

Ballet Special Bumper



In this lesson, you'll create a short promotional video, using more advanced settings and controls for animation.

Using video footage that comes to us courtesy of the Oakland Ballet, you will create a composition for a 10-second bumper to be used for a fictitious television special on ballet. A *bumper* is a short clip, similar to a commercial, informing TV viewers of what's coming up. They are usually shown before a commercial; the opening credits of the actual program follow the commercial.

This lesson builds on your knowledge of setting keyframes and expands on the concept of animating layers over space and time.

As you create this project, you will focus on using the Basic Text effect for creating text “on the fly,” changing duration and In points and Out points of layers, and modifying a motion path.

This lesson covers the following topics:

- Trimming a layer
- Using the Basic Text effect
- Copying and pasting keyframes
- Aligning and distributing layers
- Defining spatial and temporal interpolation
- Creating and modifying a motion path
- Using roving keyframes

At the end of this lesson, you'll have a 10-second bumper for a television special.

It should take approximately 3 to 5 hours to complete this project.

Viewing the final project

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

- 1 Double-click the 02Final.mov file in the 02Lesson folder to open the final QuickTime movie, and then click the Play button.



This movie consists of digitized video as QuickTime video footage, an audio file, and a number of animated pieces of text created within Adobe After Effects. Several different motion controls are used to get the text to swirl off the screen.

The featured dancer is Jill Taylor, of the Oakland Ballet, dancing Tchaichovsky's Sugar Plum Fairy from the Nutcracker Suite.

- 2 When you are finished, exit from the MoviePlayer application.

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 **02Work.aep**, and save it in the Projects folder.

Size and memory considerations

The final goal of this project is to create a quick composition that will be used to present an idea for a bumper. For the sake of reducing disk space and memory requirements, the instructions are designed around a 320 x 240 format.

Using the footage and layer windows

You'll start by setting up the composition, importing a footage file, and examining the Footage and Layer windows.

- 1 Choose Composition > New Composition, and type **Ballet Bumper** for the name.



You can also create a new composition by clicking the composition icon (between the folder and the trash can icons at the bottom of the Project Window).

- 2 Choose Medium, 320 x 240 from the Frame Size menu. The Lock Aspect Ratio check box indicates that a 4:3 aspect ratio will be maintained.

The aspect ratio describes the ratio of width to height in the frame dimensions. Most frame sizes for video and multimedia have a 4:3 aspect ratio. Some motion-picture frame sizes have a wider aspect ratio, such as 16:9.

- 3 Make sure Square Pixels is selected for Pixel Aspect Ratio.

For all the projects in this book, you will use the Square Pixels option—the standard used for computer video. Pixels with a D-1 ratio are rectangular in shape. You would use this option for proper processing of sources with nonsquare pixel ratios, such as D-1 digital video equipment. For more information, see the “Technical Information” appendix at the back of this book, or see the *Adobe After Effects 4.0 User Guide*.

- 4 Leave the Resolution set to Full and the Frame Rate to 30 fps.

- 5 Set the Duration to 11:00 (enter **1100**). Click OK.

- 6 Choose File > Import > Footage File, open the 02Lesson folder, select Sugar.mov, and click Open.

- 7 Select the Sugar.mov footage item in the Project window, and note the information to the right of the thumbnail image, which indicates that the item is 34 seconds and 8 frames in duration.


Depending on your future projects, you may be working with high-quality, uncompressed digital video. However, for this lesson, the Sugar.mov footage was captured at 15 fps using Cinepak compression to reduce disk space and memory requirements.

8 Double-click the Sugar.mov footage item in the Project window. The footage appears in a QuickTime Footage window.



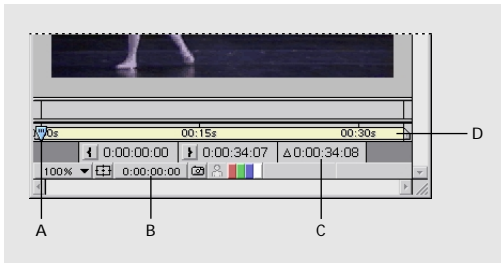
9 Click the Play button in the Footage window to view the footage. You can play QuickTime movies directly within After Effects. When you are finished viewing the movie, click the Pause button, and then close the QuickTime Footage window.

10 Activate the Time Layout window by clicking its title bar, make sure that the current-time marker is set to 00:00 by pressing the Home key or dragging the blue marker, and then drag the Sugar.mov footage item into the Time Layout window.

 *Although you can drag a footage item into the Composition window and center it manually, dragging the item directly from the Project window into the Time Layout window automatically centers it in the Composition window.*

11 Double-click the Sugar.mov layer (in either the Composition window or the Time Layout window). The Sugar.mov Layer window opens.

The Layer window lets you change attributes of an individual layer, such as duration, In and Out points, anchor point path and masks. It contains many of the same controls as you find in the Composition window and the Time Layout window, including a time display, a time ruler, and a current-time marker. Changing an attribute here affects only the instance of the item in your composition, and doesn't affect the source file.



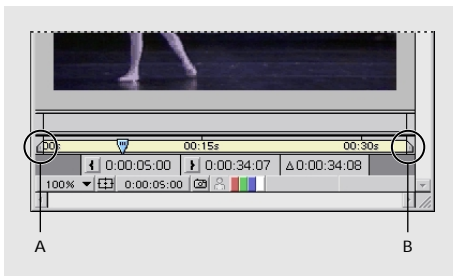
A. Current-time marker **B.** Time display button
C. Duration **D.** Time ruler

12 To preview the footage for a few seconds, press the spacebar. (Press the spacebar again to stop the playback.)

Trimming a layer

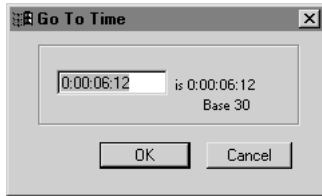
The original duration of the Sugar.mov footage item is 34 seconds, 8 frames. You need only a small section of video for your bumper, so you're going to set a new duration for the layer by *trimming* the layer in the Layer window. Trimming refers to the subtracting of frames to change a layer's duration.

Notice that the time ruler in the Layer window spans from 0 to 34 seconds, reflecting the entire duration of the source footage. Also note that just as in the Time Layout window, each end of the layer's duration bar has triangular handles indicating the layer's In and Out points.



A. In point **B.** Out point

1 In the Layer window, set the current time to 06:12. You can set the current time by dragging the current-time marker in the Layer window as you would in the Time Layout window, or by clicking the time display button at the bottom of the Layer window.



The video changes to reflect the new point in time.

2 To set the new In point to 06:12, click the In button. The layer's In point on the left moves in to the current-time marker at 06:12.



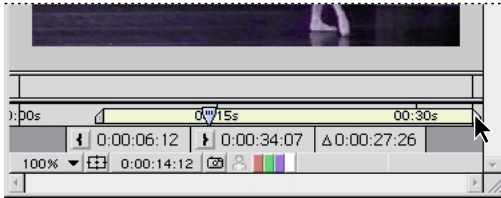
In button

3 Take a look at the Time Layout window and notice that the new In point is automatically positioned at the beginning of the composition, at frame 00:00. The first 6 seconds and 11 frames of the original source video have been subtracted from the layer and the layer has been repositioned to maintain its designated In point of 00:00 in the composition.

The Layer window and the Time Layout window reflect time in two different contexts—the Layer window shows the duration and In and Out points relative to the original footage item itself, and the Time Layout window displays them in relation to the composition.

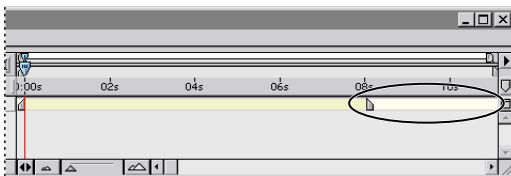
You can also trim a layer in the Time Layout window by dragging the triangular handle at either end of the layer duration bar.

4 To experiment with trimming the layer in the Layer window, position the current-time marker in the Layer window at 14:12, and then drag the layer's Out-point handle left to the current-time marker. Watch the Info palette as you drag to see the current frame for the Out point.



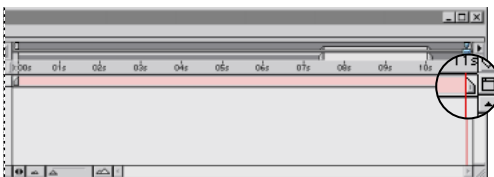
The duration of the footage item is now set to 8 seconds and 1 frame, as you can see in the Layer window's duration display. Trimming a footage item does not affect the length of the original source footage; it merely suppresses frames at the beginning or end of a layer. If you use the footage item twice in a project, you can trim the item two different ways by using each layer's individual Layer windows.

5 Take a look at the Time Layout window, and notice that the layer duration bar reflects the changes you just made. On the right side, the Out point is now positioned at 8:01. Also notice the light-shaded area beyond the right end of the layer duration bar. This shaded area indicates the suppressed frames of the layer.



Suppressed frames

6 In the Time Layout window, drag the triangular Out-point handle at the right end of the Sugar.mov layer duration bar to the end of the composition, at 11 seconds.



If you drag the layer duration bar and not the triangular handle, you will move the layer duration bar instead of changing the duration of the layer.

7 After you trim the layer, examine the Layer window. The changes you just made are reflected in the Layer window. The final duration of the layer is approximately 11:00.

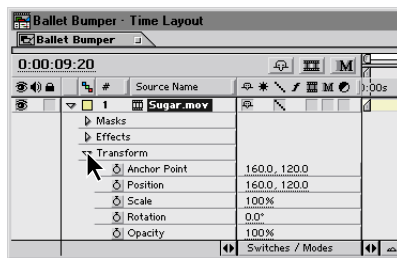
8 Close the Layer window.

Setting a fade-out

To make this layer fade out at the end of the composition, you will set Opacity keyframes.

1 Set the current time to 09:20 by dragging the blue current-time marker in the Time Layout window, by pressing Ctrl+G (Windows) or Command+G (Mac OS), or by clicking the time display.

2 Click the triangle to the left of the Sugar.mov layer in the Time Layout window, and then click the triangle to the left of Transform to expand the outline, displaying the Transform Properties for this layer.



3 Click the stopwatch (⌚) next to Opacity to set an Opacity keyframe. Leave the Opacity value at 100%.

4 Set the current time to 10:10, and then click the underlined Opacity value, enter **0**, and click OK.

Do not click the stopwatch again. A new keyframe is set automatically whenever you change a property value.

When you are done working with a layer's properties, it's a good idea to clean up the Time Layout window by collapsing the layer outline.

5 Click the triangle to the left of Sugar.mov to collapse the layer outline. Save the project.

Using the Basic Text effect

When you're ready to add text to your projects, you will most often create the type in another program, such as Adobe Illustrator, and import it into your project. However, you can also create simple text in After Effects by using the Basic Text effect. In this section, you will create several text elements using that effect.

- 1 Set the current time to 00:00 by pressing the Home key.

The text effect is applied directly to a selected layer. Since there are several different text elements to be designed, you will create a new layer with a solid image, or *solid*, for each element, and then apply the text effect to the new solid.

- 2 Choose Layer > New Solid, type **Sunday** for the name, set the size to **200 x 100** pixels, leave the color as the default gray, and click OK.

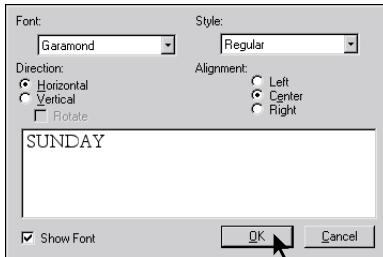
A gray solid layer appears in the Composition window.



- 3 Make sure the solid layer is selected in the Time Layout window, and then choose Effect > Text > Basic Text from the Effect menu. The Type dialog box appears.
- 4 In the text entry box, type **SUNDAY** (uppercase), ensure that the Center Alignment button is selected, and choose Adobe Garamond or a similar font in the Font menu.

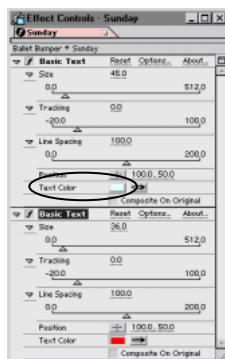
Note: To display text in the Basic Text dialog box using the font that you have chosen, the *Show Font* option in the lower left corner must be selected. Not all fonts can be displayed; if this option is unavailable, choose another font.

5 Click OK.

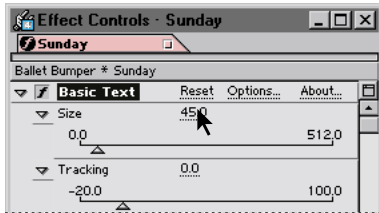


The text appears in the Composition window, in the default color red, and the Effect Controls window appears. You can set the font, size, color, position, and other type characteristics in this window. The Effect Controls window is displayed automatically whenever you apply an effect to a layer. When multiple effects are applied, a single tabbed Effect Controls window contains all controls for all applied effects. You can also display the window at any time by choosing Layer > Open Effect Controls.

6 In the Effect Controls window, click the Text Color swatch, and then use the color picker to select a light color; we used a very pale. Click OK.




7 To set the font size, click the underlined default Size value in the Effect Controls window, enter **45** in the Slider Control dialog box, and then click OK. You can also use the Size slider.



8 Leave Composite on Original display deselected.

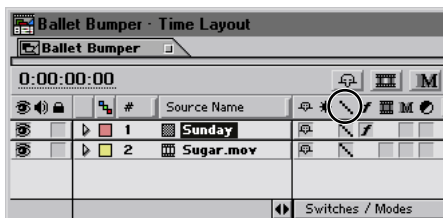
Selecting the Composite on Original option will display the original layer to which the text has been applied. (Try selecting this option; if you do, you will see the type composited on the original gray solid layer.)

9 In the Time Layout window, click the triangle to the left of the Sunday layer name to display the layer outline. Then click the triangle next to Effects to display the properties outline. Finally, click the triangle next to the Basic Text effect to display its properties. You can change text effect values here in the Time Layout window as well as in the Effect Controls window.

 *To show only the effects for a layer in the Time Layout window, press the E key.*

If you need to edit the text, click Options for the Basic Text effect in the Effect Controls window or in the switches panel of the Time Layout window—to the right of Basic Text.

The text appears jagged because it is in the default Draft quality. (The Quality switch appears as a jagged backslash symbol in the switches panel of the Time Layout window.) Although you could change the quality to Best at this point by clicking the Quality switch, Best quality uses more RAM, so you may want to leave it in Draft quality while working. For more information on the Quality switch, see the After Effects User Guide.



The Basic Text effect is for creating the most basic text; for greater flexibility and control in setting the type, you should import text from an illustration or imaging program, such as Adobe Illustrator or Adobe Photoshop.

10 Close the Effect Controls window and click the triangle for the Sunday layer to collapse its outline.

💡 *To open the Effect Controls window, choose Layer > Open Effect Controls.*

Viewing safe zones and grids

Television sets enlarge a video image and allow some portion of its outer edges to be cut off by the edge of the screen. This is known as overscan. The amount of overscan is not consistent across television sets, so you should keep important parts of a video image, such as action or titles within margins known as safe zones. You can view safe zones in a Footage, Layer, or Composition window. When you arrange layers in a composition, do the following:

- Keep important scene elements, graphics, and actors within the action-safe zone.
- Keep titles and other text within the title-safe zone.

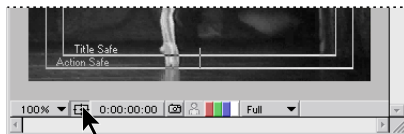
—From the Adobe After Effects User Guide, Chapter 2

Safe zones

When preparing a composition that will be output to videotape or broadcast, you need to make sure that important elements are placed within the action-safe and title-safe zones. You can change the percentage of safe margin window area in the display preferences.

1 In the Composition window, click the safe-zones icon to the immediate right of the Magnification menu.

Safe zones overlay the composition's image.



2 Drag the text to the upper left corner of the composition, within the title-safe area.

The position point for the Basic Text effect controls is positioned directly on top of the anchor point for the solid layer. When you drag the layer, don't grab the text's position point or you might reposition the text on the solid layer.



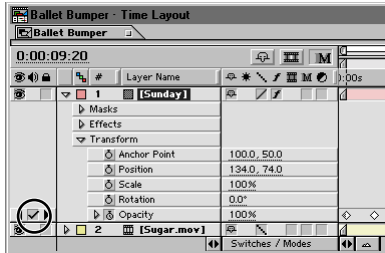
To display the safe zones, press the apostrophe key. Pressing the apostrophe key or clicking the safe-zones icon toggles the display off and on.

Animating the text opacity

Now you will animate the text opacity, making the text fade in at the beginning of the composition, and fade out at the end of the composition.

- 1 Ensure that the Sunday layer is selected in the Time Layout window.
- 2 With the current time at 00:00, click the triangle to display Transform properties for the Sunday layer, and then click the Opacity stopwatch to set an initial Opacity keyframe. Click the underlined Opacity value (currently 100%), enter **0** in the Opacity dialog box, and click OK.
- 3 Move the current-time marker to 00:15, click the underlined Opacity value, enter **100**, and then click OK. You should now have two keyframes creating a 15-frame fade in of the text.

4 Move the current-time marker to 09:20, and click the keyframe navigator check box to the left of Opacity to set a keyframe that duplicates the settings of the previous keyframe. The opacity does not change between these two keyframes.



Keyframe navigator check box

- 5 Set the current time to 10:00, and set the Opacity to 0%.
- 6 To watch the fade-in, return to the beginning of the composition; then click the Play button in the Time Controls palette (or press spacebar), and play the first second of the composition. Click Pause (or press spacebar again) when finished.
- 7 In the Time Layout window, click the layer triangles to collapse the layer outline, and then save the project.

Using the In and Out panels

You will use the same techniques to create and format the second piece of text, and then position it in time by using the In and Out panels.

- 1 Set the current time to 05:00, and then choose Layer > New Solid, type **afternoon** for the name, set the size to **200 x 100** pixels, leave the color as the default gray, and click OK.
- 2 Choose Effect > Text > Basic Text.
- 3 In the text box, type **afternoon** (lowercase), ensure that the Center Alignment button is selected, and choose a font such as Adobe Garamond or a similar font. Choose Italic for Style, and then click OK.

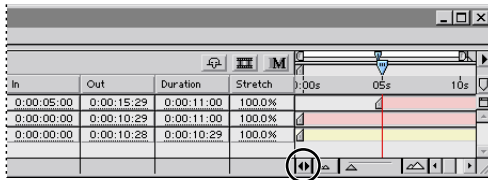
4 To change the color to the same color as the word *SUNDAY*, click the eyedropper in the Effect Controls window, and then click the word *SUNDAY* in the Composition window to sample the color.



5 Set the font size to 30 points. Close the Effect Controls window.


In the Time Layout window, notice that the layer begins at the current-time marker. New layers automatically start at the current-time marker. To change the In point, you will use the In and Out panels.

6 In the Time Layout window, click the Optional panel button at the bottom of the window to display the In and Out panels.

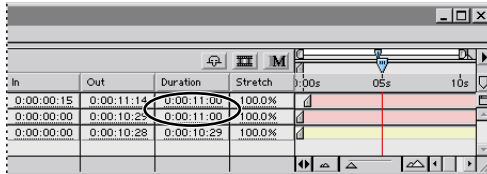


Optional panel button with panels displayed

The In and Out panels appear. Use these panels to display and edit values for In point, Out point, time-stretch duration, and other time options in the Time Layout window.

 *To move the current time marker to the layer In point, make sure that the layer is selected and press the I key. To go to the layer Out point, press the O key.*

7 Click the value in the In field for the Afternoon layer. Type **15** in the Layer In Time dialog box, and click OK. This moves the In point of the layer to 15 frames, without changing the duration of the layer.

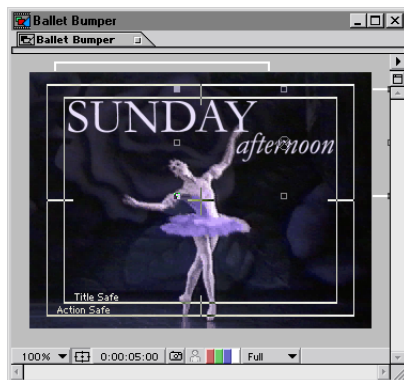


Duration remains at 11:00

8 Click the Optional panel button to collapse the In and Out panels.

9 Drag the Afternoon layer to the upper right corner of the Composition window, slightly lower than *SUNDAY*, and within the title-safe area.

10 Set the Quality to Best by clicking the Quality switch in the Time Layout window.



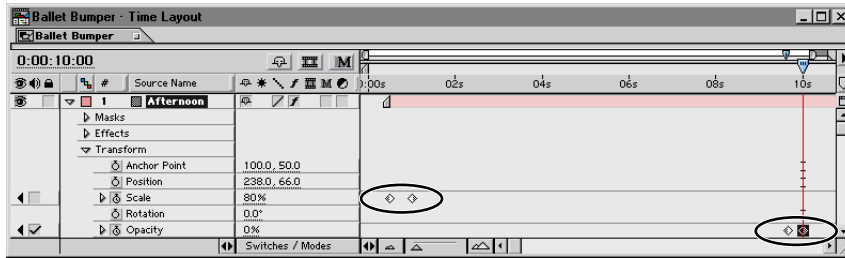
Animating the text scale and opacity

You'll animate the Afternoon layer to scale up from 0 to 80% at the beginning of the composition, and then to fade out in opacity at the end of the composition.

1 In the Time Layout window, set the current time to 00:15, and then click the triangle for the Afternoon layer. Click the triangle to display the Transform properties, and click the Scale stopwatch to specify an initial Scale keyframe. Set the Scale value to **0%**.

2 Move the current-time marker to 01:00, and set the Scale to **80%**. A keyframe is automatically created.

- 3 Move the current-time marker to 09:20, and click the Opacity stopwatch to set an Opacity keyframe, leaving the value at 100%.
- 4 Move the current-time marker to 10:00, and set the Opacity to 0%. Make sure that you have four keyframes set: two each for the Scale and Opacity properties. Collapse the Afternoon layer outline.



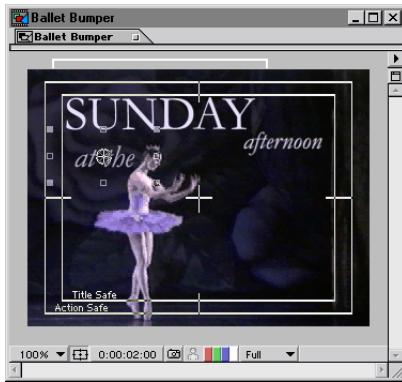
- 5 To watch the text scale up, return to the beginning of the composition, and then click the Play button in the Time Controls palette (or press spacebar) to play the first few seconds of the composition. Click Pause (or press spacebar again) when finished.
- 6 Save the project.

Creating the third piece of text

Finally, you will create and animate a third piece of text.

- 1 Move the current time to 02:00.
- 2 Choose Layer > New Solid, type **At The** for the name, set the size to **100 x 50** pixels, leave the default color as gray, and then click OK.
- 3 Make sure the At The layer is selected. Choose Effect > Text > Basic Text, type **at the** (lowercase) in the text entry box, select the Center Alignment button, and choose a font such as Adobe Garamond or a similar font. Click OK.
- 4 In the Effect Controls window for the *at the* text, use the eyedropper to choose the same color for the text as *SUNDAY* and *afternoon*, and set the font size to 30 points.

5 Position the At The layer below and slightly indented from *SUNDAY* and within the title-safe area. Set the Quality to Best.



You will set Scale and Opacity keyframes similar to those you set for the Afternoon layer.

6 Make sure the current time is set to 02:00, click the triangles for the At The layer to display the Transform properties, and then click the Scale stopwatch to set a Scale keyframe, and set the Scale value to 0%.

7 Move the current-time marker to 02:15, and set the Scale value to 80%.

8 Move the current-time marker to 09:15, and click the Opacity stopwatch to set an Opacity keyframe, leaving the value at 100%.

9 Move the current-time marker to 10:00, and change the Opacity value to 0%. Make sure that you have four keyframes set: two each for the Scale and Opacity properties.

10 Return to the beginning of the composition, and then click the Play button in the Time Controls palette (or press spacebar) to play the first few seconds of the composition. Click Pause (or press spacebar again) when finished.

11 Collapse the layer outline, close the Effect Controls window, and save the project.

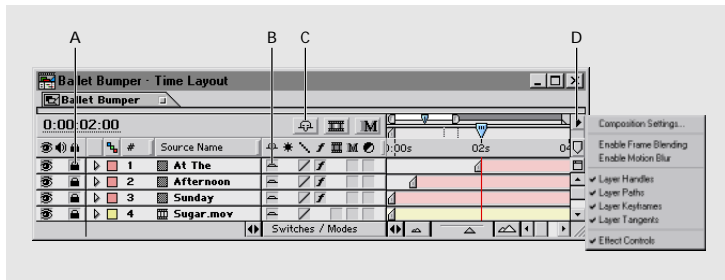
Duplicating and renaming layers

In this section, you will create separate solids for the letters in the word *ballet*. The letters need to be individual layers because you will be animating each letter separately. To create each letter, you start with one solid layer, and then duplicate the layer, edit the text, and rename the layer. The grid and the Align & Distribute palette will help you to align the layers.

1 Set the current-time marker to 2:00.

Since you will be concentrating on the ballet letter layers, it will be helpful to hide and lock the other layers in the Time Layout window temporarily.

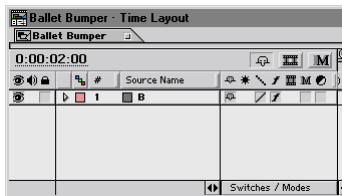
2 To hide and lock the other layers in the Time Layout window, click the Shy switch and Lock switch (shown in the illustration below) for the At The, Afternoon, Sunday, and Sugar.mov layers. Then click the Hide Shy Layers button or choose Hide Shy Layers from the Time Layout window menu.



*A. Lock switches B. Shy switches C. Click to hide shy layers
D. Time Layout window menu*

All the shy layers disappear from the Time Layout window but remain visible in the Composition window.

3 Choose Layer > New Solid, type **B** for the name, set the size to **60 x 60** pixels, leave the default color as gray, and then click OK.



4 Choose Effect > Text > Basic Text, type **b** (lowercase) in the text entry box, select the Center Alignment button, choose a font such as Adobe Garamond or a similar font, set the style to italic, and then click OK.

5 In the Effect Controls window use the eyedropper to sample the color from any of the other pieces of text, and then set the font size to **60** points. Close the Effect Controls window.

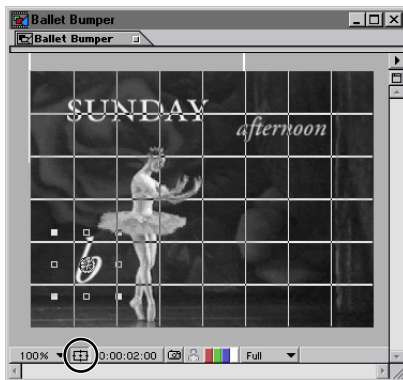
6 In the Time Layout window, set the Quality to Best.

To help you initially position and align the letter layers, you'll display a grid in the Composition window. The default proportional grid is the well suited to this purpose because it is fairly coarse.

7 Display the proportional grid: Alt-click (Windows) or Option-click (Mac OS) the safe-zones icon, or press Alt+apostrophe (Windows) or Option+apostrophe (Mac OS).

Note: You can also display a standard grid by choosing *Show Grid* from the *View* menu or by holding down *Ctrl/Command* and clicking the safe-zones icon, or by using *Ctrl+apostrophe* (Windows) or *Command+apostrophe* (Mac OS). It is possible to adjust the spacing of the grids by choosing *File > Preferences > Grids & Guides*.

8 Position the letter *b* above the lowest horizontal line and to the right of the leftmost vertical line.



Safe-zones icon

Duplicating the layer

1 With the B layer selected in the Time Layout window, choose *Edit > Duplicate*. A duplicate layer appears on top of the first layer in both the Composition and Time Layout windows.

Note: When changing the name of a layer on a Mac OS system, always use the *Return* key, not the *Enter* key on the numeric keypad. Pressing *Enter* on a Mac OS system opens a layer window for the selected layer.

2 To rename the B layer, click the duplicated layer in the Time Layout window to activate the window, and then press *Enter* or *Return*. Type **A** for the name, and press *Enter* or *Return* again to apply the new name.

To rename any layer or footage item, you must always first press Enter or Return. You can also change the source name of a solid by choosing Layer > Solid Settings and typing a new name in the Solid Settings dialog box. Changing the name in this dialog box, however, changes only the source name, and not the layer name.

3 To edit the text, click the triangle for the A layer to expand the outline, click the triangle next to Effects to display Basic Text, and then click Options next to the Basic Text effect. The Type dialog box appears.

4 Replace the *b* in the text entry box with a lowercase *a*, and then click OK.

5 In the Composition window drag the new A layer to the right of the second vertical grid line, positioning it as shown in the illustration below. (After you click the layer, hold down the Shift key as you drag to constrain direction to horizontal movement.)



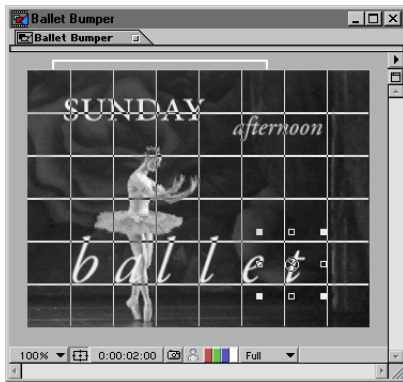
6 Click the triangle next to the A layer to collapse its outline.

7 With the A layer selected, choose Edit > Duplicate, or press Ctrl+D (Windows) or Command+D (Mac OS), and then select the new layer in the Time Layout window. Press Enter or Return, type **L** for the name, and press Enter or Return again to apply the new name.

When you duplicate a layer with a modified name in the Time Layout window, an asterisk appears next to the name of the duplicated layer.

8 Click the triangles for the L layer to expand the outline, and then click the Options button next to the Basic Text effect. Replace the *a* in the text entry box with a lowercase **l**, and then click OK.

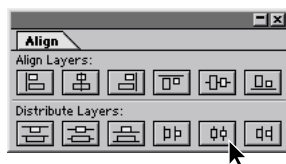
- 9 With the new L layer still selected, drag it to the right of the third vertical grid line in the Composition window, constraining movement using the Shift key as before. Collapse the layer outline in the Time layout window.
- 10 With the L layer selected, choose Edit > Duplicate, and then position the layer. (You can delete the asterisk in the name if you'd like.)
- 11 With the second L layer selected, repeat steps 7 through 9 to create an E and a T layer.




Distributing layers

Although in some cases you may want to position layers manually as you just did with the letter layers, there is an easier way to accurately distribute layers. Here, you'll use the Align & Distribute Plug-in palette to evenly space the letter layers between the *b* and the *t*.

- 1 Choose Window > Plug-in Palettes > Align & Distribute to open the Align & Distribute palette.
- 2 Select all of the letter layers in the Time Layout window by choosing Edit > Select All or by pressing Ctrl+A (Windows) or Command+A (Mac OS).
- 3 Choose the Distribute option that is second from the right (☐☐) in the Align & Distribute palette. This option distributes the selected layers evenly between the two most extreme layers (furthest left and furthest right) based upon the layers' center points.

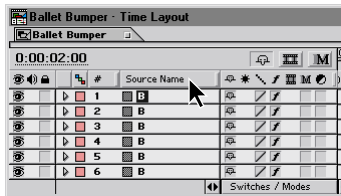


- 4 To align the baselines of the letters, choose the right icon in the top row () in the Align & Distribute palette.
- 5 Close the Align & Distribute Plug-in Palette.

Viewing layers

You can view layers two ways in the Time Layout window: by layer name or by source name.

- 1 Click the Layer Name heading above the stack of layers in the Time Layout window. The heading changes to Source Name and the Source Names appear. In this case, all the solid layers reflect that the original solid is named *B*.



- 2 Click the Source Name heading above the stack of layers in the Time Layout window to view the layer names.

If the Source Name and Layer Name are the same, the original source file's name appears inside brackets under the Layer name heading.

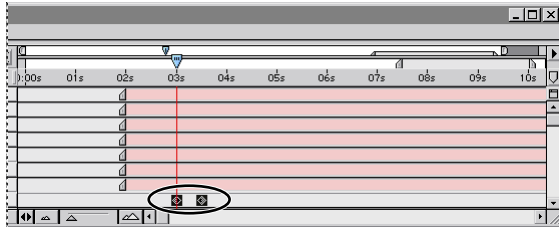
Copying and pasting keyframes

In this section, you will create the effect of the *ballet* type fading in and out. Since the fade occurs at the same interval for all the layers, you can set two keyframes for one layer, and then copy and paste the keyframes in different layers, staggered every 15 frames. While you are copying and pasting, you will practice a couple of practical keyboard shortcuts.

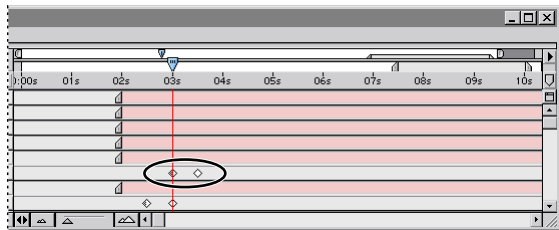
Keep in mind that when you copy two or more keyframes and paste them, the first keyframe in the range is always pasted at the current-time marker.

- 1 Set the current time to 02:15, deselect all layers, select the B layer, press the T key to display just the Opacity property, and then click the stopwatch to set an Opacity keyframe. Click the underlined Opacity value, and change it to **0%**.

- 2 Move the current-time marker to 03:00, and set the Opacity to **100%**. A keyframe is automatically created.
- 3 Select both keyframes: click the first keyframe, Shift-click the second one, and then choose Edit > Copy.



- 4 Select the A layer, make sure the current time is set to 03:00, and press the T key to display the Opacity property.
- 5 Choose Edit > Paste. The keyframes are pasted into the A layer at the current time.

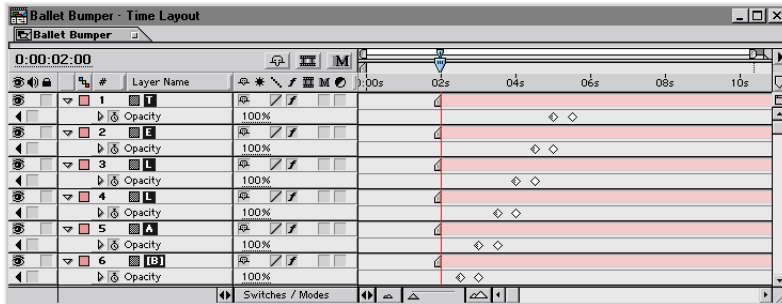


- 6 Select the L layer (above the A layer), move the current-time marker to 3:15, and then paste.

Even though the Opacity property is not displayed, the keyframes are pasted into the correct property.

- 7 Press the T key to view the Opacity keyframes.
- 8 Paste the keyframes for the second L layer at 4:00, the E layer at 4:15, and the T layer at 5:00.

9 To check the keyframes, select all the layers by choosing Edit > Select All or by pressing Ctrl+A (Windows) or Command+A (Mac OS). Then press the T key to view the Opacity properties for all the layers.



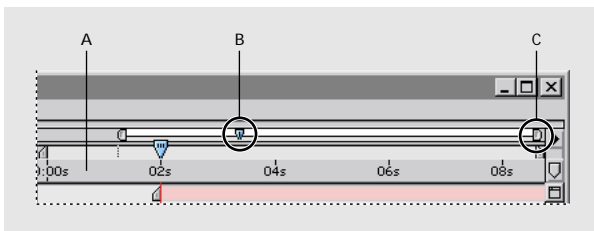
10 To collapse all the layer outlines, click any layer triangle or press the ~ (tilde) key.

11 Click in the white area below the layer stack, or press Ctrl+Shift+A (Windows) or Command+Shift+A (Mac OS) to deselect the layers, and then save the project.

Magnifying the Time Graph

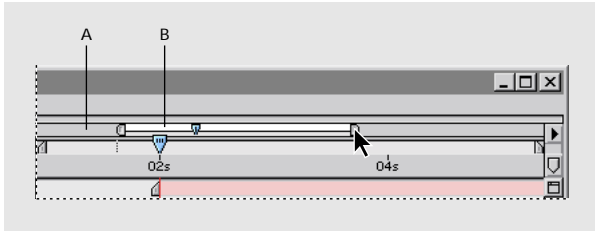
So far, the time ruler has displayed the duration of the entire composition. However, there are many times when you will want to magnify a portion of the time graph so that you can get a more detailed look at the frames.

The time graph consists of two parts: the time ruler, where you have been positioning the current-time marker, and the navigator view section directly above it, which is used to magnify or shrink a part of the time ruler. On either end of the navigator view are viewing-area markers.



A. Time ruler **B.** Navigator view **C.** Viewing-area markers

1 To magnify the time ruler, drag the right viewing-area marker to the left until it's about in the middle of the navigator view.

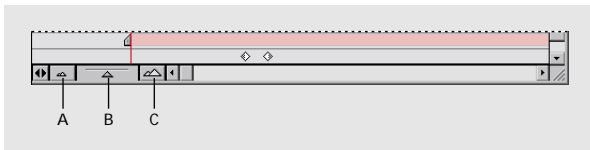


A. Gray area indicates portion you can't see **B.** White area indicates the visible portion

The time ruler now displays just the first 5 seconds or so of the composition. In the navigator view, the white area in between the viewing-area markers indicates the portion of the composition you are viewing. The gray area indicates the portion of the composition that you can't see.

2 Experiment with dragging the viewing-area markers in and out to magnify and shrink the time ruler.

You can also click the *zoom-in* icon to halve the amount of time displayed in the time ruler, or you can click the *zoom-out* icon to double the amount of time displayed in the time ruler. Use the Zoom slider to zoom in and out of the time graph by dragging it to the right or left.



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



To zoom out in the time layout window, press the = (equals sign) key above the letter keys. To zoom in, press the - (hyphen) key above the letter keys.

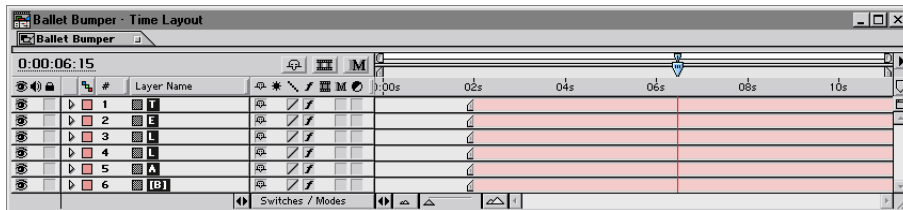
As you change the navigator view, notice that there is a second, smaller current-time marker positioned above the regular current-time marker. As you change the navigator view, the smaller current-time marker indicates where the regular current-time marker is in relation to the length of the composition. If the regular current-time marker is off the edge of the time graph, you can bring it back into the visible area by dragging the smaller current-time marker into the white area of the navigator view section.

- 3 Drag both viewing-area markers out so that you see the entire composition.

Animating the opacity

In this section, you will animate the opacity to fade the text in and out with a rippling effect. You set a few keyframes, and then copy and paste the keyframes into different layers, at different times.

- 1 Move the current-time marker to 6:15.
- 2 Make sure all the letter layers are selected.



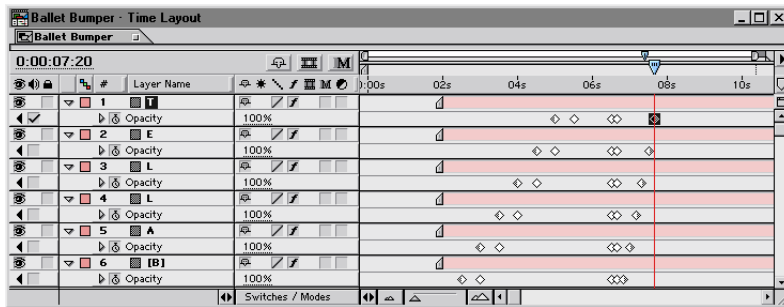
First, you'll set opacity keyframes at 6:15 and 6:20 in all letter layers, setting identical values for all the keyframes. This produces an unchanging opacity value between these two locations.

- 3 To set an Opacity keyframe for all the selected layers at 06:15, press Alt+Shift+T (Windows) or Option+Shift+T (Mac OS). This will create a new keyframe for all selected layers. Press the T key to display the Opacity property, click any underlined Opacity value, and then enter **0** to set all selected layers to 0% Opacity.
- 4 Move the current-time marker to 06:20, and then press Alt+Shift+T or Option+T again to set another Opacity keyframe with a value of **0**%.

Next, you'll set a single opacity keyframe at 100% to fade in a layer, then copy and paste it at different locations in the other layers.

- 5 Set the current time to 06:25, press Ctrl+Shift+A (Windows) or Command+Shift+A (Mac OS) to deselect all the layers. Then select the B layer, and set its Opacity to **100**%.

- 6 Make sure the keyframe is selected, and choose Edit > Copy.
- 7 Move the current-time marker to 07:00, select the A layer, and paste. An Opacity keyframe with a value of 100% is pasted at 07:00.
- 8 Paste Opacity keyframes for each letter layer as follows: 7:05 (first l), 7:10 (second l), 7:15 (e), and 7:20 (t).



To give the letters a little more room to dance off the screen, you will scale them down slightly.

- 9 Set the current time to 02:00, select all the letter layers, press the S key to display the Scale property, and then press Alt+Shift+S (Windows) or Option+S (Mac OS) to set a Scale keyframe. Leave the value set to 100%.

You won't see the letters in the Composition window because the Opacity value is 0% at this point.


- 10 Set the current time to 07:20, make sure all the letter layers are selected in the Time Layout window, click the underlined Scale value for any layer, enter **90** for the Scale value, and then click OK. The Scale values for all the layers change to 90%.

- 11 Set the current time to 08:15, and then click the underlined Scale value, and set the Scale to **50%** for all the letter layers.

- 12 Collapse all layers and save the project.

Previewing the animation

You can preview by *scrubbing*, or dragging left or right, in the time ruler. Before you preview, you'll turn off the video for the Sugar.mov layer and turn off the grid so you can get a better picture of what is happening.

- 1 Click the Hide Shy Layers button to display the shy layers in the Time Layout window, and then deselect the Video switch () for the Sugar.mov layer to hide the video in the Composition window.
 - 2 Click the Hide Shy Layers button again to hide the layers in the Time Layout window.
 - 3 Alt-click (Windows) or Option-click (Mac OS) the safe-zones icon to turn off the grid.
 - 4 Press Ctrl+Shift+A (Windows) or Command+Shift+A (Mac OS) to deselect the layers.
- To preview the opacity changes that you just set, you will *scrub* (view by dragging the current-time marker) through the composition frame by frame.
- 5 Set the current time to 02:00, and then press the Alt key (Windows) or Option key (Mac OS), and slowly drag the current-time marker to the right. You can use this scrubbing technique to go forward and backward through your composition.

A word on space and time

The process After Effects uses to calculate the values between keyframes is called *interpolation*. You can control *temporal* interpolation, the change between keyframe values over time, for all layer properties. Some properties, such as the Opacity and Scale values that you just set, change only through time. For properties that involve movement, such as the Position property, you can also control the spatial interpolation, the change between keyframes through space.

Controlling change through interpolation

After Effects provides several interpolation methods that affect how change occurs through and between keyframes. For example, if you are setting up motion, you can choose to make a layer change direction abruptly or through a smooth curve. After Effects interpolates values for a change using the values at the keyframes on both ends of the change.

You can control temporal interpolation (the interpolation between keyframe values over time) for all layer properties. For layer properties that involve movement, such as Position, Anchor Point, and Effect Point, you can also control spatial interpolation (the interpolation between motion-path keyframes through space).

You can make a layer property vary over time. After Effects records the resulting values of temporal interpolation in the Value graph in the Time Layout window. If the layer property includes spatial interpolation, the resulting values of spatial interpolation are displayed as a motion path in either the Composition or the Layer window, depending on the property. You can add or delete keyframes in the Value graph or motion path using the pen tool.

—From the Adobe After Effects User Guide, Chapter 7

In the next section, you will make the *ballet* letters dance off the screen by changing both the temporal and spatial interpolations of the layers using roving keyframes.

Creating a motion path

To make the letters dance off of the screen, you'll start by creating a *motion path*. You define the motion path by setting Position keyframes. After creating the initial motion path, you can edit it in the Composition window.

- 1 In the Time Layout window, set the current time to 07:25, and make sure all the letter layers are selected.
- 2 Press the P key to see the Position property for all the letters, and then press Alt+Shift+P (Windows) or Option+P (Mac OS) to set an initial Position keyframe for all the letter layers.
- 3 Move the current-time marker to 08:03, and press Ctrl+Shift+A (Windows) or Command+Shift+A (Mac OS) to deselect all layers. Select the T layer in the Composition window, and then drag the letter *t* slightly to the right. A second Position keyframe appears in the Time Layout window.



- 4 Set the current time to 08:10, and then drag the T layer slightly up and to the right. Another keyframe is created.



- 5 Set the current time to 08:20, and then drag the T layer down and to the right.



- 6 Set the current time to 09:00, and then drag the T layer off the top part of the frame.



- 7 To set the work area in order to preview the motion so far, move the current-time marker to 07:15, and then press the B key to set the beginning of the work area. Next, move the current-time marker to 09:10, and press the N key to set the end of the work area.

- 8 Preview the motion using a Wireframe preview (an outline of the alpha channels playing back motion at real time) by pressing Opt+0 (on the numeric keypad).

Because the letter was applied to a rectangular solid, you will not see the letter outline, but rather the rectangular outline of the solid layer.

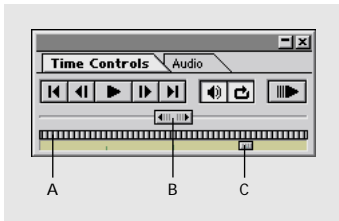
- 9 Press any key to stop the preview.

Using the shuttle control

If you were to use the play button on the Time Controls palette (or the spacebar) to play the composition, the playback would be slow. You can use the shuttle control in the Time Controls palette to see faster playback, and to see the shapes of the letters.

- 1 Set the current time to 07:15.

2 In the Time Controls palette, drag the shuttle control slightly to the right.



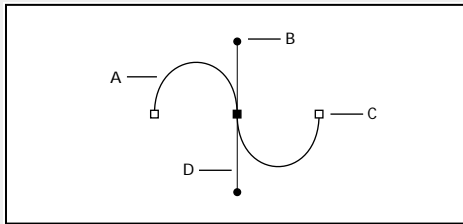
A. Jog control **B.** Shuttle control
C. Time indicator

The shuttle control *shuttles* through the composition starting from the current-time marker. The farther you drag the control from the center, the faster the content of the Composition window plays. You can play the composition both forward and backward by dragging to the right or to the left, respectively. You may have to experiment with how far to drag the control to see a helpful preview. The shuttle control does not loop the playback, so you will need to set the current-time marker to the beginning to view the frames again.

As you drag the shuttle control back and forth to preview your composition, notice the time indicator just below the jog control. The time indicator here shows which frame you are currently viewing relative to the beginning and end of the composition, and updates to reflect this as you shuttle through a composition. You can also drag the time indicator along the jog control to move quickly through the composition. To move slowly, you can drag inside the jog control.

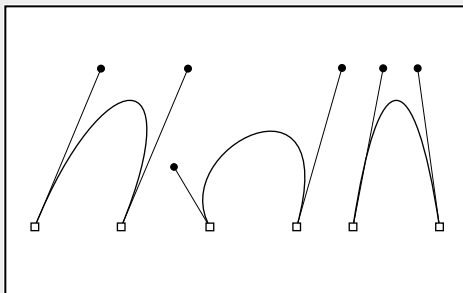
About direction lines and direction handles

Before you draw and modify curved lines with the pen tool, it is important to know about two elements that are associated with anchor points on curves. On curved segments, each selected anchor point displays one or two direction lines (also called tangents), ending in direction handles (also called Bezier direction handles). The positions of direction lines and handles determine the size and shape of a curved segment. Moving these elements reshapes the curves in a path.

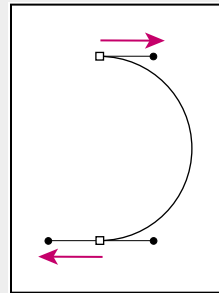


A. Curved segment **B.** Direction handle **C.** Anchor point
D. Direction line or tangent

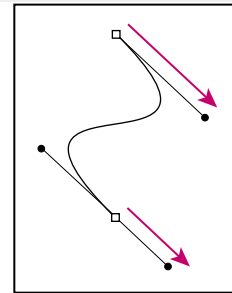
The direction lines are always tangent to (touching) the curve at the anchor points. The slope of each direction line determines the slope of the curve, and the length of each direction line determines the height, or depth, of the curve.



Moving direction lines changes the slope of the curve.



Drag in the opposite direction to create a smooth curve.
Drag in the same direction to create an "S" curve.



Editing the motion path

With the T layer still selected, you can examine the motion path for the T layer in the Composition window. Each X represents a keyframe, and each dot marks the position of the layer at each frame. The spacing of the dots indicates the speed of the layer. Notice that the dots are closer together between keyframes that are closer together in time, and farther apart where keyframes are farther apart. The closer together the dots are, the slower the layer is moving at that point. The farther apart the dots are, the faster the layer is moving.

You can edit the Position keyframes by editing the motion path.

- 1 In the Time Layout window, make sure the Position property is displayed for the T layer, set the current time to 8:10, and then take note of the position coordinates.
- 2 In the Composition window, drag the layer up and slightly to the left. The position coordinates for this keyframe change.

You don't need to move the current-time marker to edit the position keyframes.



- 3 In the Composition window, select the X that represents the next keyframe, and move it up and slightly to the right.



- 4 Select the X that is above the top of the frame, and move it to the left.



You can use the pen tool in the toolbox to edit and add keyframes to the motion path. Editing with the pen tool is similar to the way you edit paths in Adobe Illustrator.

- 5 Position the current-time marker at 08:20, and in the toolbox, select the pen tool. In the Composition window, position the pen over a dot on the motion path, as shown in the illustration below, so that a plus icon appears next to the pen tool icon. (This is the add control point tool.) Click the motion path. A new keyframe appears between 8:20 and 9:00.

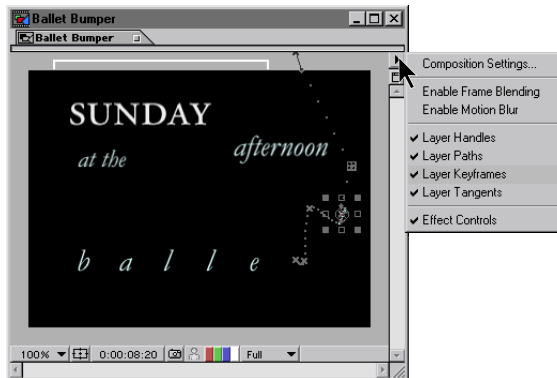


In addition to the new keyframe symbol, two *layer tangents* or *direction handles* appear. The default spatial interpolation method is continuous Bezier interpolation. Bezier interpolation provides the most precise control over the motion path. You use the handles to control the arc of the curve, just as you do with the pen tool in Adobe Illustrator and Adobe Photoshop.

6 Select the selection tool in the toolbox, and then drag the new keyframe to the right.



Before completing your adjustments to the motion path, you will explore some of the motion path controls that you have available by selecting options in the Composition window menu in the upper right corner of the Composition window.



7 In the Composition window, choose Layer Keyframes from the Composition window menu; the keyframe symbols disappear. Choose the command again to turn the keyframes back on.

8 Choose Layer Paths from the Composition window menu; the layer path disappears. Choose the command again to turn the path back on.

The Layer Tangents option shows the direction handles of a Bezier curve. You can drag these handles to modify the path.

9 Leave the Layer Tangents command turned on (displaying a checkmark), and then click the newest keyframe that you created. Drag the direction handles to change the arc of the curve.



10 Choose Layer Handles from the Composition window menu. The handles for the selected layer disappear. Hiding the selection handles makes it easier to work with the direction handles.

11 Select each keyframe one at a time, except the first two, and use the direction handle to alter the curve until you get a path that you like. When you are finished, choose Layer Handles from the Composition window menu again to turn layer handles back on.



12 Press Alt+0 (Windows) or Option+0 (Mac OS) on your numeric keypad to preview the motion.

13 Set the current time to 07:25, and then use the jog control to see the *t* move along the motion path frame by frame. Save the project.

Setting Auto-Orient Rotation

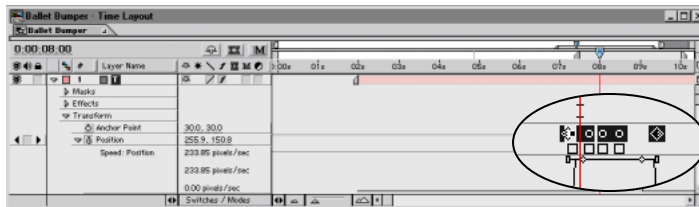
As the letter *t* moves up the motion path that you just created, the *t* is always vertically oriented. To make the *t* to change orientation as it follows the path, you'll set Auto-Orient Rotation.

- 1 Make sure that the T layer is selected in the Time Layout window.
- 2 Choose Layer > Transform > Auto-Orient Rotation.

Auto-Orient Rotation is applied to a whole layer, not to individual keyframes, and therefore cannot be animated off and on within a single layer over time.

3 Set the current time to 07:15, and then use the shuttle control in the Time Controls palette to play a preview. Notice that the T layer now rotates as it follows along the path. Now that the motion path is set, you'll copy and paste the motion path keyframes into the other layers.

4 In the Time Layout window, set the current time to 08:00, make sure the T layer is selected, and then click the word *Position* to select all six Position keyframes for the T layer. Then choose Edit > Copy.



- 5 Select the E layer in the Time Layout window.
- 6 Make sure the current-time marker is set to 08:00, and paste the keyframes.
- 7 Move to 08:05, and paste the keyframes into the L layer under the E layer.
- 8 Move to 08:10, and paste the keyframes into the next L layer.
- 9 Move to 08:15, and paste the keyframes into the A layer.
- 10 Move to 08:20, and paste the keyframes into the B layer.

11 Select the E layer, and then choose Layer > Transform > Auto-Orient Rotation.

You can apply Auto-Orient Rotation to only one layer at a time.

12 Select the L layer, and then choose Layer > Transform > Auto-Orient Rotation, or press Ctrl+Alt+O (Windows) or Command+Option+O (Mac OS).

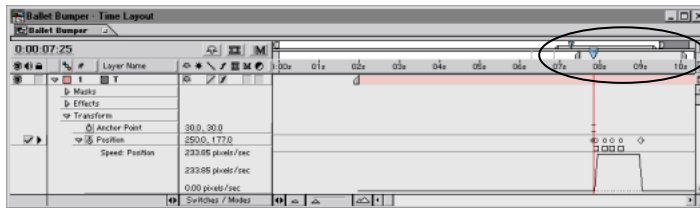
13 Repeat the previous step for each of the remaining the layers.

14 Set the current time to 07:25, and use the shuttle control in the Time Controls palette to preview your work.

Previewing with RAM Preview

You can also preview portions of the composition playing back at real-time using RAM Preview. See “RAM Preview” on page 54. If you are unable to load all of the specified frames for a RAM Preview, try decreasing the length of the work area, reducing the resolution of the composition, or allocating more RAM to After Effects. You can also preview every other frame by pressing Shift+0 on the numeric keypad.

1 Set the work area for the frames to preview to begin at 7:15 and end at 10:00.



2 Click the RAM Preview button on the Time Controls palette.



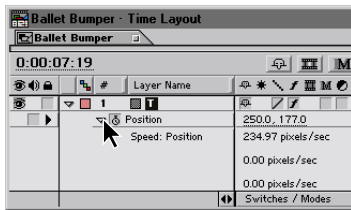
Note that After Effects replaces the jog and shuttle controls with an update showing which frames it's processing as it loads them into RAM, and when finished reports how many of those could be loaded, and the playback frame rate.

- 3 After a few seconds, you should see the frames within the work area playing back at real-time in the Composition window.
- 4 Press any key to stop the preview.

Managing the speed of layers

In this motion path, some of the dots are closer together and some are farther apart. You can change the speed of a layer by using the Speed graph in the Time Layout window.

- 1 In the Time Layout window, select the T layer, and then click the triangle next to the Position property to view the Speed graph.



The Speed graph reflects the speed of the selected layer through time. At the left of the graph, three values represent the maximum speed (top), minimum speed (bottom), and speed at the current-time marker (middle). In the speed graph, a rising line indicates acceleration, an increase in velocity, and a falling line indicates deceleration, a decrease in velocity.

You'll work with the speed graph and explore more advanced motion controls in Lesson 6, "Station Identification."

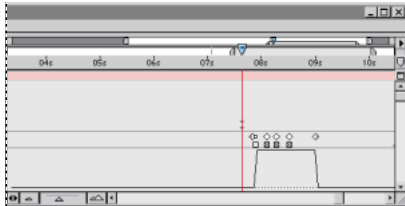
- 2 Save the project.

Setting roving keyframes

One way to smooth out the speed of the layer is to set roving keyframes. Creating roving keyframes separates the *x, y (or spatial)* coordinates of the Position keyframes from their specific points in time.

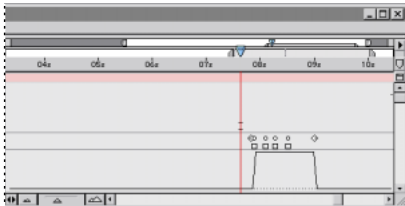
- 1 Make sure the T layer is selected, and then zoom in the Time Layout window.

2 To create roving keyframes, deselect the tiny check boxes below the four middle keyframes. The first and last keyframes in a layer cannot rove, so they don't have check boxes.



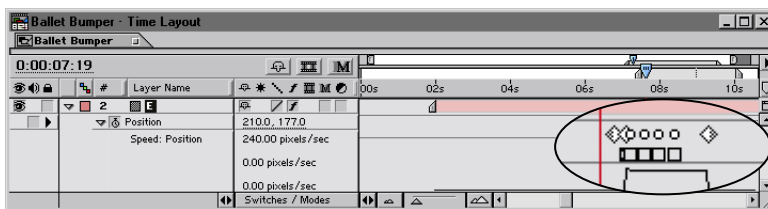
As you deselect the check boxes, the Speed graph becomes more and more flat, which indicates a constant rate of speed. Notice also that the dots in the motion path in the Composition window have become more evenly spread out.

The keyframe icons change to small circles and shift a bit, disconnecting from their original points in time.



3 Click the triangle next to the T layer to collapse the layer outline.

4 Select the E layer, and then click the triangle next to Position to display the Speed graph. This time leave the first check box selected, and then deselect the last four check boxes to create roving keyframes. The keyframe at 08:00 remains non-roving so that the motion starts at a specific point in time.



5 Select the lower L layer, and then click the triangle next to the Position property. Leave the first roving keyframe navigator check box checked, and then deselect the last four check boxes to create roving keyframes.

6 Repeat step 5 for each of the remaining layers for the word *ballet*.

Because using roving keyframes separates the spatial position coordinates from a specific point on the timeline, you would not use roving keyframes if you wanted to synchronize an animation event, such as Position, with a specific point in time, such as a key point in music.

In this exercise, however, the desired effect is to have all of the letters follow one another along a motion path while remaining evenly spaced along that path. To achieve this effect they must hit certain spatial points (position coordinates) along the path at a constant rate of motion. Because the letters have varying distances to travel from their original starting points to reach the end of the motion path, locking them to specific points in time will cause the letters with greater distances to move faster as they travel between keyframes. Those with shorter distances will move more slowly, creeping along, causing the letters to pile up on top of each other, and the type will become unreadable to the viewer.

Setting a Roving keyframe unlinks the position keyframe from its specified point in time. The first and last keyframes are now *temporal* beginning and end points, and an even rate of motion is applied as the letter travels between those end points. The letter still hits the same spatial points on the path, but no longer at the original times specified. In short, we know when we want a letter to begin moving from its starting position (first keyframe), when we want it off screen (last keyframe), and the path that we want it to travel along (original position keyframes). We don't really care, however, when it hits those mid-points along the path as long as the letters all travel at the same constant rate of speed, remaining evenly spaced and readable.

7 Take a look at motion of the letters using RAM Preview: press the 0 key on your numeric keypad.

8 When you are finished previewing, collapse all the layer outlines, and then save the project.

Using Motion Sketch to create a motion path

The Motion Sketch plug-in is a feature within After Effects that allows you to create fluid motion paths by drawing. Rather than setting individual position keyframes, you will draw your own freehand motion path using Motion Sketch. As you draw a motion path with the mouse or pen, Motion Sketch records and sets keyframes for the position of the layer as well as the speed at which you draw. This path can be drawn anywhere within the composition window or even on the pasteboard. If you speed up, slow down, pause, and start again as you draw a path, this motion will be recorded in the keyframes that are created.

While you sketch a path with Motion Sketch, After Effects plays the audio files in the composition. (The Audio button in the Time Controls palette must be clicked to enable audio playback.) This feature is useful if you want to create a motion path that will match cues in the audio.

Here you'll use Motion Sketch to animate a snowflake that flutters in the background to the music as the type animates and dances off the screen.

Preparing the snowflake layer

Before you create the motion path, you'll import the snowflake layer, set up the work area, and then set some transform values for the layer.

- 1 Choose File > Import > Footage Files.
- 2 Select the file Snow.ai from the 02Lesson folder, and then click Open.

Note: When you import an Adobe Illustrator file as a file instead of as a composition, After Effects adds *Merged/* to the filename to indicate that layers in the file have been combined, or merged.

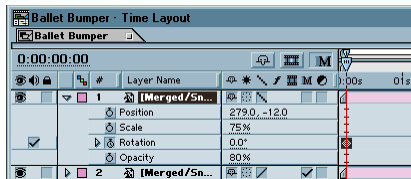
- 3 Select the file Audio.mov, click Open, and then click Done.
- 4 Set the current-time marker to 00:00.
- 5 Drag Audio.mov from the Project window into the Time Layout window.
- 6 Resize the Composition window so you can see more of the pasteboard area around the frame. This lets you create a motion path that extends outside the composition frame.

Because you want to position the snowflake, you'll drag it into the Composition window instead of dragging it into the Time Layout window, which would center it. Regardless of whether you drag an item into the Composition window or the Time Layout window, the item appears in both windows.

7 Drag Merged/Snow.ai from the Project window into the Composition Window, placing it wherever you want it to begin. For the final movie the snowflake was placed on the paste-board (the gray area just outside of the composition frame) to flutter in from off screen.



8 In the Time Layout window, display the Scale, Rotation, Opacity, and Position properties for the snowflake layer. You can use keyboard shortcuts to display just these properties: press the S key, Shift+R, Shift+T, and Shift+P.



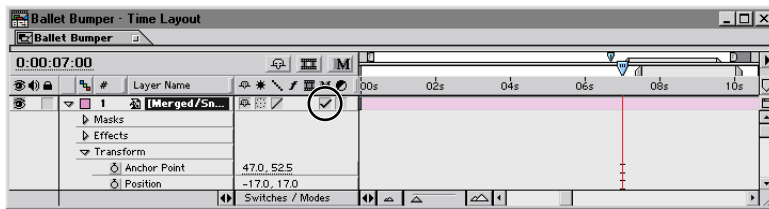
Next, you'll set scale and opacity values for the entire Merged/Snow.ai layer. Because these values won't change over time, you don't need to set keyframes for them.

9 Set the scale value to **75%**, and set the opacity to **80%**, but do not set keyframes. Then set an initial Rotation keyframe at 00:00 with a value of **0**.

10 Go to 7:00 and change the rotation value to **1** revolution. This will create one slow revolution over the 7 seconds during which the snowflake is on-screen.

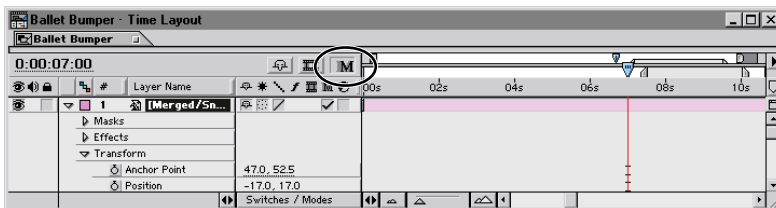
11 Click the Quality switch icon for the snowflake layer to select Best quality, indicated by a forward solid slash.

12 Turn on motion blur for the snowflake layer by selecting the layer's Motion Blur switch.



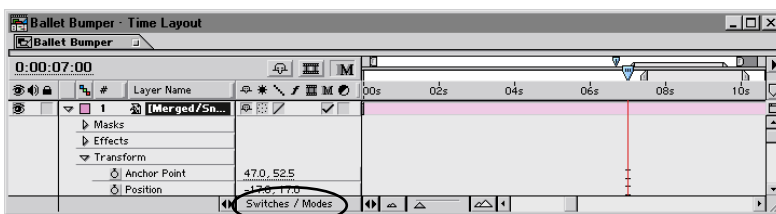
Motion blur enhances motion that you have applied to an object. In addition to turning it on for the snowflake layer, you need to enable motion blur so it is used in previewing and rendering. Motion blur can slow down previewing and rendering, but if you don't need to see it while you work, you can speed up processing by disabling motion blur. In this case, you'll enable motion blur.

13 Click the Enable Motion Blur button at the top of the Time Layout window.



14 If the snowflake is not the top layer in the layer stack, drag it to the top position in the Time Layout window.

15 Click Switches/Modes at the bottom of the Switches panel to display the Transfer Modes panel, and then Choose Soft Light from the appropriate menu in the mode column. Click Switches/Modes again to display the Switches panel.



Soft Light is a transfer mode that will let various elements in the background footage and type elements show through the snowflake as it flutters over them. Transfer modes are applied to a top layer so that the color and luminance values of its pixels are affected by the pixel values of the layer(s) below it. This allows the snowflake to blend better as it interacts with the footage behind it. For more information and practice with transfer modes, see Lesson 4, “Multimedia Animation,” or the After Effects User Guide.

The last step before creating the motion path is to define the start and end points for the animation. This is the time frame in which the new keyframes will be set. Motion Sketch will stop automatically when it reaches the end of the work area.

16 Set the work area to begin at 00:00 and to end at 7:00.

17 Select the snowflake layer in either the Time Layout or Composition window.

Creating the snowflake motion path

Now that you’ve set up the work area and modified the snowflake layer, you are ready to create the motion path using the Motion Sketch plug-in.

1 Choose Window > Plug-in Palettes > Motion Sketch to open the Motion Sketch palette.

2 Leave the Capture Speed set to 100%. The motion you draw will be captured at real-time.

Increasing this number increases the playback speed in relation to the drawing speed, giving you more time to draw the path. Decreasing this number will slow down the playback speed by the percentage you choose.

3 Leave the Show Wireframe option selected to see the outline of the layer as you draw the motion path.

4 Leave Keep Background deselected. If selected, this lets you view the background layers as you sketch.

Read through the next couple of steps before clicking Start Capture so you’ll better understand how Motion Sketch records your movement.

5 Click Start Capture.

As soon as you click the mouse, After Effects begins recording its movement, setting new position keyframes for the selected snowflake layer based upon what you draw.

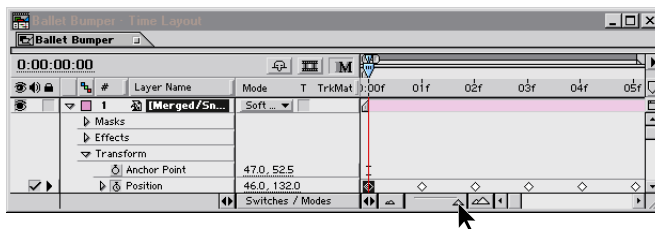
6 Position the pointer where you’d like to begin the motion path, and click and hold the mouse button and drag to draw the path for the snowflake.

After Effects stops recording when you release the mouse button or go beyond the end of the work area.



7 Expand the outline to display the Position property for the snowflake layer.

Notice all the new keyframes. They are very close together because there is one on each frame. To view them individually, use the zoom slider to zoom into the timeline.



Now you'll preview the motion created using a Wireframe preview. If your system has sufficient RAM installed, you can use RAM Preview instead. See "RAM Preview" on page 54.

8 Ensure that the snowflake layer is still selected.

9 Choose Composition > Preview > Wireframe or press Alt+0 (Windows) or Option+0 (Mac OS) on the numeric keypad.

10 To revise the motion path created, delete all of the keyframes by clicking Position for the snowflake layer, press delete, and repeat steps 5 through 6 and preview again.

Smoothing motion

Because After Effects is creating a new keyframe for each frame as you draw using Motion Sketch, the resulting motion is often somewhat jerky. To create smoother motion you can apply The Smoother. The Smoother removes some of the keyframes based on a tolerance level that you choose, resulting in much more fluid motion.

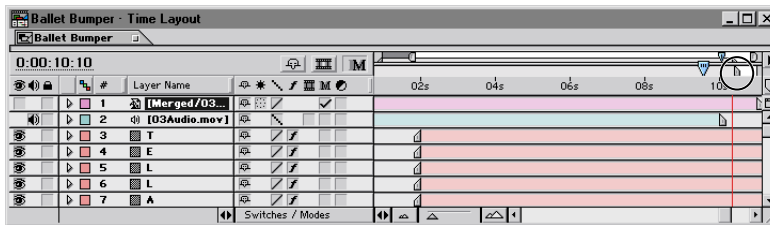
- 1 In the Time Layout window, click Position in the snowflake layer to select all of the position keyframes.
- 2 Choose Window > Plug-in Palettes > The Smoother to open The Smoother control palette.
- 3 For Apply To, choose Spatial Path.
- 4 Set the Smoother tolerance to **10**, and click Apply. Notice that in both the Composition window and the Time Layout window a number of keyframes are removed, and the direction handles in the Composition window are set to create smooth curves along the motion path.
- 5 Preview the new motion using a Wireframe preview or RAM Preview.
- 6 If you are not satisfied with the way The Smoother altered the motion path, choose Edit > Undo to undo the smoothing. Select the keyframes again and choose a different tolerance value.
- 7 Save the project.

Creating a draft movie

To see the motion of the ballet letters, you'll create a draft movie of just the letter layers. A draft movie is especially useful if you don't have enough RAM to preview the whole composition using RAM Preview.

- 1 Deselect the Hide Shy Layers button (🔒), and then deselect the Video switches (👁) to hide the video for all layers except those containing the letters in the word *ballet*. For more information, see "Video, Audio, and Lock switches" on page 48.

2 Set the end of the work area to 10:10.



3 Choose Composition > Make Movie, type **Draft1.mov** for the name, and save the file in your Projects folder.

4 For Render Settings, choose Draft Settings.

Instead of using the MoviePlayer application to view this movie, you will import it directly into your project, and then view the movie from within After Effects.

5 For Output Module, choose Custom, and for Format, choose QuickTime Movie.

Note: *QuickTime is the default format in Mac OS.*

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

7 Select Import into project when done, and then click OK.

After the draft movie is rendered, it will appear as a footage item in your Project window.

8 Click Render.

9 After the draft movie is finished rendering, close the Render Queue window, and then activate the Project window, double-click the Draft1.mov footage item, and play the movie.

Rendering the final movie

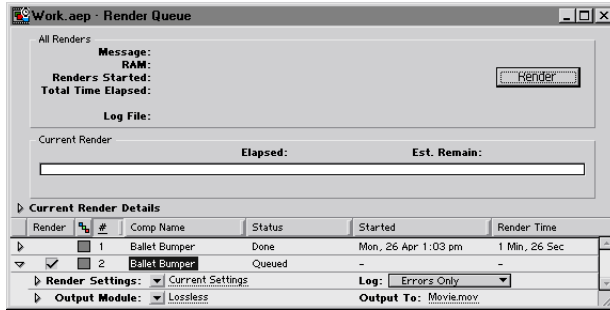
To finish the composition, you will display the video.

1 Display the video for all the layers by selecting the Video switches for the Sunday, Afternoon, At The, and Sugar.mov layers.

2 Choose Composition > Make Movie.

3 Type **Movie.mov** for the name, and save the file into your Projects folder.

The Render Queue window displays all the items that you have ever rendered for the project. The draft movie you rendered earlier appears as the first item in the Render list. Its status indicates that the movie is done. The newest item appears at the bottom of the list. Its status indicates that it is queued.



Note: After Effects saves these rendered items in the Render Queue with the project file for your reference. To delete an item from the Render Queue, select the item by clicking the composition name, and then press *Delete*.

4 For Render Settings, choose Best Settings. To modify the settings, click the underlined phrase *Best Settings*.

5 For Time Span, choose Length of Comp.

The default Time Span is the work area. You can select the Length of Comp, or set a custom length by clicking the Set button. Click OK.

6 For Output Module, choose Custom, and for Format, choose QuickTime Movie.

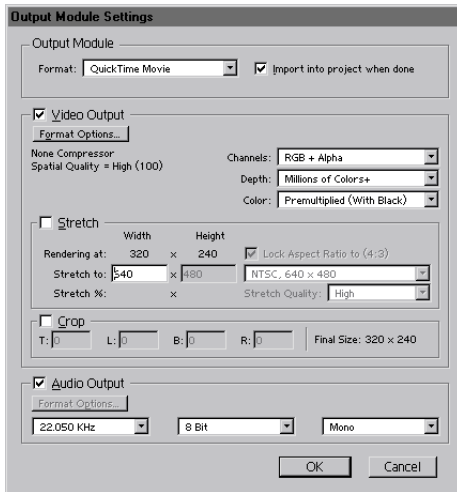
7 In Windows, the Compression Settings dialog box appears. Leave Compressor set to Animation, and then click OK. In Mac OS, leave all settings at their defaults.

8 Select Import into Project When Done.

Now you will set the audio options. Since the final goal of the project is to create a sample file to present to a client, you will select a low range of audio options.

9 Select the Audio Output option to include audio in the movie, and then choose 22.050 KHz from the left menu.

10 Choose 8-bit from the center menu. This is the standard sample depth for playback on computers. (16-bit is the standard for compact disc audio.) Choose Mono from the right menu.



11 Leave the rest of the settings at their defaults, and then click OK.

12 Click the Render button.

13 When you are finished rendering the movie, open the footage file that appears in your Project window, play it, and then save and close the project.

14 Exit from After Effects.