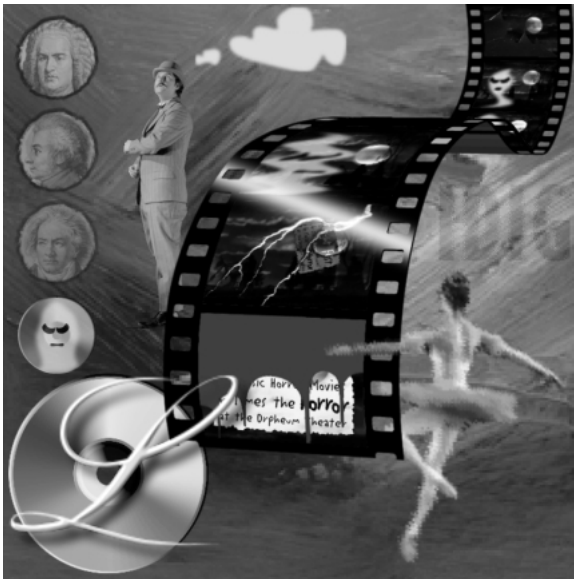


Horror Festival Ad



In this lesson, you'll use a number of techniques to control timing and synchronization of video and sound.

The project in this lesson uses original art, animation, and classic movie footage to advertise a fictional horror movie festival at an equally fictional theater. The lesson builds on the knowledge of After Effects that you have gained so far: animating Photoshop comps, animating layer properties, and using visual effects. You will also focus on timing issues, including synchronizing animation with audio, time stretching, and time remapping.

This lesson covers the following topics:

- Using a luma matte
- Time stretching
- Time remapping
- Animating and feathering multiple masks
- Using markers
- Synchronizing animation with audio
- Using a project that serves as a library of keyframes
- Using various effects
- Animating an image sequence

At the end of this lesson you will have created a 30-second TV commercial advertising a horror film festival.

It should take approximately 2 to 3 hours to complete this lesson.

Viewing the final project

Before you begin, take a look at the finished movie that you'll create in this lesson.

- 1 Double-click the Final.mov file in the 05Lesson folder to open the final QuickTime movie, and then click the Play button.

This project uses a variety of media, including captured film, video, a Photoshop comp, animated masks, and a Photoshop sequence.

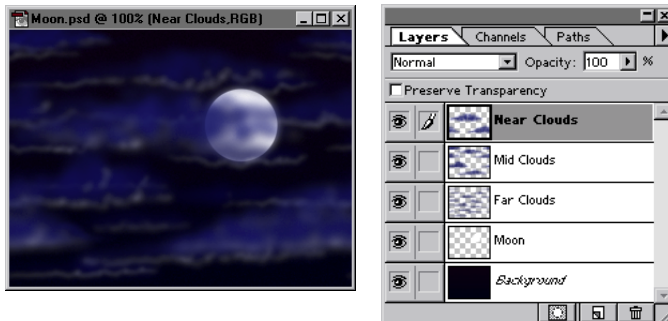


2 After watching the movie, exit from the MoviePlayer application.

Examining the Photoshop source document

To create the dramatic effect of clouds moving across a full moon, a Photoshop file with five layers was painted from scratch.

1 If you have access to Photoshop, open and examine the Moon.psd file.



The image consists of the following layers:

- *Background* (dark blue to black gradient with hue-specific noise to minimize banding)
- *Moon* (with a little glow created using a blurred copy of the moon pasted on top of itself)
- A dense layer of little clouds
- A less dense layer of bigger clouds
- A sparse layer of even larger clouds

We created the clouds with the airbrush tool, using dark blue for the body of the clouds and white for the highlights. The Offset filter in Photoshop helped us examine the edges of the cloud layers and ensure that they wrap seamlessly right to left.

2 If necessary, exit from Photoshop, and return to After Effects.

Getting started

- 1 To ensure that the tools and palettes function exactly as described in this lesson, delete or deactivate (by renaming) the After Effects preferences file. See “Restoring default preferences” on page 6.
- 2 Start the After Effects application. An untitled Project window appears.
- 3 Choose File > Save As, name the file **05Work.aep**, and save it in the Projects folder.

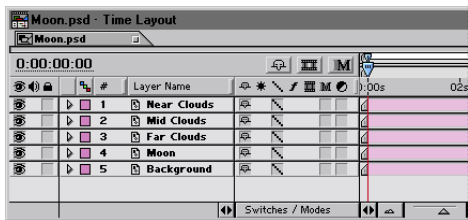
Using context menus

Context menus make it easy to access commands specific to the current window. You’ll use it now to import a file.

- 1 Right-click (Windows) or Control-click (Mac OS) in an open area of the Project window and choose Import > Photoshop As Comp. Open the 05Lesson folder, and select Moon.psd. Click Open.

The item appears as a composition in the Project window, along with a folder of individual layer images.

- 2 Double-click the Moon.psd composition in the Project window to open the Time Layout and Composition window, and notice that it consists of five layers.



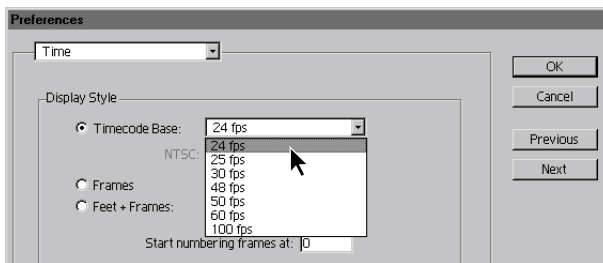
Since several clips were originally shot on film (rather than video), you'll set the frame rate of this composition to 24 fps (the frame rate of film). Matching the frame rate of the original footage makes it easier to synchronize effects.

3 Activate the Time Layout window, right-click (Windows) or Control-click (Mac OS) in an open area in the Time Layout window and choose Composition Settings from the context menu. Change the Frame Rate to **24** fps and the Duration to **30:00** (30 seconds), and then click OK.

To display the time in the ruler at 24 fps, you can change the Time preference.

4 Choose File > Preferences > Time. The Time Preferences dialog box appears.

5 Under Display Style, choose 24 fps for the Timecode Base, and then click OK.

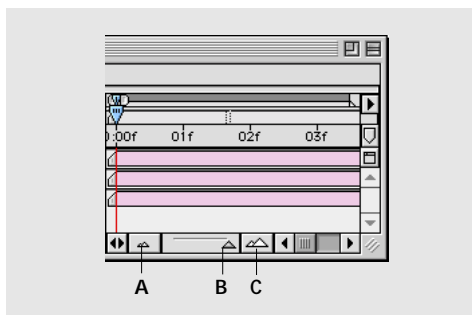


This setting affects only how the time is displayed and entered. It does not affect the frame rate of any composition.

Increasing the duration of still images

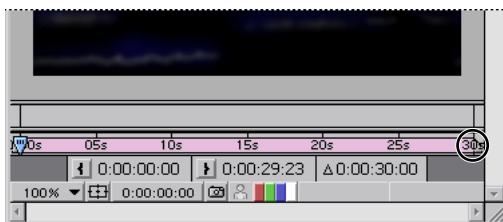
When you increased the duration of your composition, the duration of the layers did not change. You can increase the duration of still images by trimming the layer in the Layer or the Time Layout window.

- 1 Click the zoom-out icon in the Time Layout window until you can see the full duration of the composition.



A. Zoom-out icon B. Zoom slider C. Zoom-in icon

- 2 Double-click the Far Clouds layer to open the Layer window. In the Layer window, drag the Out point triangle handle to the right end of the composition to increase the duration of the still image to 30 seconds.



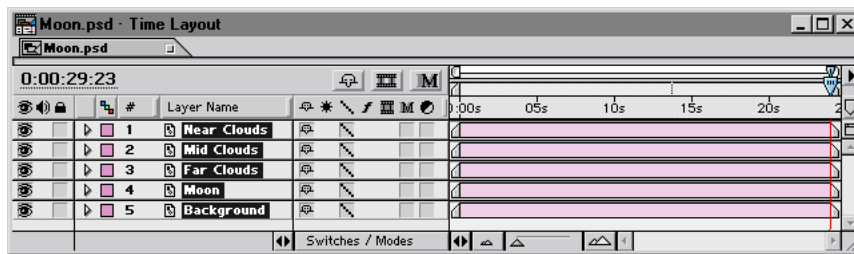
Out point triangle

- 3 Close the Layer window.

You can also change duration in the Time Layout window by using the mouse or a keyboard shortcut.

Note: You can lengthen a still-image as long as you want, but you can lengthen video footage only to its original duration. Here you'll lengthen all the still image layers to match the duration of the Far Clouds layer, which you just lengthened.

4 Move the blue current-time marker to the end of the composition either by dragging it there, or by pressing the End key on your keyboard. Click the first layer and Shift-click the last layer to select all the layers in the Time Layout window. Press Alt+] (Windows) or Option+] (Mac OS) to trim the length of the layer duration bars to the current-time marker.

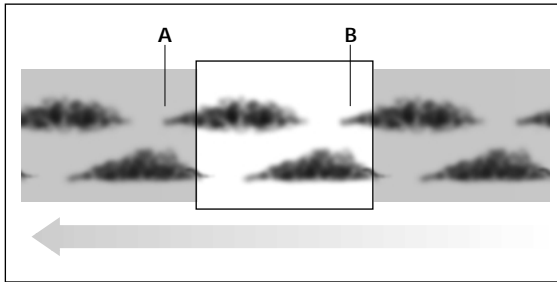


Important: Make sure you use the Alt (Windows) or Option (Mac OS) key to trim the layer. If you accidentally use the Ctrl (Windows) or Command (Mac OS) key, you will time-stretch the layer instead. If you forget and don't use any modifier key at all, the layer's Out point will snap to the last frame, but the duration of the layer will not change, meaning that the In point will move as well. These are all very useful shortcuts, but learn them well if you want to use them effectively.

Using the Offset effect

Now you'll animate the different cloud layers by using the Offset effect. This effect creates off-screen copies of the specified layer and lines them up edge to edge, repeating them as needed to create an infinitely large virtual layer that extends in two directions outside the composition. When you specify an offset, this huge virtual layer moves behind the real one, using the real layer as a sort of window through to the larger, tiled image.

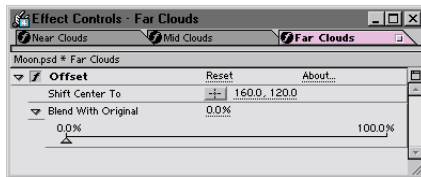
The Offset effect is particularly useful with a layer that has been designed so that it can cleanly wrap at its edges. (This effect can be used to create a continuously moving background in cartoons, for example.)



The cloud layer was designed so that as you pan from A to B, the movement of clouds appears smooth and continuous.

In your project, you'll use the Offset effect to create the illusion of cloud movement.

- 1 Set the current time to 00:00, deselect all the layers, and then Shift-click to select the Near Clouds, Mid Clouds, and Far Clouds layers.
- 2 Activate the Composition window, right-click (Windows) or Control-click (Mac OS) the layer in the Composition window and choose Effect > Distort > Offset from the context menu. The Offset effect is applied to all three layers. The Effect Controls window appears with three tabs along the top, one for each layer. You may need to resize the Effect Controls window to see all three tabs.



Tabbed Effect Controls window.

- 3 In the Effect Controls window, Alt-click (Windows) or Option-click (Mac OS) Shift Center To. This option is highlighted briefly, indicating that you have set a keyframe for this property. Using this keyboard shortcut sets a keyframe for all three layers automatically. Leave the default values, which are the current position coordinates for the layers.
- 4 Press the U key to display the animated properties in the Time Layout window; you should now see the Offset effect and the Shift Center To property displayed under each cloud layer in the Time Layout window.

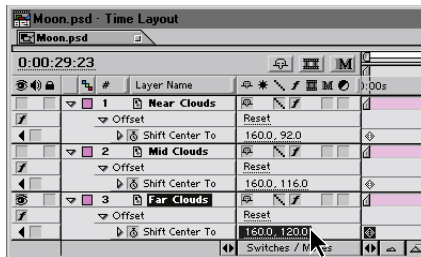
To give the illusion of depth, you will offset the three cloud layers different amounts to create motion at different speeds. Distant objects appear to move more slowly, relative to closer objects.

5 In the Time Layout window, move the current-time marker to the end of the composition and Ctrl-click (Windows) or Command-click (Mac OS) the Near Clouds and Mid Clouds layers to deselect them, leaving only the Far Clouds layer selected.

6 Hide the Near Clouds and Mid Clouds layers by deselecting their Video switches (Ⓢ) in the Time Layout window.

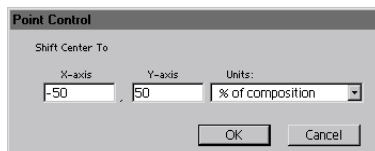
To wrap the clouds across the composition once during the course of the project, you will move the center point to the left so that the distance between the anchor point and the shifted center point is equal to the width of the composition.

7 In either the Effect Controls window or the Time Layout window, click the underlined Shift Center To value for the Far Clouds layer and then select % of Composition from the Units menu.

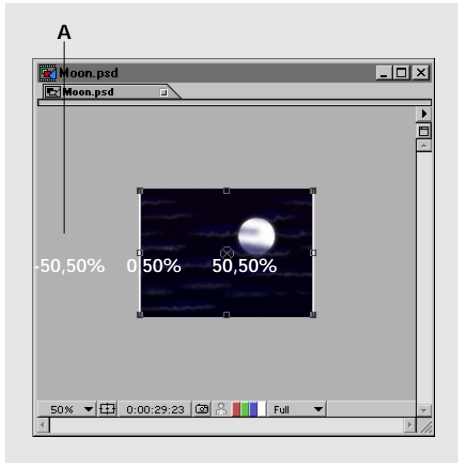


The values in the X-axis and Y-axis text boxes reflect the current center point (50%, 50%).

8 To shift the center point to the left, enter **-50** for X-axis. (Make sure the Y-axis value remains at 50%.) Click OK.



Note: The center point of the composition is 50%, 50% of Source; to move one full layer to the left, subtract 100% from the X-axis value, leaving you with a center point position of -50%, 50%.



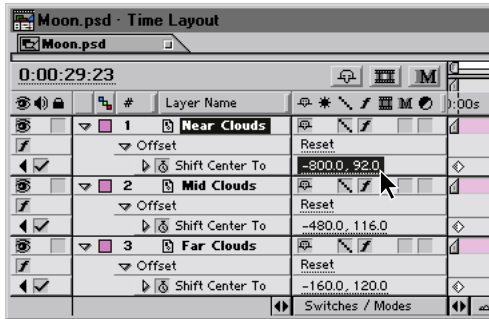
A. Center point

The Shift Center To value freezes the anchor point and creates an additional center point, around which the large virtual layer pans. Negative X-axis values shift the center point to the left; positive X-axis values shift the center point to the right. Negative Y-axis values shift the center point up; positive Y-axis values shift the center point down.

9 In the Time Layout window, click the Video switches (■) for both the Near Clouds and Mid Clouds layers to turn on their video.

10 Make sure the current-time marker is positioned at the end of the composition, select the Mid Clouds layer, click the underlined Shift Center To value, and offset it twice the width of the layer by changing the X-axis value to **-150%** of the layer (50% minus 200%). Leave the Y-axis value as is. Click OK. This layer wraps across the composition twice, making it appear twice as fast as the Far Clouds layer.

11 Select the Near Clouds layer, and offset it three times the width of the composition by changing the Shift Center To X-axis value to **-250** of the composition (50% minus 300%), and then click OK. This layer wraps across the composition three times, thus appearing three times as fast as the Far Clouds layer.



12 Set the work area markers (see “Setting a work area” on page 52) to include about 5 seconds of the offset clouds anywhere in the composition, and then click the RAM Preview button in the Time Controls palette to preview the motion you have created. The front clouds now appear to rush by, while the distant clouds creep by.

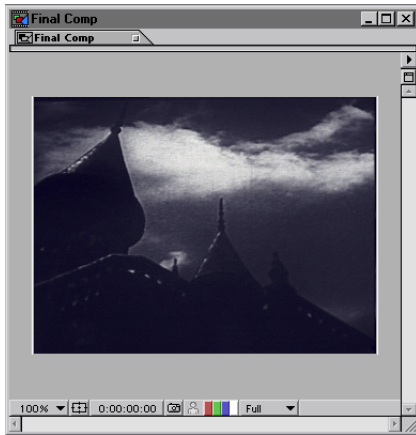
13 You're finished making changes to this composition, so close the Time Layout, Composition, and Effect Control windows and save the project.

Setting a luma matte

After setting up the composition that will serve as the final composition, you will import a half-second of a spooky-looking house that will overlay the Moon.psd layer. You will then use a luma matte to drop out the background of the movie footage using the luminance values of the matte file.

- 1 In the Project window, click the New Composition button (📄) type **Final Comp** for the name, and retain the previous settings (frame size 320 x 240, 24 fps, 30 seconds duration). Click OK.
- 2 Right-click (Windows) or Control-click (Mac OS) in an open area of the Project window and choose Import > Footage File. Select House.mov in the 05Lesson folder and click Open.

3 In the Project window, drag the Moon.psd composition on top of the Final Comp composition, and then do the same with the House.mov footage item. This is a quick way to add footage, automatically aligning it to the center of a composition.

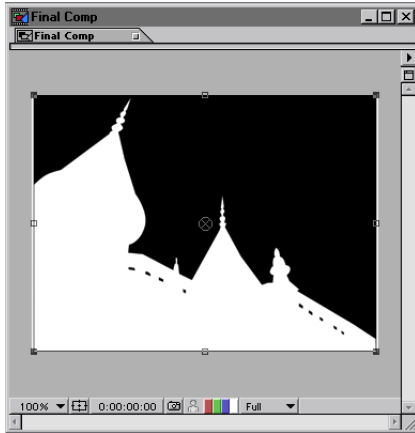


The sky in House.mov needs to be masked out, so that the animated Photoshop comp background can show behind the house. A Bezier mask would work, but too much detail in an edge can make a Bezier mask impractical. An alternative method to creating a mask in After Effects is to generate a black-and-white image in Photoshop, import the file into After Effects, and use the image as a track matte.

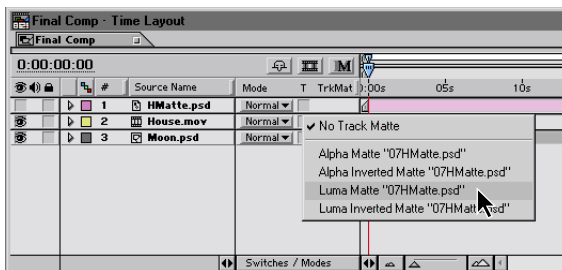
4 Right-click (Windows) or Control-click (Mac OS) in the Project window and choose Import > Footage File, select HMatte.psd from the 05Lesson folder, and click Open.

The Photoshop image was created by exporting a frame of the house video as a Photoshop image using the Composition > Save Frame As command in After Effects. The exported still was used as a template in Photoshop to create a high-contrast image, in which white fills the area of the house and black fills the area of the sky.

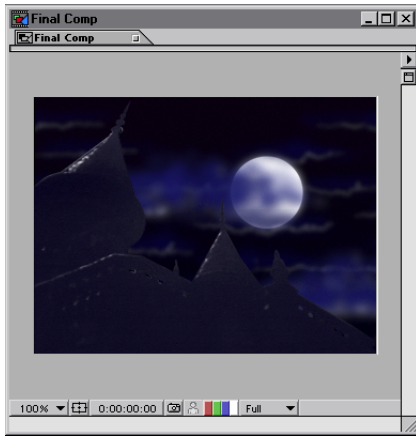
- 5 Drag HMatte.psd on top of the Final Comp icon in the Project window, to add it, centered, at the top of the stack.



- 6 At the bottom of the Time Layout window, click the Switches/Modes button to display the Transfer Modes panel.
- 7 From the TrkMat menu for the House.mov layer, select Luma Matte HMatte.psd. After Effects automatically turns off the video of the top layer (HMatte.psd), and a dotted line appears between the top two layers, indicating that one layer is used as a matte for the other.



Using a luma matte lets you create a track matte from a layer that doesn't contain an alpha channel. After Effects uses the luminance values of the layer to create transparency. The lighter the pixel, the more opaque the corresponding pixel on the underlying layer appears. The white areas of the HMatte.psd image allow the underlying image (the House.mov layer) to appear completely opaque. The black areas of the HMatte.psd image allow the underlying image to appear completely transparent, so you can see the moon image beneath. Luma mattes work best with high-contrast files like the HMatte.psd image.



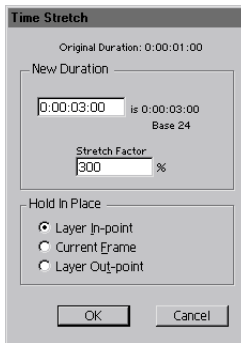
Note: If an alpha channel had been saved with the Photoshop file, the alpha matte setting could have been used instead.

Using the Time Stretch command

After viewing the House.mov footage, you will increase the duration by employing the Time Stretch command. *Time stretching* a layer slows it down or speeds it up.

- 1 Double-click the House.mov footage item in the Project window, and play the movie. The footage looks a little too flickery—a little variation in the house layer is desirable, but not this much. To slow down the flicker, you will time stretch the House.mov 300% and apply frame blending to keep the results from being too jerky.
- 2 Close the QuickTime Footage window.

- 3 Select the House.mov layer in the Time Layout window, and then choose Layer > Time Stretch.
- 4 In the Time Stretch dialog box, enter **300** for the Stretch Factor.

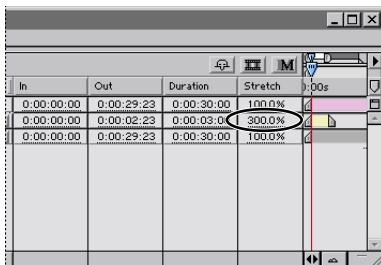


This increases the duration of the layer by 300% and redistributes the original frames along the new duration, interpolating the in-between frames. If you rendered a movie now, you would notice the flicker slowing by a factor of 3.

- 5 Make sure Hold In Place is set to Layer In-point, and then click OK.

The layer increases in duration from the In point. Notice the new Out point for the layer duration bar in the Time Layout window.

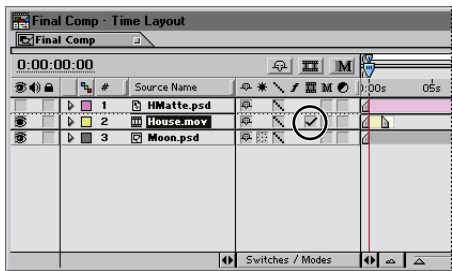
- 6 Display the In and Out panels by clicking the Optional panel button to the right of the Switches/Modes button, and verify that the value in the Time Stretch box is 300.0%. Close the In and Out panels.



Time Stretch box

- 7 Display the Layer Switches panel again by clicking on the Switches/Modes button again.

8 Smooth out the interpolated motion: in the Layer Switches panel inside the Time Layout window, select the Frame Blending option for the House.mov layer. You won't see the effect of this smoothing until you enable frame blending later in this lesson.



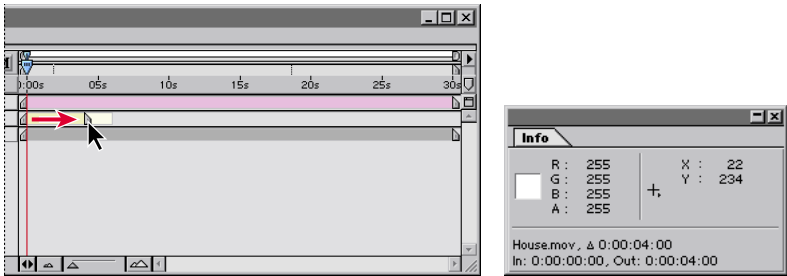
Frame Blending option

Frame blending generates cross-fades between original frames to create smoother playback of time-stretched or time-remapped frames.

The layer is still not quite long enough. You will set it to loop 2 times using the Interpret Footage dialog box.

9 Activate the Project window, right-click (Windows) or Control-click (Mac OS) the House.mov footage item, and then choose Interpret Footage > Main. Under Looping, enter 2 to make the footage loop twice, and click OK.

10 To increase the duration of the layer, drag the Out point at the right end of the House.mov layer duration bar in the Time Layout window to 04:00 on the time ruler. Watch the Info palette to confirm the time position of the Out point.



Importing footage with an alpha channel

Now you will import a QuickTime movie with audio of an actress asking, “What are you trying to do, scare us half to death?” The footage is one of four old horror clips superimposed over the background.

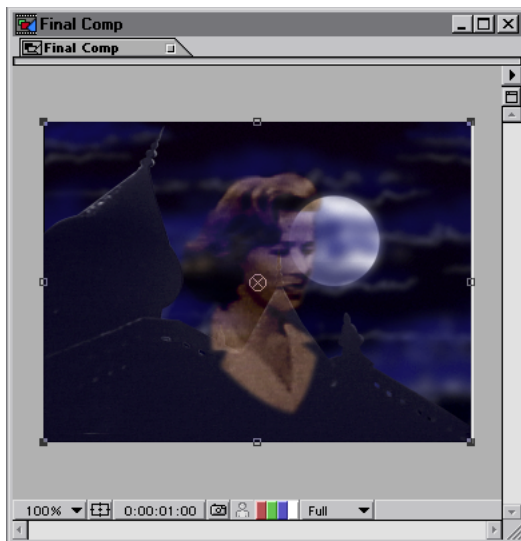
After scaling the layer, you will apply several different effects to fade the layer in and out, and to give it a sepia tone.

- 1 Activate the Project window, right-click (Windows) or Control-click (Mac OS) in an open area of the window, and select Import > Footage File. Select the Scary.mov file. Click Open.
- 2 Double-click the footage item to open the Footage window, and then press the Play button to play the footage.



- 3 With the item still selected in the Project window, look at the footage thumbnail.
A mask for the original footage was prepared in After Effects using the pen tool, and then a traveling matte was created. To save time, the file was masked, cropped, and prerendered for you. The resulting footage is a 24-fps QuickTime movie with an alpha mask.
- 4 Close the QuickTime Footage window. In the Time Layout window, set the current time to 01:00, and drag the Scary.mov footage item from the Project window into the Time Layout window so it is centered in the Composition window.
- 5 In the Time Layout window, click the Switches/Modes button to display the Transfer Modes panel, and set the mode for the Scary.mov layer to Hard Light.

The Hard Light mode changes the resulting brightness, depending on the original layer's brightness. If the color in the top layer is lighter than 50% gray, the underlying layer lightens. If the color in the top layer is darker than 50% gray, the underlying layer darkens.



You will apply the Brightness & Contrast effect to bring out more of the detail that was lost with the Hard Light mode.

6 In the Time Layout window, right-click (Windows) or Control-click (Mac OS) the Scary.mov layer. Choose Effect > Adjust > Brightness & Contrast; experiment with the settings to get a result that you find pleasant. We set the Brightness to 18 and the Contrast to -10.

To make the image look more sepia in tone, you will use the Tint effect.

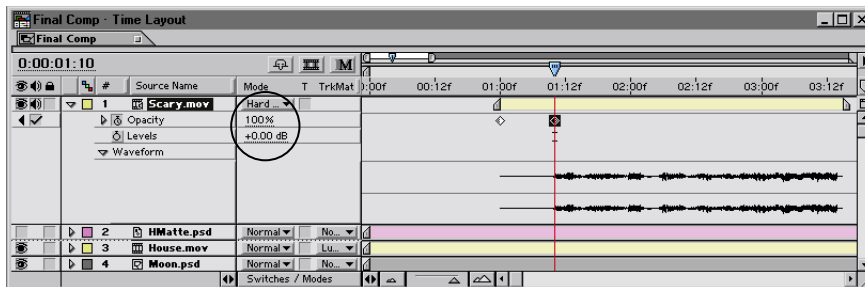
7 In the Time Layout window, right-click (Windows) or Control-click (Mac OS) the Scary.mov layer. Choose Effect > Image Control > Tint. Set the Amount To Tint slider to about 50%, click the Map Black To color swatch, and select a dark brown color. Click OK. Change the Map White To value to a pale tan, and click OK.

8 Close the Effects Control window.

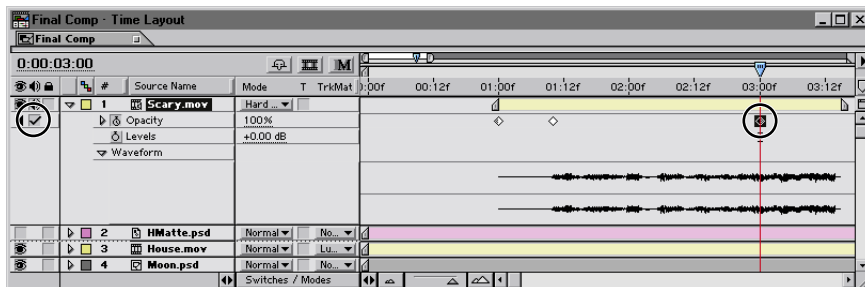
Working with the audio waveform

The image needs to fade in as the character starts talking, and then fade out again at the end of the question. To fade the image in and out, you'll set Opacity keyframes cued to the audio waveform.

- 1 In the Time Layout window, press the L key to display the Audio Levels property for the Scary.mov layer, and then click the triangle to display the waveform.
- 2 In the Time Layout window, drag the right viewing-area marker until the audio waveform fills most of the time graph, as shown in the illustration.
- 3 Press Shift-T to add Opacity to the properties displayed in the Time Layout window. Make sure the current time is set to 01:00, set an initial Opacity keyframe by clicking the stopwatch, and change the Opacity value to 10.
- 4 Move the current time to the beginning of the audio waveform at approximately frame 01:10, and then set the Opacity to 100.



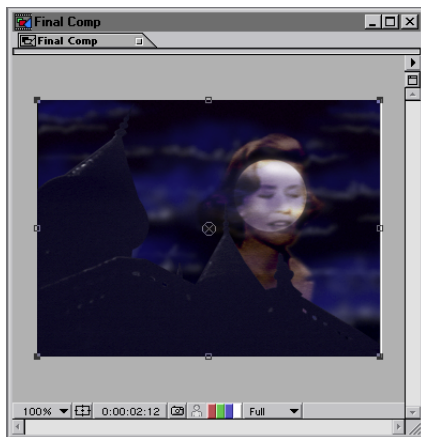
- 5 Move the current time to 03:00, and then click the keyframe navigator check box (to the left of the stopwatch icon) to set an Opacity keyframe with the same value as the previous Opacity keyframe.



- 6 Move the current time to the end of the waveform (03:14), and set the Opacity to **10**. While you're working on this clip, you'll want to increase the volume of the audio.
- 7 In the Time Controls palette, click the Audio tab to display the Audio palette.



- 8 Drag the center slider up to an Audio Level of +7.00 dB. You'll probably need to increase the vertical size of the palette to be able to select exactly +7.00 dB by dragging; as an alternative you can click in each dB box and enter the value directly, but you'll have to do it separately for each channel.
- 9 In the Time Layout window, click the triangle to the left of the Scary.mov layer name to collapse the layer, and then drag the layer down between the House.mov layer and the Moon.psd layer.
- 10 In the Composition window, set the current time to 2:12, and with Scary.mov still selected, use the arrow keys to position the layer so that the woman's facial features are approximately centered in the moon.

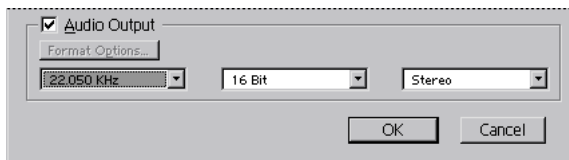


- 11 Save the project.

Rendering a draft

You might want to render a draft movie to save a preview of your work. You can always render a RAM preview, of course, but sometimes you might want to save a record of your progress, and some of you might not have enough RAM to render a longer preview. If you want to render a draft movie to check your work, you can speed up rendering time by turning off some video layers, setting a work area, and choosing draft settings.

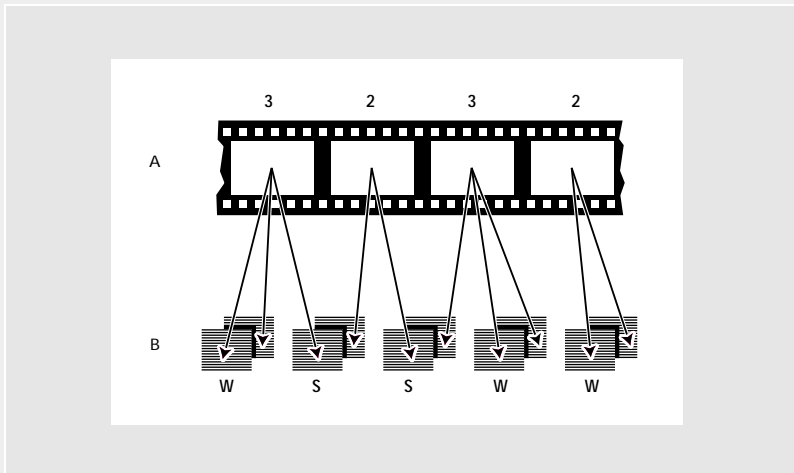
- 1 Drag the right viewing-area marker to the end of the composition so that the work-area marker is visible.
- 2 Drag the work-area markers to set the work area to begin at 01:00 and end at 03:12.
- 3 Select Final Comp in the Project window. Choose Composition > Make Movie, or press Ctrl+M (Windows) or Command+M (Mac OS). Name the movie **05Draft1.mov** and save it to your Projects folder.
- 4 Choose Draft Settings from the Render Settings menu.
- 5 Choose Custom from the Output Module menu. In the Output Module Settings dialog box, choose QuickTime Movie from the Format menu.
- 6 In Windows, the Compression Settings dialog box appears. Leave Compressor set to Animation, and then click OK. In Mac OS, leave the settings at their defaults.
- 7 Select Audio Output and choose the following settings:
 - Choose 22.050 KHz from the first pop-up menu.
 - Choose 16-bit from the second pop-up menu.
 - Choose Stereo from the third pop-up menu. Click OK.



- 8 Click Render.
- 9 After the movie is rendered, choose File > Import > Footage File, and then double-click the movie in the Project window. Click the Play button.
- 10 Close the window when you are finished viewing the movie.

About 3:2 pulldown

When you transfer 24-fps film to 29.97-fps (NTSC) video, you use a process called 3:2 pulldown, in which the film frames are distributed across video fields in a repeating 3:2 pattern. The first frame of film is copied to fields 1 and 2 of the first frame of video, and also to field 1 of second video frame. The second frame of film is then spread across the next two fields of video—field 2 of the second video frame and field 1 of the third frame of video. This 3:2 pattern is repeated until four frames of film are spread over five frames of video, and is then repeated.



When you apply 3:2 pulldown to footage, one frame of film (A) is separated into two or three interlaced video fields (B), which are grouped into video frames containing two fields each.

The 3:2 pulldown process results in whole frames (represented by a W) and split-field frames (represented by an S). The three whole video frames contain two fields from the same film frame. The remaining two split-field frames contain a video frame from two different film frames. The two split-field frames are always adjacent to each other. The phase of 3:2 pulldown refers to the point at which the two split-field frames fall within the first five frames of the footage.

Phase occurs as a result of two conversions that happen during 3:2 pulldown: 24-fps film is redistributed through 30-fps video, so each of four frames of 24-fps film is spread out over five frames of 30(29.97)-fps video. First the film is slowed down 0.1% to match the speed difference between 29.97 fps and 30 fps. Next, each film frame is repeated in a special pattern and mated to fields of video.

—From the Adobe After Effects User Guide, Chapter 3

Preparing video transferred from film

At about 4 seconds, the house fades away and a funeral scene takes its place against the sky. In this section, you will import film footage that has been transferred to video, and explore how to prepare the footage.

Because the film was transferred to videotape, 24-fps film footage was converted to 30-fps videotape by using a process called *3:2 pulldown*, which compensates for the discrepancy between the frame rate of film (24 fps) and the frame rate of video (approximately 30 fps). For more information on 3:2 pulldown, see the After Effects User Guide.

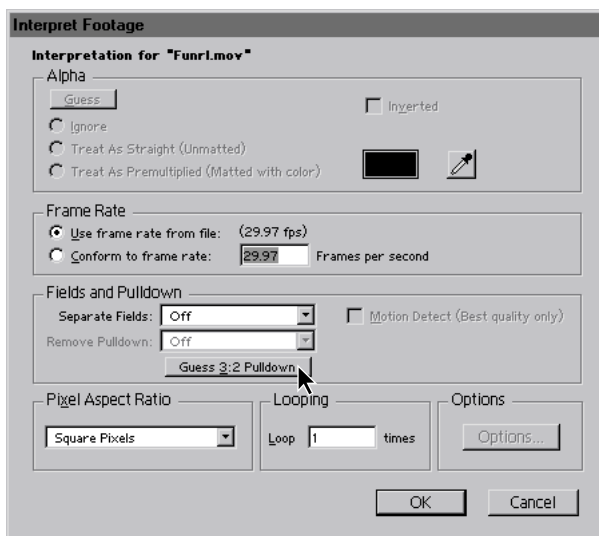
It is important to remove 3:2 pulldown from video footage that was created by transferring film to video via the telecine process so that effects created in After Effects will synchronize with the original frame rate of the film. If you don't remove the pulldown, unwanted artifacts can appear in your output.

1 Activate the Project window, right-click (Windows) or Control-click (Mac OS) in an open area of the window, and choose Import > Footage File. Then import Funrl.mov.

This footage item is 640 x 480 in size.

2 Double-click the footage item, and examine it in the Footage window. Note the horizontal, spiked lines that distort the outline of the man in the center of the frame. Pause playback and while moving forward one frame at a time, note that the lines do not appear in all frames. Observing fields that appear and disappear is the surest way to identify 3:2 pulldown. Close the window.

3 Right-click (Windows) or Control-click (Mac OS) the Funrl.mov footage in the Project window, then choose Interpret Footage > Main. In the Interpret Footage dialog box, click the Guess 3:2 Pulldown button under Fields and Pulldown.



Depending on the type of computer that you are using, and the number of frames that you are working with, it can take anywhere from a few seconds to several minutes for After Effects to analyze the footage. For this particular footage, “Upper Field First” appears in the Separate Fields menu, and “SWWWS” appears in the Remove Pulldown menu. The effective frame rate has been changed to approximately 23.976. Different footage might yield different results.

An NTSC video frame is *interlaced*, which means it consists of two *fields*, one containing the upper scan lines and one containing the lower scan lines. NTSC video with a frame size of 640 x 480 will usually yield the Upper Field First setting as the Funrl.mov footage did.

The Remove Pulldown menu reflects the *phase* of 3:2 pulldown—in this case, SWWWS. Phase is based on the sequence of whole frames and split-field frames in the footage. When the film footage was transferred to video, the 24 frames per second were redistributed to 30 frames per second, and the non-interlaced footage was converted to interlaced frames. These two conversions create a repeating pattern of five video frames, three of which are whole frames (W), and two of which are split-field frames (S). These were the frames you observed when you examined the footage before.

4 Click OK to close the Interpret Footage dialog box.

5 Alt-double-click (Windows) or Option-double-click (Mac OS) the footage in the Project window to open it in an After Effects window (rather than a MoviePlayer window, which shows the original, non-interpreted footage). Examine the frames again, one at a time, and note that the interlacing artifacts are gone. Close the Footage window.

The final medium for this project is video at 29.97 fps, so when you render this movie, you'll reintroduce 3:2 pulldown. This step ensures that effects created in After Effects synchronize with the original frame rate of the film. If you were rendering this to film at 24 fps, you would not reintroduce 3:2 pulldown.

Positioning the footage

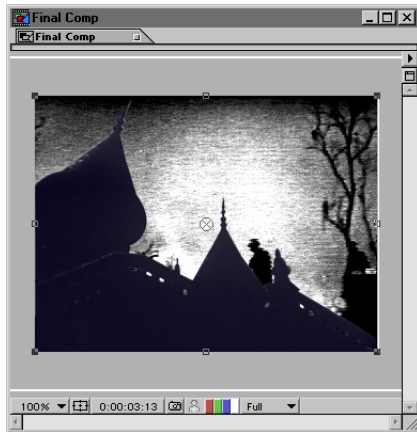
Now you'll position and scale the Funrl.mov footage.

1 In the Time Layout window, set the current time to 03:13, and then add the Funrl.mov footage item to the Final Comp Time Layout window. Position it between the House.mov and Scary.mov layers.

Since this footage is in 640 x 480 format, you will scale it down. To scale the footage to fit the Composition window, you would scale it 50%. However, you will make the footage slightly larger than that to hide the black area at the top of the footage.

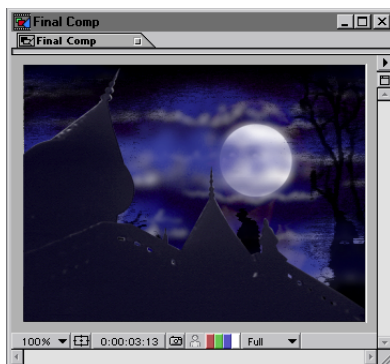
2 In the Time Layout window, press the S key to display the scale property for Funrl.mov, and click the underlined scale value. Type **65** to scale it to 65% and click OK.

3 Position the layer in the Composition window so that the lower right corner aligns with the lower right corner of the composition. Use comma and period keys to zoom in and out of the Composition window, if necessary.



4 In the Transfer Modes panel inside the Time Layout window, set the mode for the Funrl.mov layer to Soft Light.

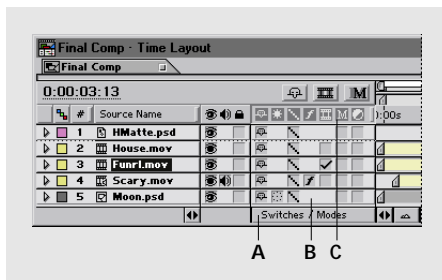
The Soft Light mode darkens or lightens resulting colors, depending on the colors in the underlying layers. If the color in the underlying layers is lighter than 50% gray, the layer is lightened. If the color in the underlying layers is darker than 50% gray, the layer is darkened. In this case, the Soft Light mode works to drop out the white areas of the black-and-white film.



Time stretching the layer

To lengthen the layer and make the mourners march in slow motion, you will time stretch the layer to 300% and use frame blending to keep the motion smooth.

- 1 Make sure the Funrl.mov layer is selected in the Time Layout window. Choose Layer > Time Stretch, enter **300** for the Stretch Factor, leave the other settings at their defaults, and click OK.
- 2 In the Time Layout window, click the Switches/Modes button to display the Layer Switches panel, and then click the Frame Blending switch for the Funrl.mov layer.



A. Switches/Modes button B. Layer Switches panel C. Frame Blending switch

- 3 Save the project.

Creating a transition between layers

To create a cross-dissolve between the House.mov and Funrl.mov layers, you will fade out the opacity of the House.mov layer and fade in the opacity of the Funrl.mov layer.

- 1 Make sure the current time is set to 03:13, press the T key to display the Opacity property, set an initial Opacity keyframe for the Funrl.mov layer, and change the Opacity value to **0**.
- 2 Select the House.mov layer, press the T key, and set an initial Opacity keyframe, leaving the value at **100%**.
- 3 Set the current time to 04:00, and then set the Opacity for the House.mov layer to **0%**. Set the Opacity for the Funrl.mov layer to **100%**.
- 4 Close the Final Comp Time Layout and Composition windows and save the project.

Creating the ghost by using solids and masks

It's at this point in the animation that the main narration comes in. It consists of audio from a classic movie trailer, *The Haunted Palace*, with spooky music followed by a melodramatic speech, more spooky music, and a scream. A fairly simple animated ghost will deliver the narration.

To create the ghost, you create a new composition, and then use solids and masks for the ghost's body, mouth, and eyes. You'll animate the masks to create motion, matching the sounds to the moving mouth.

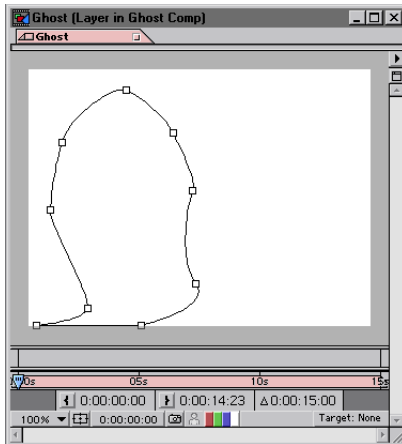
1 In the Project window, click the New Composition button (📄), type **Ghost Comp** for the name, set the Frame Size to **320 x 240**, the Frame Rate to **24** fps, and the Duration to **15:00** (15 seconds). Click OK.

2 To create a white solid that will become the ghost's body, activate the Time Layout window, right-click (Windows) or Control-click (Mac OS) in an open area of the Time Layout window and choose New Solid. Name it **Ghost** and set the size to **320 x 240** pixels. Click the Color swatch, click the white swatch, and click OK to choose white for the color. Click OK to close the Solid Settings dialog box.

You will use Bezier masks to define the shape of the ghost's body, eyes, and mouth. Don't worry too much about exactly re-creating the sample movie; a ghost is pretty ethereal, so there is a lot of room here for creativity and personal expression.

3 Double-click the Ghost layer in the Time Layout window to open it in its Layer window. Position your Layer and Composition windows so that you can see both.

4 If the toolbox is not already open, open it by pressing Ctrl+1 (Windows) or Command+1 on the main keyboard. Select the pen tool (🖋). You'll use it to draw the first ghost shape as in the following illustration. Feel free to be creative.



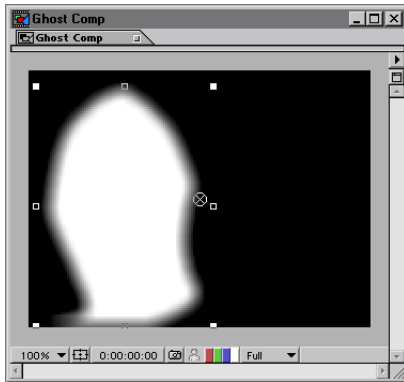
Note: To create curved lines, hold down the mouse button after you have clicked to make a control point, and then drag to lengthen the direction line and adjust the direction handles. Once you've adjusted the curve, release the mouse button, and then click again to create the next control point. See "About direction lines and direction handles" on page 91.

5 Working in the Layer window, click the pen tool to create control points along the outline of the ghost. Close the path by clicking with the pen tool on the first control point. Use the selection tool to adjust the Bezier handles and the arc of your curves.

💡 *If you can't get your mask to close using the pen tool, choose Layer > Mask > Closed.*

6 After completing the Ghost mask shape, select the Ghost layer in the Time Layout window, and display the Mask properties. To rename the mask, select the property name Mask 1, press Enter (Windows) or Return (Mac OS), type **Ghost Body**, and press Enter or Return again to change the name.

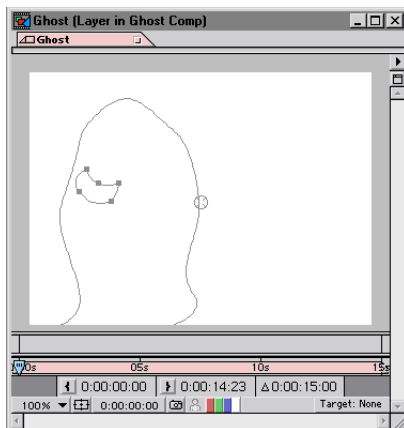
7 Press the F key to display the Mask Feather property, enter a value of about 15, and click OK. The Mask Feather value will remain constant throughout the composition.



Now you'll use the same technique to create one eye shape and the initial mouth shape in the same layer. Feel free to be creative when designing the eyes and the mouth.

8 In the Layer window, use the pen tool to draw another mask. Create something vaguely resembling a left eye. Again, feel free to experiment and customize the shape.

9 Note that the name Mask 2 has appeared under the Mask properties in the Time Layout window. Rename it as before, this time calling it **Left Eye**.



10 Once you get the eye the way you want it, click the mask name, Left Eye, in the Time Layout window. This selects all of the points that make up the mask shape. Press Ctrl-C (Windows) or Command-C (Mac OS) to copy the mask.

11 Click anywhere in the layer window to deselect everything, and then press Ctrl/Command-V to paste the mask. (If you don't deselect first, the new shape will paste in over the old one, and nothing will change.)

A new mask (Mask 3) appears in the Time Layout window, although you won't see it in the Layer window because it's exactly on top of the left eye.

12 Rename the new mask **Right Eye**.

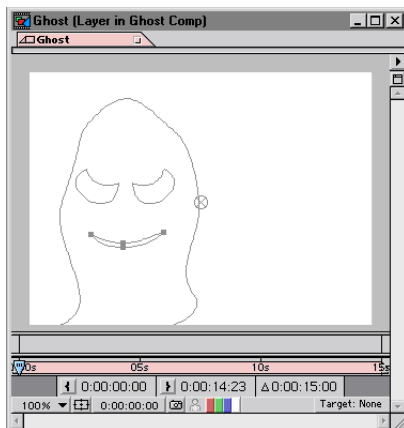
To keep the ghost's eyes symmetrical, you'll now flip the duplicated eye.

13 With the Right Eye mask still selected in the Time Layout window, activate the Layer window, and then press Ctrl/Command-T to enable Free Transform points for the selected mask points.

Your eye mask is now surrounded by eight small squares, or transformation handles, with an anchor point for the transformation in the center.

14 Drag the anchor point to the approximate position of your ghost's nose, and then drag one of the left transformation handles over to the right. This will scale the eye down and then back up again, reversed. You should now have two mirror-images of your ghost's eye. Double-click in the Layer window to exit Free Transform mode.

15 Select the pen tool and draw another mask, this time located where the ghost's mouth would be. Name it **Mouth**.



You may have noticed that the eyes and the mouth, although visible in the layer window, have had no effect on the mask in the Composition window. That's because the mask modes for these elements are still set to Add.

16 In the Transfer Modes panel, choose the Subtract mode for the Left Eye, Right Eye, and Mouth masks and they will punch holes in the layer. Close the layer window.



17 Save the project.

Animating masks

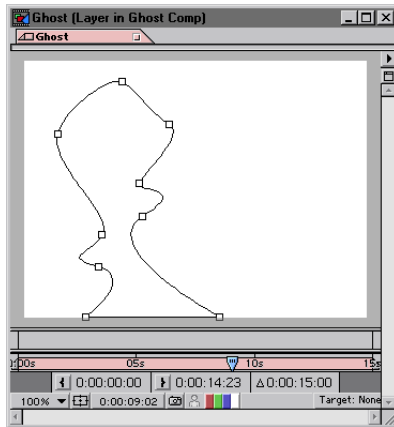
To create the effect of the ghost changing shape, you will animate the masks by setting Mask Shape keyframes and Position keyframes. The intent here is to change the shape of the ghost slightly, not to move it around on the screen. To save time, a library of keyframes has been provided. You can experiment on your own or use the keyframes from the library.

1 In the Time Layout window, make sure the current time is set to 00:00, select the Ghost layer, press the M key to display the Mask Shape properties, and then set an initial Mask Shape keyframe for the Ghost Body mask.

2 Set the current time to 01:00, and double-click the Ghost layer to open it in a Layer window. Now modify the Bezier mask to change the ghost's shape: click outside the mask to deselect all control points, click the mask outline to select it, and then click a specific control point to select it and drag it slightly in or out to change the shape of the mask.

A new Mask Shape keyframe is automatically created. After Effects will interpolate the movement between keyframes, creating ghostly motion.

3 Set the current time to 02:00, and then adjust some control points to create a new shape for the mask in the Ghost Body layer. Adjust control points again to create another shape at 03:00.



4 Close the Layer window, and then preview the animation by clicking the RAM Preview button, or press the 0 key on your numeric keypad.

You will change the mask shape several more times, at one second intervals, until you have about ten seconds of wafting motion. Although you can continue to create mask shapes on your own, you can speed things up by copying and pasting keyframes you have already completed, *or* you can use the library of Mask Shape keyframes described next. If you choose to create your own shapes, skip ahead to step 9 of the next section when you are done.

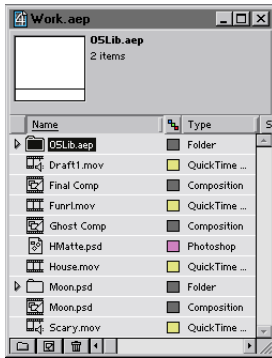
Using a library to store keyframes

When designing complex animations, it can be helpful to create a library of keyframes. For the ghost animation, a library of mask shapes for the ghost's body, and mouth has been saved as a separate project, which you will import into your current project.

1 Choose File > Import > Project, and then select the 05Lib.aep file in the 05Lesson folder. Click Open.

2 Since you have changed some files in this project, After Effects displays a message telling you that. Click OK.

The project appears as a folder in the Project window.

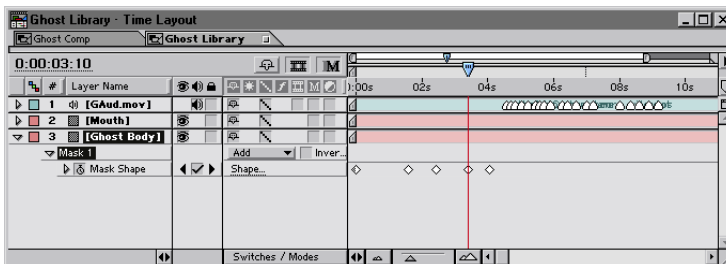


3 In the Project window, click the triangle next to the 05Lib folder to expand the outline of its contents. Then double-click the Ghost Library composition to open it.

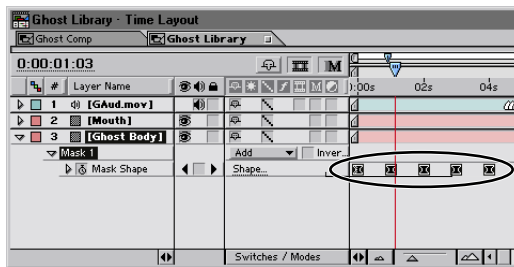
The Ghost Library composition contains a Ghost Body layer with several Mask Shape keyframes, the GAud.mov layer, and the Mouth layer. The GAud.mov layer displays several markers, which will be covered later in this lesson when you'll use them to prepare the audio layer.

To finish the ghost body, you will choose a few keyframes to copy into your Ghost composition.

4 Select the Ghost Body layer in the Ghost Library Time Layout window, press the M key to display the Mask Shape property, and then use the keyframe navigator icons (to the left of the stopwatch icon) to move from keyframe to keyframe while you examine each mask shape. (You can also press the J key to move back one keyframe, or press the K key to move forward one keyframe.)



- 5 Shift-click several Mask Shape keyframes with shapes that you prefer, and then choose Edit > Copy.
- 6 Click the tab for the Ghost Comp Time Layout to activate the Ghost Comp, set the current time to 4:00, click the mask name Ghost Body, and paste.
- 7 Click in an open area of the Time Layout window to deselect all keyframes, and then drag the position of the keyframes so that each of them aligns on a second, for example, 5:00, 6:00 and so on.
- 8 Preview the animation by clicking the RAM Preview button in the Time Controls palette, or press the 0 key on your numeric keypad.
- 9 When you are finished previewing, click Mask Shape under the Ghost Body mask in the Time Layout window to select all the keyframes for that mask, and then right-click (Windows) or Control-click (Mac OS) any one of the highlighted keyframes and choose Keyframe Assistant > Easy Ease.



Easy Ease assigned to keyframes

The Easy Ease function smooths out the rate of change through the keyframes.

- 10 Collapse the layer outlines and save the project. Set the work area, and then preview the composition by pressing the 0 key on your numeric keypad to see the results of the Easy Ease function.

Preparing the audio for an animation

To give the impression that the ghost is speaking, you'll animate the ghost's mouth. The first step in this process is to mark the dialog in the audio track. For this example, the audio has been prepared for you. The audio was imported into an audio-editing program, in this case Adobe Premiere, and timecodes were noted where important syllables or consonants occur. This results in a map of audio events.

You	04:14	se	06:10
are	04:17	where.....	06:16
in-	04:20	hor-.....	07:00
vi-	05:01	ror.....	07:05
ted	05:05	will.....	08:00
to	05:11	be	08:08
an	05:13	your	08:14
o-	05:17	hos.....	08:21
pen	05:23	t	09:04
hou.....	06:06		

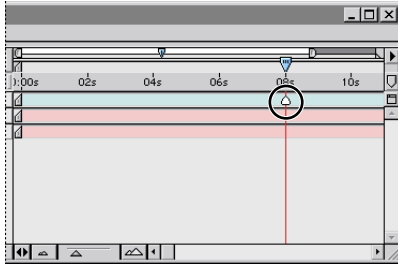
Setting these markers is time-consuming, but it makes the process of synchronizing audio very accurate. At the end of this lesson, you will learn how to map the audio directly in After Effects.

Marking the Audio layer

Once you have created an audio map, you can mark the Audio layer by using *layer-time markers*. Layer-time markers will help you position the Mouth layer mask shapes later. Once again, you can use the library if your time is limited.

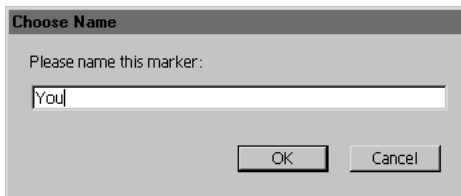
- 1 Activate Ghost Comp, make sure the current time is set to 00:00, and then drag the GAud.mov footage item from the Project window into the Ghost Comp Time Layout window.
- 2 Preview the audio you just imported: choose Composition > Preview > Audio Preview, or press the period key on the numeric keypad.
- 3 Set the current time to 04:14, where the narrative comes in and the ghost begins speaking (the first item in the audio map table).

4 To add a layer-time marker to the GAud.mov layer at the current time, press the asterisk key on your numeric keypad. A white layer marker appears on the layer duration bar.



Layer marker

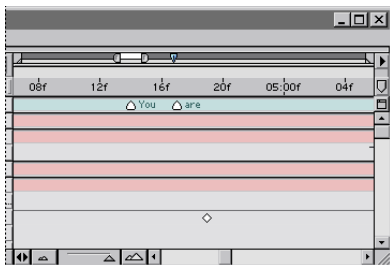
5 Double-click the white layer marker, type **You** for the name, and then click OK. This is the point in the audio where the narrator says the word *You*.



6 Set the current time to 04:17 (the next time in the audio map table), and then press the asterisk key on your numeric keypad. Double-click the layer-time marker, type **are** for the name, and click OK.

7 Drag the Zoom slider in the Time Layout window all the way to the right to see the frames.

8 If necessary, drag the viewing area markers out until you can see both of the markers.





*If you make a mistake and need to delete a layer-time marker, press the **Ctrl** key (Windows) or the **Command** key (Mac OS), and click the layer-time marker to delete it.*

9 Set the current time to 04:20, and then press the asterisk key on your numeric keypad. Double-click the layer-time marker, and type **In-** for the name. Click OK.

10 Continue setting layer-time markers according to the audio map table on page 224. If time is limited, follow the next three steps to copy the Audio layer with preset markers from the Ghost library to your Ghost composition.

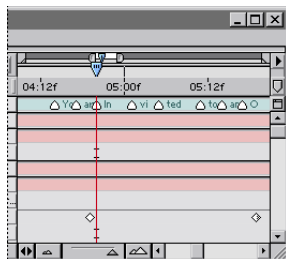
11 Click the tab for the Ghost Library's Time Layout, and then select the GAud.mov layer, and choose Edit > Copy.

12 Click the tab for the Ghost Comp's Time Layout, and then paste the GAud.mov layer into your Ghost Comp Time Layout window.

You can copy and paste a layer from one composition to another, but you cannot copy layers by dragging them from one composition to another.

13 Delete your first GAud.mov layer. It is the second one from the top.

Now the GAud.mov layer is marked according to the audio map. You can use the markers to help align the Mask Shape keyframes for the ghost's mouth.



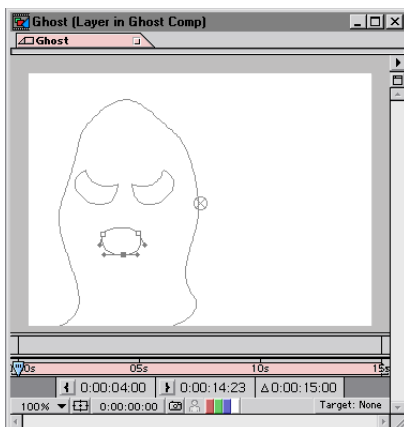
In addition to layer-time markers, you can set *composition-time* markers by dragging triangular shaped markers from the icon located at the end of the time ruler in the Time Layout window. Composition-time markers are numbered and are useful for quickly marking a limited number of points. If you need to mark more than ten points or you want to add text labels, use layer-time markers.

Matching the ghost mouth to the audio

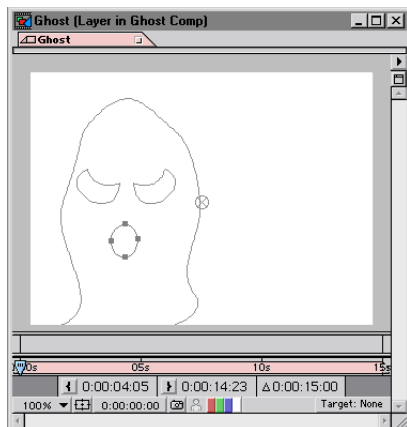
You will set Mask Shape keyframes for the Mouth layer to match the audio narration. Shapes have been created for the different syllable and vowel sounds, and you'll apply each of these shapes to the Mouth layer at the appropriate time. For example, an *O* shape will be used whenever the ghost makes an *O* sound. After Effects interpolates all of the intermediate keyframes, and the results can be very effective.

You can get a lot of practice here by setting all the mouth shape keyframes, or you can again use the keyframes available in the Ghost library. If you choose to create your own shapes, complete this section. If time is limited and you'd like to use the library of shapes, skip to the first step of the next section, "Using the library of Mask Shape keyframes" on page 228.

- 1 Set the current time to 00:00 and select the Ghost layer.
- 2 Press M to display the mask properties. Set an initial Mask Shape keyframe for the Mouth mask.
- 3 Move the current-time marker to 04:00 and click the keyframe navigator check box to set another Mask Shape keyframe with the same value as the previous one.
- 4 Drag the current-time marker near the layer-time marker for the word *You*, and press the Shift key to snap it to the layer-time marker.
- 5 Double-click the Ghost layer to open its Layer window.
- 6 Use the selection tool to reshape the mask into a small oval shape for the sound of the word *You*. A third Mask Shape keyframe is added to the layer.



- 7 Move to the next layer-time marker, and then modify the shape of the mask for the word *are*.

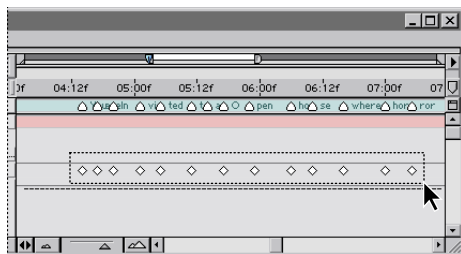


- 8 Continue moving forward, modifying mask shapes as you reach layer-time markers.
- 9 When you have modified the mask at each marker, skip to step 5 of the next section.

Using the library of Mask Shape keyframes

If time is limited, perform the following steps to copy Mask Shape keyframes from the Ghost library composition to Ghost Comp.

- 1 In the Time Layout window, click the Ghost Library tab, and then display the Mask Shape property for the Mouth layer (not the audio layer).
- 2 Use the layer-time markers to locate the first Mask Shape keyframe that you want to copy, and then drag a selection marquee to select the mask shape (or shapes) that you want. Choose Edit > Copy.



3 To paste the Mask Shape keyframes into your Ghost Comp composition, click the Ghost Comp tab in the Time Layout window, select the Mouth mask in the Ghost layer, set the current time to the appropriate layer-time marker, and then paste the keyframes.

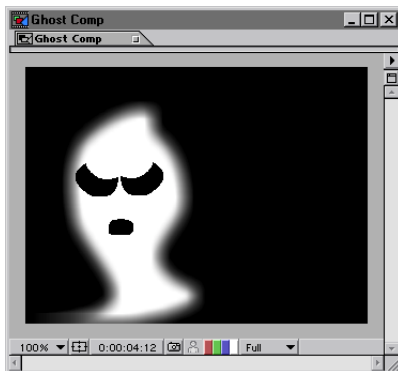
4 Align the keyframes with the layer-time markers: hold down the mouse button and then hold down the Shift key while dragging the keyframes to snap them into place at the layer-time markers.

5 Using the keyframe navigator to move from keyframe to keyframe, ensure that the appropriate shape is aligned with each layer-time marker. (You can also press the J key to move back one keyframe, or press the K key to move forward one keyframe.)

Now you'll use Easy Ease to smooth out speed changes between keyframes.

6 Click the Mask Shape property for the Mouth layer to select all the Mask Shape keyframes, and then choose Layer > Keyframe Assistant > Easy Ease.

7 Set the beginning of the work area to 04:00 and the end of the work area to 10:00. Click the RAM Preview button to see a motion preview with audio.



8 After making any necessary adjustments to the keyframes and to the positions of the mouth and eyes, close the Ghost Library Composition window and its Time Layout window.

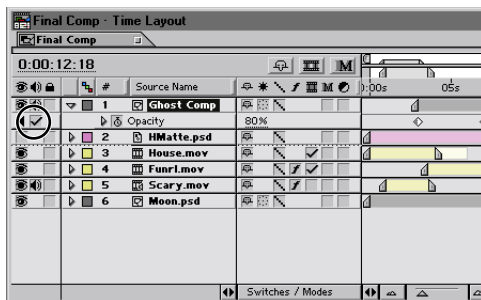
9 Close the Ghost Comp Layer windows, and save the project.

Using the Wave Warp effect

After adding Ghost Comp to the Final Comp, you will set Opacity keyframes to fade the ghost in and out. Then you will add to the ghostly appearance by applying the Wave Warp effect.

The Wave Warp effect is included in the Production Bundle version of After Effects, but is not available in the standard version. However, it has been included for you on the After Effects Classroom in a Book CD-ROM. To use the Wave Warp effect, make sure that you have installed the Wave Warp plug-in according to the instructions in the “Getting Started” chapter at the beginning of this book.

- 1 Open Final Comp and set the current time to 03:00.
- 2 In the Project window, drag Ghost Comp onto the icon for Final Comp. This will center the Ghost composition on the top of the stack in Final Comp.
- 3 In the Time Layout window, set the Opacity of the Ghost composition to **0**, and then set an initial Opacity keyframe.
- 4 Move the current time to 07:01, and then change the Opacity value to **80**.
- 5 Move the current time to 12:18, and then click the keyframe navigator check box to set a duplicate keyframe.



- 6 Move the current time to 15:04 and then set the Opacity to **0**.



To scroll the list of layers so that the selected layer appears at the top of the Time Layout window, press the X key.

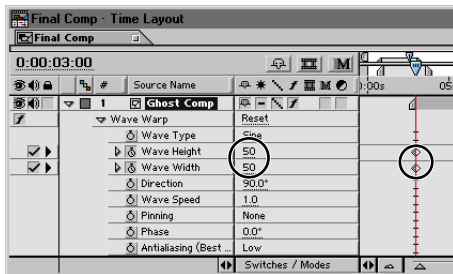
Now you're ready to apply Wave Warp, which produces the effect of a wave traveling through your image.

7 Set the current time to 03:00. With the Ghost Comp layer still selected, right-click (Windows) or Control-click (Mac OS) the layer and choose Effect > Distort > Wave Warp.

You'll set keyframes so that the Wave Warp effect will start large, fade to almost nothing during the duration of the ghost's speech, and then come on strong again during the fade-out.

8 Press the E key, and then display the Wave Warp parameters in the Time Layout window.

9 Set initial keyframes for Wave Height and Wave Width. Set both the height and width values to **50**. (To see the effect, move the current-time marker to 05:00.)



Wave Warp keyframes

10 Set the direction to **0**. Since this value will remain constant, there is no need to set a keyframe.

11 Set the current time to 05:23, and then change the Wave Height to **3** and the Wave Width to **5**. Larger numbers produce bigger waves.



12 Set the current time to 12:18 and click the keyframe navigator check box to set duplicate keyframes for both Wave Height and Wave Width.

13 Move the current-time marker to 15:04, and then set the Wave Height to **150** and the Wave Width to **150**.

Adding the Fast Blur effect

As a finishing touch, you'll add the Fast Blur effect at the beginning of the Wave Warp effect.

1 Set the current time to 03:00, and use the context-sensitive menu to choose Effect > Blur & Sharpen > Fast Blur.

2 In the Time Layout window, click the triangle for Fast Blur, and then set an initial Blurriness keyframe. Set the Blurriness amount to **40**.

3 Move the current time to 05:12 and set the Blurriness amount to **8**. Close the Effect Controls window, collapse the layer outline, and save the project.

Rendering a draft movie

Unless your computer has lots of RAM, the project is getting too long to view entirely in RAM. Both the Wave Warp and Fast Blur effects take significant time to render. There are several strategies you can use to render a draft movie to check the Ghost image.

1 Start by turning off the video for all the layers except the Ghost Comp layer. Set the beginning of the work area at 03:00 and set the end of the work area at 14:12.

2 Select Final Comp in the Project window. Choose Composition > Make Movie, name the movie **05Draft2.mov**, and save the file in your Projects folder.

3 For Render Settings, choose Draft Settings. Click the underlined phrase Draft Settings to customize the settings. In the Render Settings dialog box, select Use This Frame Rate, and enter **12**. Click OK.

4 For Output Module, choose Custom. For Format, choose QuickTime Movie.

5 In Windows, the Compression Settings dialog box appears. Leave Compressor set to Animation, and then click OK. In Mac OS, leave the settings at their defaults.

6 Select Import into Project When Done. Select Audio Output to render the audio. Click OK.

7 Render and view the movie.

Adding the lightning footage

You'll continue to assemble elements in the composition. After importing the lightning footage, you'll adjust the image with a few effects.

1 Turn on the video for all the layers except HMatte.psd. Right-click (Windows) or Control-click (Mac OS) in the Project window, choose Import > Footage File, select Litng.mov, and click Open.

2 Set the current time to 15:00 and center Litng.mov in the Composition window by dragging it from the Project window into the Time Layout window.

Now you'll increase the contrast of the image, and then use the Lighten mode to drop out the black background.

3 Press the Page Down key twice to move forward a couple of frames so that you can see the lightning image.



4 With the Litng.mov layer selected in the Time Layout window, right-click (Windows) or Control-click (Mac OS) Litng.mov and choose Effect > Adjust > Brightness & Contrast. Set the Brightness to **20** and the Contrast to **61**.

- 5 Display the Transfer Modes panel, and then set the mode to Lighten.



- 6 Close the Effect Controls window.

Fine-tuning the audio

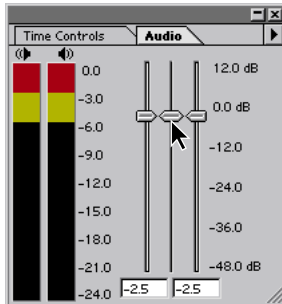
After adding several audio clips to your project, you'll adjust them by using the Audio palette and then you'll add a cross-fade.

- 1 Activate the Project window, right-click (Windows) or Control-click (Mac OS) in the Project window, and choose Import > Footage Files. Select Bass.mov and click Open. Select ScrAud.mov, click Open, and then click Done.

- 2 Set the current time to 00:00, Ctrl/Command-click ScrAud.mov to deselect it, and then drag Bass.mov from the Project window into the Final Comp's Time Layout window.

This audio gives a nice, foreboding bass growl to introduce the piece. To prevent distortion in the mix, you'll adjust the level of Bass.mov down to about -2.50 decibels (dB).

3 Click the tab for the Audio palette, make sure the Bass.mov layer is selected, and then drag the middle slider down to -2.50 decibels (dB). You may have to expand the window vertically to drag more precisely.



4 Now that you're done working with the Bass.mov layer, move it out of the way by dragging it down to the bottom of the layer stack in the Time Layout window.

5 Next, set the current time to 13:03, and drag ScrAud.mov into the Time Layout window. Adjust the volume of the audio down to about -4.00 dB.

Creating an audio fade

The audio for the Scary.mov layer is set to +7.0 dB so you can hear it better, but when the GAud.mov layer overlaps the Scary.mov layer, the audio level gets a little too high, or *hot*. To fix this, you'll cross-fade the audio in the overlap section (03:00 to 03:15).

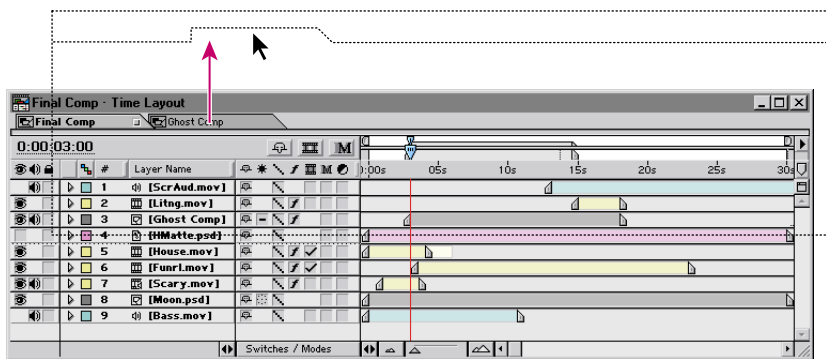
First, you should listen to the audio you are about to modify.

1 Set the current time to 00:00:00 and choose Composition > Preview > Audio Preview. Listen to the audio for the composition and watch the level on the VU meter in the Audio palette. Press the spacebar to stop the preview.

2 Set the current time to 03:00.

3 Double-click Ghost Comp in the Project window to open it in the Composition window and the Time Layout window.

4 Click the tab for the Ghost Comp composition (where the GAud.mov is placed) and drag the tab out of the Time Layout window so you can work with both time lines simultaneously. Position the two Time Layout windows so that one is directly above the other.



5 Choose File > Preferences > Display, and then make sure that Synchronize Time of All Related Items is selected, and click OK. The current-time marker will display the related time in both Time Layout windows.

6 Select the Scary.mov layer in the Final Comp Time Layout window, press the L key to display the Audio Levels property, and then set an initial Audio Levels keyframe at the current value of +7.00 dB.

7 Move the current-time marker to 03:14, and use the Audio palette to lower the levels to +0.00dB.

8 With the current time still at 03:14, select the GAud.mov layer in the Ghost Comp Time Layout window, and then set an initial Audio Levels keyframe with a value of +0.00 dB.

9 Move the current-time marker to 00:00. In the Audio palette, set the Levels to -96.00 dB by entering -96 in each level value box.

10 Save the project, and then close the Ghost Comp Time Layout window and Composition window.

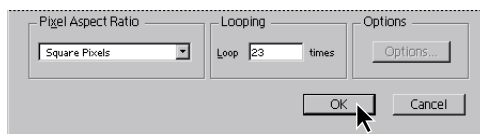
Importing an image sequence

One of the last elements of the advertisement is the title-card animation. A poster for a fictional film festival was created in Adobe Illustrator. The Roughen filter was applied to three versions, resulting in three different sets of edges for the card. All the files were then opened in Photoshop, sized to 320 x 240 (so they'd line up in After Effects), and saved as Photoshop files.

- 1 Activate the Project window, right-click (Windows) or Control-click (Mac OS) in the Project window, choose Import > Footage File, and then open the Title folder in the 05Lesson folder. Select the Title1.psd file, select Photoshop Sequence, and click Open.
- 2 Click the Guess button in the Interpret Footage dialog box to guess the type of alpha channel, and then click OK.

The three files are consolidated and appear in the Project window as a sequence. You'll now use the looping function to lengthen the sequence. You want a duration of about 2.5 seconds, so you'll loop the sequence 23 times ($23 \times 3 \text{ images} = 69 \text{ frames}$, or about 2.5 seconds).

- 3 In the Project window, right-click (Windows) or Control-click (Mac OS) the Title sequence, and choose Interpret Footage > Main. Enter **23** in the Loop entry box, and click OK.



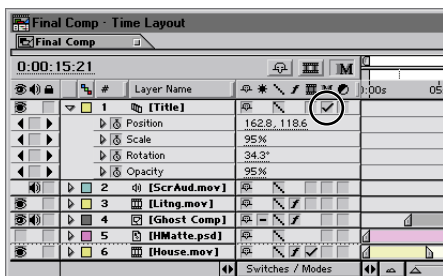
- 4 Set the current time to 15:00. In the Project window, drag the Title sequence icon onto the Final Comp icon.
- 5 Activate the Time Layout window. With the Title layer still selected, choose Layer > Time Stretch, and then enter **400** for the Stretch Factor. (This time you want the image to flicker, so you'll leave frame blending alone.) Click OK.

You'll use Position, Scale, Rotation, and Opacity keyframes to spin the poster quickly in from the moon. You'll then use the Difference mode to drop out the black while making the poster look creepier.

- 6 Set the current time to 15:21 (where the title card will end up), and display the Transform properties for the Title layer (press the P key, Shift+S, Shift+R, and Shift+T). Then set Position, Scale, Rotation, and Opacity keyframes without changing their values.
- 7 Return the current time to 15:00, and set the Opacity value to 0.
- 8 Drag the Title layer so that its center anchor point is in the center of the moon.



- 9 Change the Scale value to 0 and the Rotation value to 2 revolutions.
- 10 Set the beginning of the work area to 15:00 and the end to 16:00, and then preview the motion using RAM Preview.
- 11 In the Layer Switches panel, select the Motion Blur switch for the Title layer and click the Enable Motion Blur button. Preview the motion again and notice how motion blur makes it look more realistic.



Motion Blur switch

- 12 Set the current time to 15:21, and display the Transfer Modes panel, and then choose Difference from the Mode menu for the Title layer. This will drop out the black and blend the colors of the poster with the background.

The Difference mode subtracts the channel values of the layer and underlying colors and displays the absolute value of the result.

13 Save the project.

Creating a gradient wipe

To finish the project, dripping blood obscures the screen and a woman fades in and screams. To make the blood seem to drip, you'll use the Gradient Wipe effect and a gradient layer image to modify a red solid color layer. The gradient layer image, *Blend.ai*, was created in Illustrator.

1 Right-click (Windows) or Control-click (Mac OS) in the Project window, choose Import > Footage File, and then select the *Blend.psd* file in the 05Lesson folder. Click Open, and then click Done.

Because the Blend layer is being used to modify the red solid layer, it must be in the Time Layout window, but you don't need to see it. You can use the Send Layer to Back command to move the layer to the bottom of the layer stack in the Time Layout window.

2 Set the current time to 22:04, drag *Blend.psd* from the Project window into the Time Layout window, and choose Layer > Send Layer to Back.

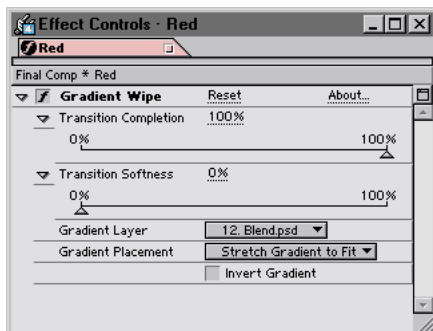
3 Choose Layer > New Solid, type **Red** for the name, set the size to **320 x 240**, click the color swatch to change the solid color to a blood red, and then click OK. Click OK again to close the Solid Settings dialog box.

4 With the Red solid layer selected in the Time Layout window, choose Effect > Transition > Gradient Wipe.

The Gradient Wipe effect creates a transition based on the luminance values of a second layer, called the *gradient layer*. The luminance of a pixel in the gradient determines the time at which the corresponding pixel in the first layer will become transparent. Lighter areas of the gradient layer represent those areas that will become solid first, followed by darker areas.

5 In the Time Layout window, press the E key to display the Effect properties, and display the Gradient Wipe effect properties. Then create an initial Transition Complete keyframe at 22:04, and set the value to **100**.

- 6 In the Gradient Wipe effect in Effect Controls window, choose the Blend.psd image from the Gradient Layer menu. The other defaults remain the same.



- 7 Move the current time to 23:15, and change the Transition Complete value to 0.
- 8 Set the time to 22:20, and then preview the effect using the Jog control at the bottom of the Time Controls palette.



- 9 Collapse the layer outlines and close the Effect Controls window.

Time remapping

As a finishing touch, footage of a screaming woman is added to the end of the movie. You will use time remapping to change the duration and speed of the layer to match audio that was acquired from a different source.

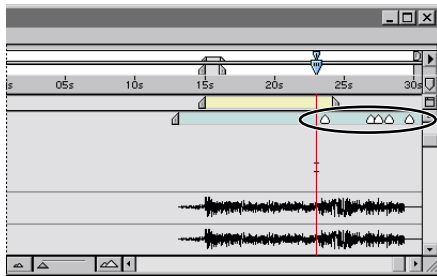
Preparing the audio and video layers

- 1 Choose File > Preferences > General, set the Audio Preview duration to 16:00, and then click OK.
- 2 In the Time Layout window, display the Audio property for the ScrAud.mov layer, and then click the waveform triangle to display the Audio waveform.
- 3 Set the current time to 23:00, and then press the Period key on your numeric keypad to preview the audio.

The ScrAud.mov footage has four screams at the end—one long one followed by three shorter ones. You will set markers at the beginning of the first scream, in between the other screams, and at the end of the last scream, framing the screams with markers.

- 4 Preview the audio again, this time pressing the asterisk key on the numeric keypad at the beginning of each scream and at the end of the last scream.

This creates layer-time markers at the points where the screams start. (You won't be able to see the markers until the preview is finished.) You can adjust the markers by dragging them along the layer duration bar. The spikes in the waveforms will help you place them. For this exercise, it is not necessary to be precise.



Layer-time markers

Enabling Time Remapping

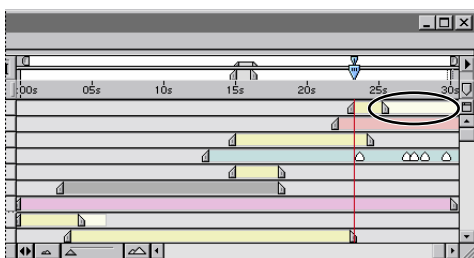
- 1 Import the ScrVid.mov file from the 05Lesson folder.
- 2 Double-click the ScrVid.mov item in the Project window, and press Play to view the footage.

The footage item is a 2-second clip of an actress screaming once, but none of the audio clips of screams is exactly 2 seconds long, so you need to enable Time Remapping to make her action fit the audio.

3 Set the current time to 23:06 (which should be near the first layer-time marker in the ScrAud.mov layer), and then drag the ScrVid.mov item from the Project window into the Time Layout window.

4 With the ScrVid.mov layer selected, choose Layer > Enable Time Remapping.

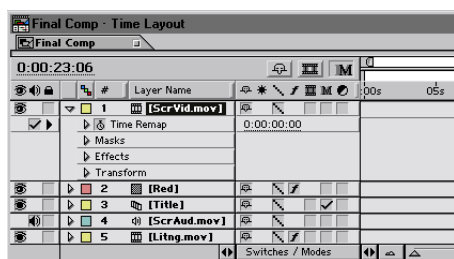
Notice that the Time Layout window now shows that this layer is trimmed. (There is now a white bar extending from the end of the layer to the end of the composition.)



Trimmed layer

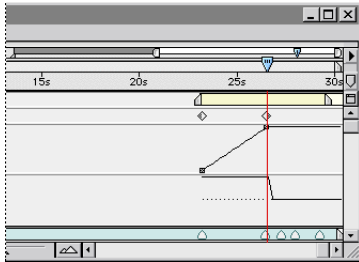
5 Grab the right triangular handle of the layer, and drag it to the end of the composition.

6 Display the layer outline for the ScrVid.mov layer.



Notice that two keyframes have been added: one set at the In point of the layer and one at 2 seconds into the layer, which is the last frame of the original footage. You can now change the duration of the layer by dragging the end keyframe wherever you want it.

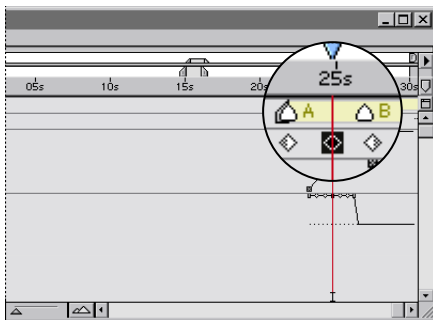
7 Display the properties for Time Remap. Drag the second keyframe to align it with the second layer-time marker of the ScrAud.mov layer (approximately 26:16). Now the actress' scream is exactly the length of the first scream in the audio.



Time Remapping works as a dynamic scrub technique, similar to using the scrub wheel on the front of a professional video deck. When you set keyframes, you are setting the video to play forward and backward.

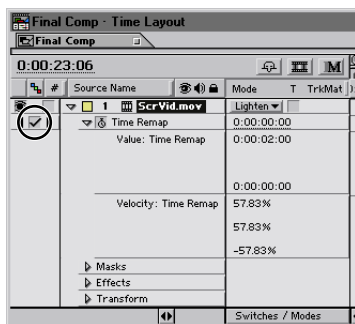
8 With the current-time marker at the first keyframe (23:06), press the asterisk key on your numeric keypad to create a layer-time marker. Double-click the layer-time marker, and name it **A**.

9 Move the current-time marker to the second keyframe, create a second layer-time marker, and name it **B**.



At this point, you could just copy the first keyframe and paste it in at the third reference marker to get her to “scream backward” and just seesaw back and forth to the end. But her mouth is open at the beginning of the footage, and she should close it between screams, so instead you will create a new keyframe at the midpoint of the scream (which is a wide-open-mouth position).

10 Position the current-time marker between keyframes A and B where the mouth is wide open, and then click the keyframe navigator check box next to the Time Remap property to set a keyframe.

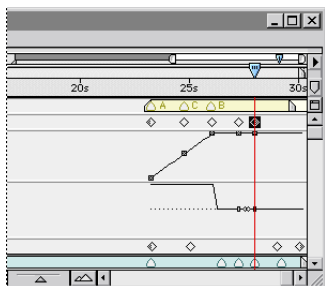


Keyframe checkbox

11 Create a layer-time marker for this keyframe, and name it C.

You now have three keyframes to play with: A, partially open; B, closed; and C, wide open.

12 Copy keyframe B and paste it at both the third and fourth layer-time markers in the ScrAud.mov layer (at approximately 27:07 and 28:04).



13 Now copy keyframe C and paste it between the second and third ScrAud.mov layer-time markers and between the third and fourth layer-time markers.

14 At the end of the last, longer scream (at approximately 29:07), copy and paste keyframe A.

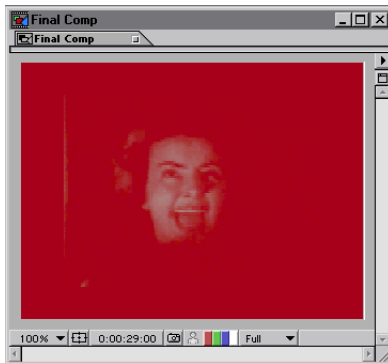
15 Click the Time Remap property to select all the Time Remap keyframes, right-click (Windows) or Control-click (Mac OS) the layer and choose Keyframe Assistant > Easy Ease.

16 Generate a RAM preview to check the results. Then collapse the layer outline.

Creating a fade

Now all that remains is to fade the ScrVid.mov layer in and out and to set the mode to Lighten so the layer shows up nicely on the blood layer.

- 1 In the Transfer Modes panel, choose Lighten from the Mode menu for the ScrVid.mov layer to drop out the black.
- 2 Set the current-time marker to 23:06, and then set an initial Opacity keyframe with a value of **0** for the ScrVid.mov layer.
- 3 Move the current-time marker to 25:00, and then set the Opacity value to **100**. Move the current-time marker to 29:00, and click the keyframe navigator check box to set a duplicate keyframe.
- 4 Go to the last frame in the composition, and set the Opacity value to **0**. Save the project.



Rendering the movie

When you render this movie, you will take a look at reintroducing 3:2 pulldown since you removed it when you imported the Funrl.mov movie.

- 1 Choose Composition > Make Movie, type **Movie.mov** for the name, and save it into your Projects folder.
- 2 In the Render Queue window, choose Best Settings for Render Settings, and then click the phrase Best Settings to display the Render Settings dialog box.

***Note:** Depending on the type of system that you have, this movie can take an hour or more to render. If your time is limited, you may want to create a draft movie or a half-size movie.*

- 3 For Frame Blending, select On For Checked Layers. This option renders frame blending for layers selected in the Switches panel, regardless of the composition's Enable Frame Blending setting.
- 4 For Motion Blur, select On For Checked Layers. This option renders motion blur for layers selected in the switches panel, regardless of the composition's Enable Motion Blur setting.

Since you removed 3:2 pulldown when you imported the Funrl.mov footage and you are preparing the final QuickTime movie for video, you will reintroduce 3:2 pulldown before rendering the movie.

In this example, you will reintroduce 3:2 pulldown with the same phase as when it was removed. However, this is not always the case. See the After Effects User Guide for more information.

- 5 For Field Render, choose Upper Field First. For 3:2 Pulldown, choose SWWWS.
- 6 Change the Time Span option to Length of Comp.
- 7 Click the Use This Frame Rate button, enter **29.97**, and click OK.

The movie will be rendered with the standard frame rate for video 29.97.

- 8 For Output Module, choose Custom. For Format, choose QuickTime Movie.

- 9 In Windows, the Compressor Settings dialog box appears. Leave Compressor set to Animation, and then click OK. In Mac OS, leave the settings at their defaults.
- 10 Select Import into project when done, and then click OK.
- 11 Select Audio Output. Choose 22.050 KHz from the left pop-up menu, 16-bit from the center pop-up menu, and Stereo from the right pop-up menu. Click OK.
- 12 Click Render.
- 13 When you are finished rendering the movie, open the footage file that appears in your Project window, and play the movie.
- 14 After viewing the movie, exit from After Effects.

Congratulations! Not only have you created a very complex movie, you've also learned a great deal about a wide range of visual effects and animation techniques.