Creating Animated Alpha Channels Tutorial

(or "You, Too, Can Make Travelling Mattes")

In the film world, when you cut a separate matte of each frame of film to follow the action of an element, you are creating a *travelling matte*. You can create the same effect in your DV files by creating an animated alpha channel. Using the same techniques described in the previous tutorial, you could create a separate matte for each frame of your video. If you think hand-cutting a separate mask for each frame of your movie sounds like a tedious chore, you're right! Fortunately, there are some techniques and tools that can greatly simplify the process.

Color Correcting Part of an Image

In Chapter 16 we showed you how to use color correction filters to change the color in your image. When a color correction filter was attached to a layer, the filter's effect was applied to every frame of the clip. In this tutorial, we're going to show you how to color correct *part* of your image—not just some frames, but a specific element *within* a frame.

Download and watch the *jose.mov* file. You should see a brief clip of a big green parrot sitting on a perch. To make a more stylized image, and to bring more attention to the bird, we want to convert the background of the image to black and white.

Converting a movie to black and white is easy; we simply use a Saturation filter to desaturate the movie, effectively stripping away all the color information. However, if you desaturate the *jose.mov* file, everything, including the bird, will be desaturated. We need a way to mask the image so that the effect is only applied to the background. In other words, we need an alpha channel.

However, unlike our previous example, the area we want to mask in this movie (the parrot in the foreground) is moving. If we use a simple, single-frame matte like we used in the previous tutorial, as the bird moves, parts of him will move outside of the mask and be subject to the same desaturation as the background. Therefore, we must create an animated mask.

Again, we assume that you will be using Adobe Photoshop and Adobe After Effects for this tutorial.

Step 1: Move Your Video into Photoshop

Photoshop can't open QuickTime movies, so you'll need to convert the *jose.mov* file into something that Photoshop can open, either a sequence of still images, or a Filmstrip file. Create a project in After Effects and import the *jose.mov* file. Create a composite of the same size, frame rate, and dimensions as the movie. Place the movie into the composite and choose Composition>Make Movie.

Create a new folder on your hard drive called *jose stills*. Title your movie *jose stills* and save it in your new folder. In the Render Queue dialog, click on the Current Settings text next to Render Settings. Set Quality to Best, and click OK. Now, click on the Current Settings text next to Output Module. Click on the pop-up menu next to Format and select Photoshop Sequence (Figure 18.2).

Click OK, and then press Render. After Effects will write out your movie as a series of Photoshop documents, numbered in sequential order. You will modify each of these documents, and then bring the modified documents back into After Effects.

Don't worry about saving this After Effects project; you don't need it for anything else.

Step 2: Open the First Frame in Photoshop

In Photoshop, open the first of your stills. Look at the image to assess what will need to be done for this effect to work (Figure 18.15). First, the good news: the background behind the parrot is composed of glass bricks that are mostly shades of gray. This means that our matte doesn't have to be perfect. If there's some extra space around the bird, it probably won't matter, as those areas will look mostly gray anyway.

Figure 18.14 This is the image we'll be masking. We'll need to create a matte that changes with the movement of the parrot.

If you go back and watch the movie again, you'll see that the parrot's movements are mostly confined to a horizontal axis and that his overall shape doesn't change too much when he moves. His feet and tail are firmly planted, and even his back and wings stay fairly stationary. His movement is confined to his head, neck, and beak. This makes our job easier.

At this point, there are two ways to proceed. You can paint a mask using the QuickMask tool, as we did in the last tutorial. After painting the mask and saving it as an alpha channel, you can copy that channel into the next frame. If the mask needs to be altered, you can correct it, and then copy that new mask to the next frame, and so on and so forth.

A more flexible alternative is to use Photoshop's Pen tool to define a path around the bird. You can use this path to create an alpha channel, then copy the path to the next frame, adjust it, create an alpha channel, and move on to the next frame.

Because they are easier to modify, we're going to use paths.

Step 3: Create a Path

Open the Paths palette and click on the New Path icon at the bottom of the palette. Select the Pen tool and begin tracing around the parrot starting on the left side where his foot touches the perch. Work all the way around, including his toes (don't worry about the

toenails, they're already black—we're worried about protecting areas of color) and the section of green visible between the wood perch and the metal perch support. Finally, work your way back to where you started, and close the path.

After completing your outline of the bird, you'll need to outline the section of tail that hangs below the perch (Figure 18.15).

Figure 18.15 We can use Photoshop's Pen tool to outline the bird, and then convert this path to a selection. Because paths are easily modified, it will be easier to change this selection for later frames.

Step 4: Convert the Path to an Alpha Channel

When you're satisfied with your paths, hold down Command and Shift and click on each path to select them all. From the Paths palette menu, choose Make Selection. Make sure Anti-aliased is checked and set a Feather value of 1. Click OK and a selection will be made, based on your path.

Step 5: Save Your Selection and Your Document

Choose Save Selection from the Select menu and accept the defaults. A new alpha

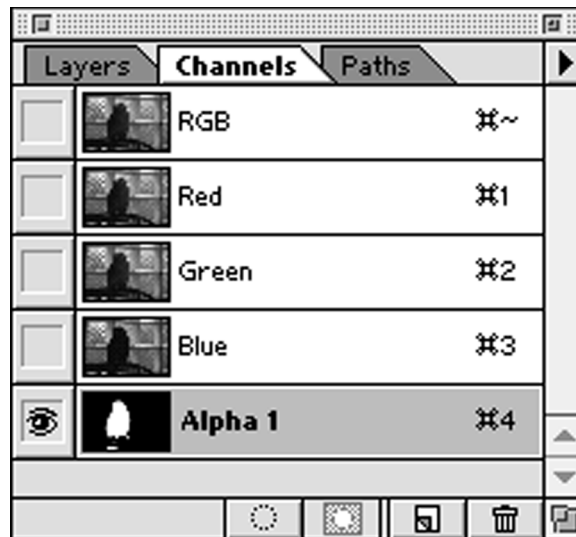channel will be created. Now save your document (Figure 18.17).

Figure 18.16 As in the previous tutorial, your Channels palette will show the red, green, blue, and your new alpha channel.

Step 6: Move Your Paths

Press Command-D to deselect your selection. Make sure that all your paths are still

selected (if not, Command-Shift click on each one to select them all), and press

Command-C to copy them. Open the next still in the sequence and press Command-V to

paste your paths into this document. If your paths need to be moved, you can drag them

to the proper position while they're still selected. If they need to be adjusted, drag

individual control points until the path fits the bird in the new frame.

Step 7: Repeat Steps 4 through 6 for Each Frame

Now, convert the paths to an alpha channel, save it, then save your document, and copy

the paths to the next frame. Continue in this manner until all of your frames have been

given an alpha channel. Many of the frames will be fine as is—you won't need to adjust

the paths. It's only when the parrot starts moving that you'll have to make a lot of

adjustments, but adjusting paths goes very quickly. When you've processed each frame,

quit Photoshop and return to After Effects.

Let Us Work for You

If you don't want to go to the trouble of cutting each matte, we've included a movie called *jose with matte.mov* that already has an alpha channel. You can use it for the remainder of this tutorial. However, to save space on the DVD, this movie has been reduced to pixel dimensions of 360 × 240. You'll need to adjust the size of your other media accordingly.

Step 8: Create a New AE Project

In After Effects, create a new project. If you are going to use the modified stills that you created earlier, choose File>Import>Import File Footage. In the ensuing dialog box, select the first frame of the sequence. Be sure to check the Photoshop Sequence box, and then click OK. If you're going to use the *jose with matte.mov* file, just import it as normal.

In the *Interpret Footage* dialog, accept the default of *Treat as Straight*. If you're using the *jose with matte.mov* file, be sure to check the Invert Matte check box (when we created the alpha channel, we masked out the foreground instead of the background—this is no big deal since After Effects can invert it on import).

Create a new composition with the same size, duration, frame rate, and pixel shape as your imported movie (Figure 18.18).
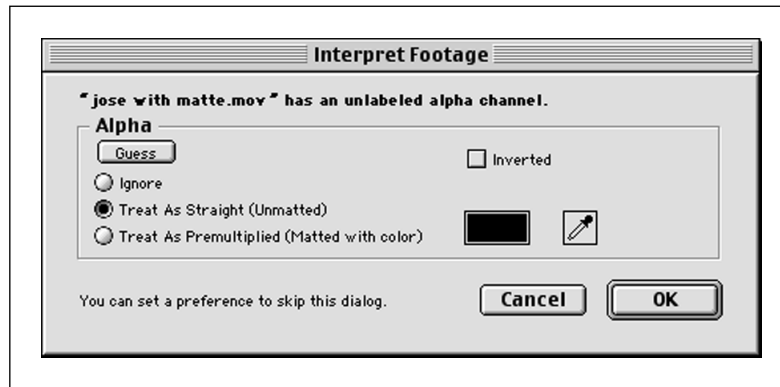
Figure 18.18 When you import the *jose with matte.mov*, be sure to select Treat as Straight in the Interpret Footage dialog. (See your After Effects manual for details.)

Step 9: Add Your Media

Place the movie in the composition. You should immediately see black in place of the background. This is because After Effects is already interpreting the alpha channel in your movie, and rendering those areas transparent. Because there's nothing beneath the movie, the masked areas appear as black.

Now, import the original *jose.mov* file and place it in your composition. In the Timeline window, drag the jose.mov layer down so that it sits below your masked layer.

Now your composition should look normal. Since the masked foreground layer is sitting on top of the original background layer, and the two layers are in perfect sync, you can't tell that any modifications have been made. In reality, you now have one layer for the background, and another layer for the foreground.

Step 10: Add Your Filters

Click once on the lower layer in the Timeline window to select it. From the Effects menu, select Adjust>Hue/Saturation. In the Hue Saturation controls, slide the Master Saturation slider down to –100. Close the Effects window.

That's it. Your background should now be grayscale, while your foreground is still color! Of course, for added effect, you can also modify the foreground layer or apply additional filters and effects to either layer.