straight composite of the foreground on top of the background may have problems such as hard edges, visible color spill, and mismatched lighting (a). Using the feathered edge version of the foreground as an alpha matte for a copy of the background will help soften those edges (b). Finally, use blending modes and blurring to improve the quality of the light wrap effect (c). The After Effects timeline is shown in (d). Footage: Artbeats clip FR113 from their Forest Rays collection.



Figure 2a



Figure 2b



Figure 2c

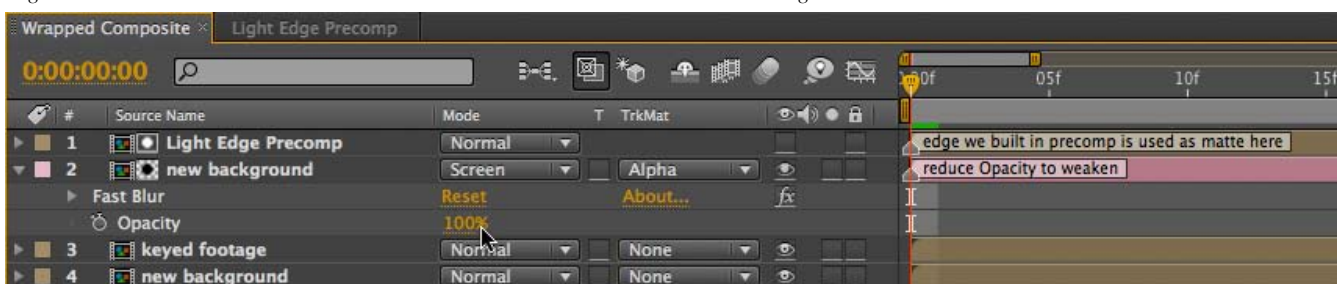


Figure 2d

For the final bit of polish, slightly blur the “edge” version of the background, so no distracting details in it will appear to cut into the foreground element. You can also adjust the amount of blur in the Light Edge Precomp to control how wide the light wrap effect is.

### **Zooming Out**

It’s been said that achieving that final 10% of quality is 90% of the work – and you may certainly be thinking that, after seeing all of the steps involved to create the light wrap effect by hand. It’s also been said that time is money – and for a little money, you can save a lot of time in creating this effect. Red Giant Software distributes a plug-in set called Key Correct Pro which, among other goodies, contains a Light Wrap effect which achieves very similar results, usually without any extra layers or precomps (the only thing lacking is a wider selection of blending modes such as Overlay or Hard Light). (Note that unless the foreground and background layers are the same width and height, you may need to prescale one or both of them in precomps so that when you apply the Light Wrap effect, the layers being composited together will line up correctly.) Key Correct Pro also contains numerous other plug-ins which can improve the quality of your composites – we think it’s a near-essential investment for anyone who regularly creates composites such as these.

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*Chris and Trish Meyer are the founders and owners of Crish Design, an award-winning motion graphics studio that has created a wide variety of work for film, broadcast, corporate events, and special venues. They are one of the original development sites for After Effects, and have two books currently in print: Creating Motion Graphics and After Effects Apprentice.*