



Adobe Flash CS4

Part 2: Working with Symbols

Fall 2010, Version 1.0

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Introduction

Adobe Flash CS4 is the industry standard software for creating rich, interactive content ranging from simple animations to full-featured web applications. Flash includes many features that make it powerful but easy to use. In addition, Flash includes a scripting language that can be used to add interactivity and complex functionality to Flash projects. This handout covers creating and manipulating different types of symbols as well as adding sound and video files into a Flash document.

Downloading the Data Files

This handout includes sample data files that can be used for hands-on practice. The data files are stored in a self-extracting archive. The archive must be downloaded and executed in order to extract the data files.

- The data files used with this handout are available for download at <http://www.calstatela.edu/its/training/datafiles/flashcs4p2.exe>.
- Instructions on how to download and extract the data files are available at <http://www.calstatela.edu/its/docs/download.php>.

About Symbols

Symbols are reusable objects that can be used for special effects, animation, and interactivity. There are three types of symbols: graphic, button, and movie clip. An instance is a copy of a symbol located on the Stage or nested inside another symbol. An instance can differ from the original symbol in color, size, and function. Editing the symbol updates all of its instances, but applying effects to an instance of a symbol updates only that instance. Using symbols in Flash documents greatly reduces file size and download time.

Creating Symbols

When a symbol is created, it is stored in the Library along with the original file. Users can create a symbol from selected objects on the Stage, or they can create an empty symbol and make or import the content in symbol-editing mode. Users can also duplicate an existing symbol and use it as a starting point for creating a new symbol.

Creating Graphic Symbols

Graphic symbols are used for static images and to create reusable pieces of animation that are tied to the main Timeline. Graphic symbols add less to the FLA file size than buttons or movie clips because they have no Timeline.

To create a graphic symbol:

1. Click the **Start** button, point to **All Programs**, point to **Adobe Design Premium CS4**, and select **Adobe Flash CS4 Professional**. The program opens and the **Welcome Screen** displays.
2. Click **Open** in the **Open a Recent Item** section of the **Welcome Screen**. The **Open** dialog box opens.
3. Navigate to the data files folder, select the **rocket fla** file, and then click the **Open** button.

4. Click the **Insert** menu and select **New Symbol**. The **Create New Symbol** dialog box opens (see Figure 1).
5. Type **stars** in the **Name** box.
6. Click the **Type** arrow and select **Graphic** from the list.
7. Click the **OK** button.

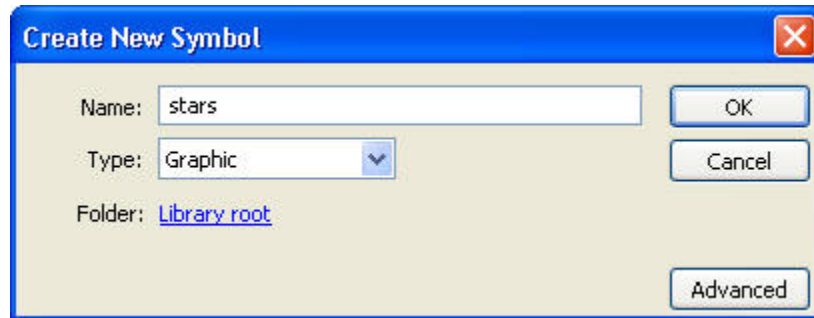




Figure 1 – Create New Symbol Dialog Box (stars)

To create a star-filled background:

1. In the **Tools** panel, click and hold the mouse button on the **Rectangle** tool , and then select the **PolyStar** tool  from the pop-up menu.
2. In the **Property inspector**, click the **Options** button under **Tool Settings**. The **Tool Settings** dialog box opens (see Figure 2).
3. Click the **Style** arrow and select **star** from the list.
4. Click the **OK** button.

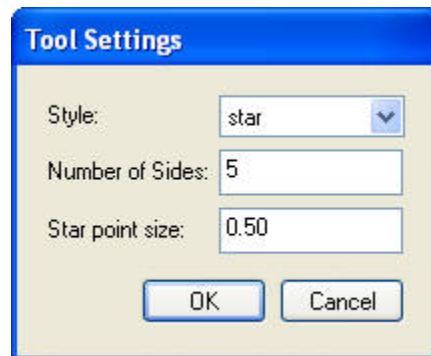


Figure 2 – Tool Settings Dialog Box

5. In the **Property inspector**, under **Fill and Stroke**, click the **Fill Color** control and select the color **white** (**#FFFFFF**) from the palette.
6. Drag the mouse pointer on the **Stage** to create a star.
7. Repeat step 6 until there are a dozen stars on the **Stage** (see Figure 3).

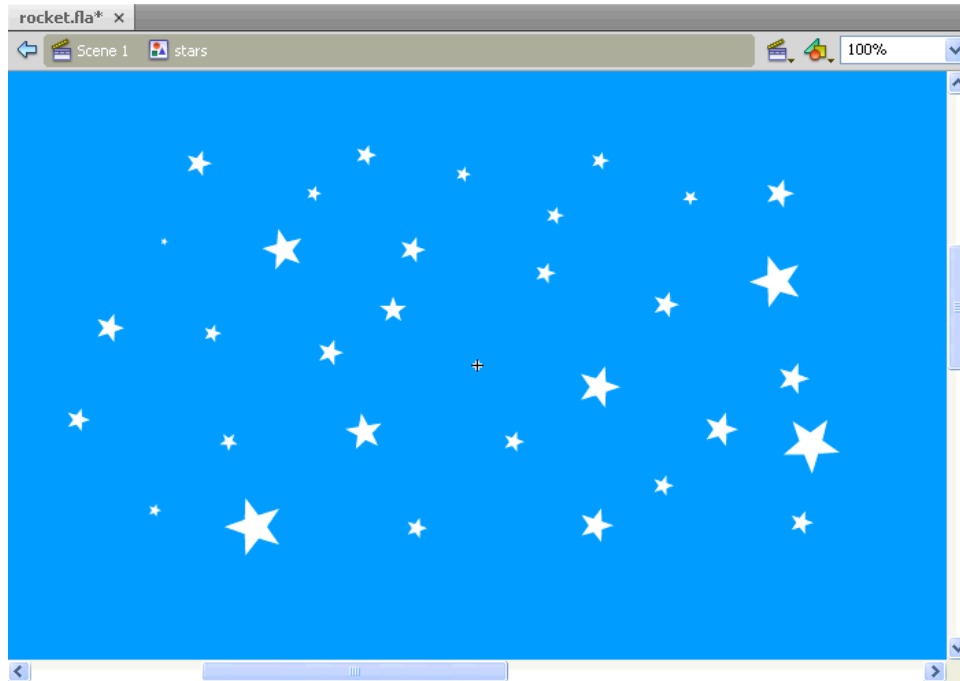



Figure 3 – Background with Stars

To create an instance of the symbol on the Stage:

1. Click **Scene 1** on the **Edit** bar to return to the main scene.
2. Select the **Selection** tool  in the **Tools** panel.
3. Select the **background** layer in the **Timeline**.
4. Click the **Library** tab to display the **Library** panel.
5. Drag the **stars** graphic symbol from the **Library** panel to the **Stage**.

NOTE: To move the **stars** graphic symbol, position the mouse pointer over one of the stars on the **Stage** and drag. To edit the **stars** graphic symbol, double-click one of the stars on the **Stage** to return to edit mode.

Preparing Graphics for a Movie Clip

To create a graphic symbol for a movie clip:

1. Click the **Insert** menu and select **New Symbol**. The **Create New Symbol** dialog box opens (see Figure 4).
2. Type **red_flame** in the **Name** box.
3. Click the **Type** arrow and select **Graphic** from the list.
4. Click the **OK** button.

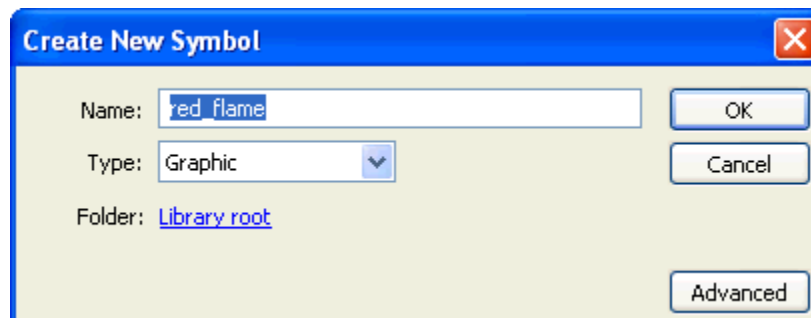




Figure 4 – Create New Symbol Dialog Box (red_flame)

5. Select the **Pen** tool  in the **Tools** panel.
6. In the **Property inspector**, under **Fill and Stroke**, click the **Stroke Color** control and select the color **red** (**#FF0000**) from the palette.
7. Click on the **Stage** to establish the first anchor point.
8. Continue clicking on the **Stage** to create a flame shape similar to Figure 5.
9. Close the path by clicking on the first anchor point.
10. Select the **Paint Bucket** tool  in the **Tools** panel.
11. In the **Property inspector**, under **Fill and Stroke**, click the **Fill Color** control and select the color **red** (**#FF0000**) from the palette.
12. Click anywhere inside the flame shape outline to fill it with the color red (see Figure 5).

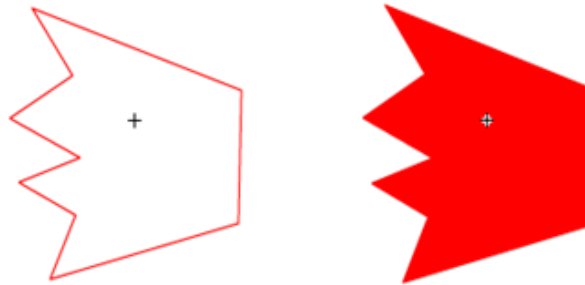



Figure 5 – Creating a Red Flame

To duplicate the symbol:

1. Select the **Selection** tool  in the **Tools** panel.
2. In the **Library** panel, right-click the **red_flame** graphic symbol and select **Duplicate**. The **Duplicate Symbol** dialog box opens (see Figure 6).
3. Type **orange_flame** in the **Name** box.
4. Click the **OK** button.

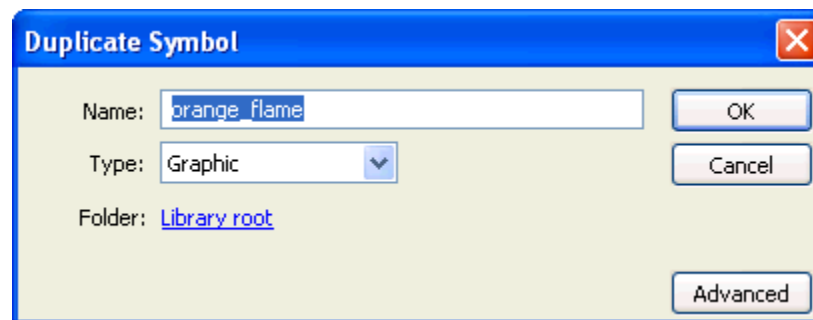




Figure 6 – Duplicate Symbol Dialog Box (orange_flame)

To change the fill color of the duplicated symbol:

1. In the **Library** panel, double-click the icon  next to the **orange_flame** graphic symbol.
2. On the **Stage**, double-click the graphic to select both the stroke and the fill.
3. In the **Property inspector**, under **Fill and Stroke**, click the **Stroke Color** control and select **No Color** .
4. Click the **Fill Color** control and select the color **orange** (**#FF9900**) from the palette. The red fill is replaced with the orange fill (see Figure 7).
5. Click **Scene 1** on the **Edit** bar to return to the main scene.

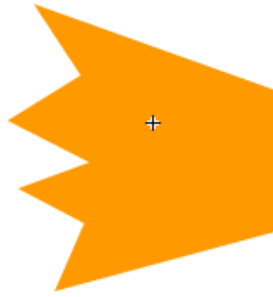


Figure 7 – Orange Flame

Creating a Movie Clip

Movie clip symbols are used to create reusable pieces of animation. Movie clips have their own multiframe Timeline that is independent from the main Timeline. They can contain interactive controls, sounds, and even other movie clip instances.

To create a movie clip:

1. Click the **Insert** menu and select **New Symbol**. The **Create New Symbol** dialog box opens (see Figure 8).
2. Type **flame** in the **Name** box.
3. Click the **Type** arrow and select **Movie Clip** from the list.
4. Click the **OK** button.

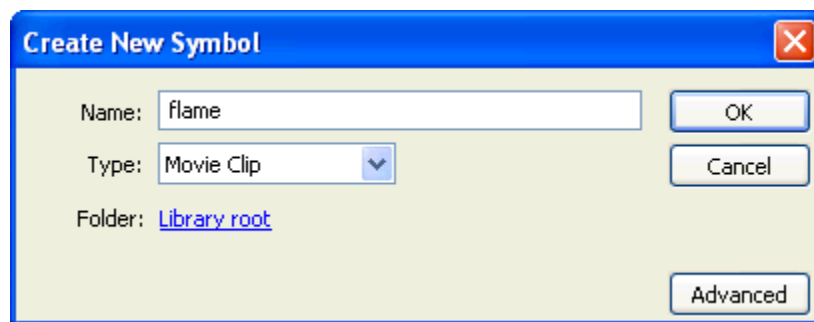


Figure 8 – Create New Symbol Dialog Box (flame)

To insert graphics into the movie clip:

1. Drag the **red_flame** graphic symbol from the **Library** panel to the **Stage**.
2. Drag the **orange_flame** graphic symbol from the **Library** panel to the **Stage**. Place the **orange_flame** graphic over the **red_flame** graphic to overlap the two symbols (see Figure 9).

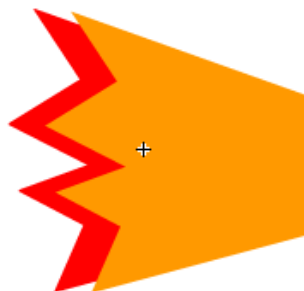



Figure 9 – Flame Symbol

To resize the graphic symbol:

1. Click the **orange_flame** graphic symbol on the **Stage** to select it.
2. Select the **Free Transform** tool  in the **Tools** panel. Transformation handles appear around the graphic.
3. Drag one of the corner handles inward to decrease the size of the **orange_flame** graphic symbol (see Figure 10).

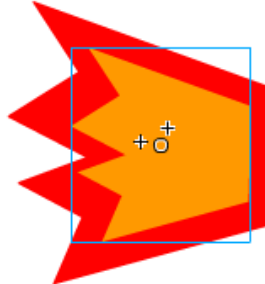



Figure 10 – Resizing the Flame Symbol

To animate the flame:

1. Select the **Selection** tool  in the **Tools** panel.
2. In the **Timeline**, right-click frame 4 and select **Insert Keyframe** to insert a new keyframe.
3. Click the **Modify** menu, point to **Transform**, and select **Flip Vertical**.
4. In the **Timeline**, right-click frame 6 and select **Insert Frame** (see Figure 11).

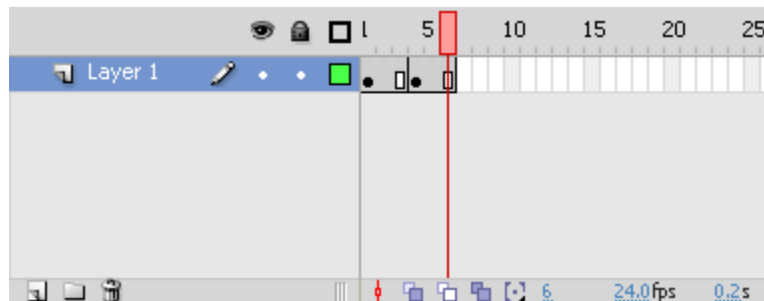




Figure 11 – Inserting a Frame in the Timeline

To insert the movie clip into the graphic symbol:

1. In the **Library** panel, double-click the icon  next to the **rocketship** graphic symbol.
2. Drag the **flame** movie clip from the **Library** panel to the **Stage** and place it behind the **rocketship** graphic (see Figure 12).
3. If necessary, use the **Free Transform** tool  to resize the flame to fit the **rocketship** graphic.

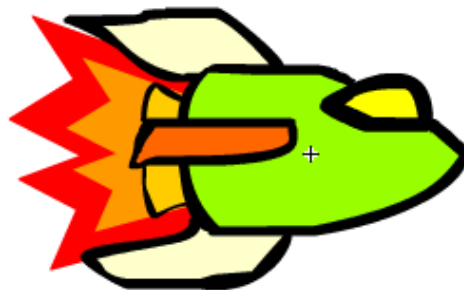


Figure 12 – Rocketship Graphic

To create a motion tween:

1. Click **Scene 1** on the **Edit** bar to return to the main scene.
2. Select the **flying_ship** layer in the **Timeline**.
3. Drag the **rocketship** graphic symbol from the **Library** panel to the left of the **Stage** (see Figure 13).

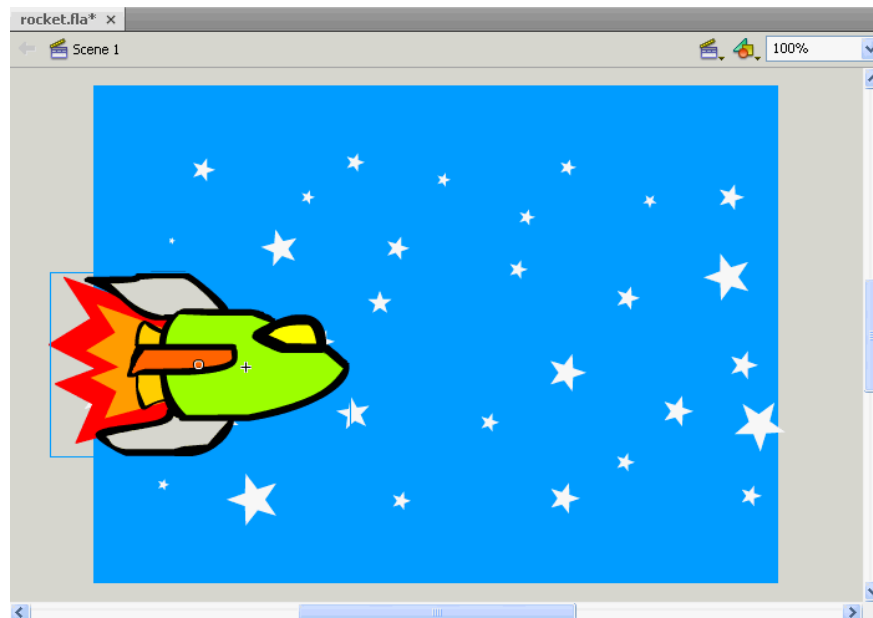


Figure 13 – Rocketship Graphic Symbol on the Left Side of the Stage

4. Right-click the **rocketship** graphic symbol on the **Stage** and select **Create Motion Tween**.
5. Drag the **rocketship** graphic symbol to the right of the **Stage**. A motion path appears on the **Stage** (see Figure 14).

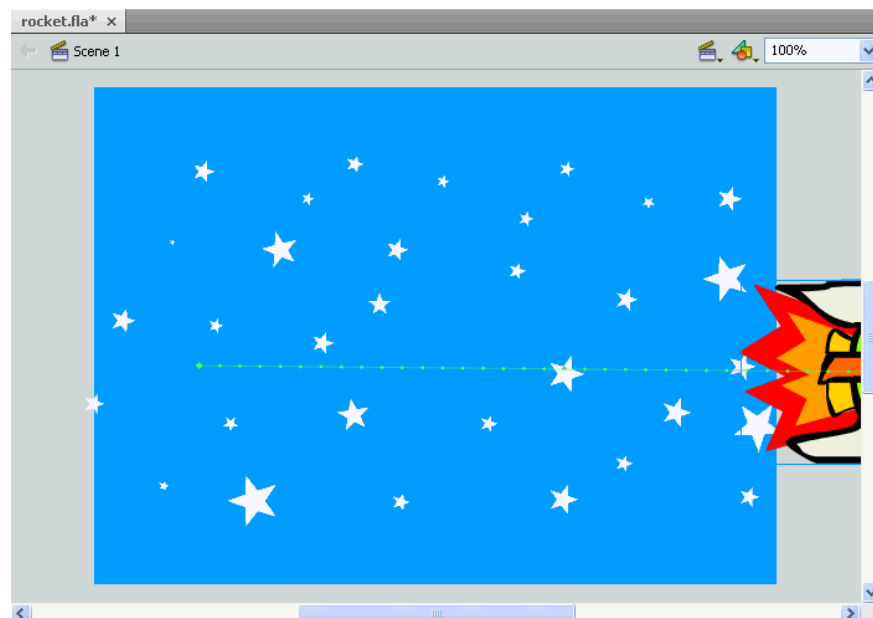


Figure 14 – Rocketship Graphic Symbol on the Right Side of the Stage

6. Press **Ctrl+Enter** to preview the animation.


Editing Symbols

When users edit a symbol, Flash updates all instances of the symbol throughout the document to reflect the edits. The name of the symbol being edited appears in the Edit bar at the top of the Stage. A symbol can be edited in context with the other objects on the Stage. When using this method, other objects are dimmed to distinguish them from the symbol being edited. A symbol can also be edited in a separate window by using symbol-editing mode.

To edit the symbol on the Stage:

1. Double-click the **rocketship** graphic symbol on the **Stage**.
2. Select the body of the **rocketship** graphic symbol.
3. In the **Property inspector**, under **Fill and Stroke**, click the **Fill Color** control and select the color **turquoise (#00FFFF)** from the palette.
4. Click **Scene 1** on the **Edit** bar to return to the main scene.

To edit the symbol in symbol-editing mode:

1. In the **Library** panel, double-click the icon  next to the **rocketship** graphic symbol.
2. Select one of the wings of the **rocketship** graphic symbol.
3. In the **Property inspector**, under **Fill and Stroke**, click the **Fill Color** control and select the color **purple (#6600FF)** from the palette.
4. Click **Scene 1** on the **Edit** bar to return to the main scene.

Adding a Sound

Adding a sound to an animation is a great way to liven up a Flash movie. Flash accepts many different audio formats. Sound files are placed into Flash by importing them into the Library. Users can synchronize a sound with the animation by using keyframes.

To import a sound file to the Library:

1. Select the **flyby** layer in the **Timeline**.
2. Click the **File** menu, point to **Import**, and select **Import to Library**. The **Import to Library** dialog box opens.
3. Locate and select the **spaceflyby.au** audio file, and then click the **Open** button.
4. Drag the **spaceflyby.au** audio file from the **Library** panel to the **Stage**. Sound waves are added to the **flyby** layer in the **Timeline** (see Figure 15).
5. Press **Ctrl+Enter** to preview the animation.

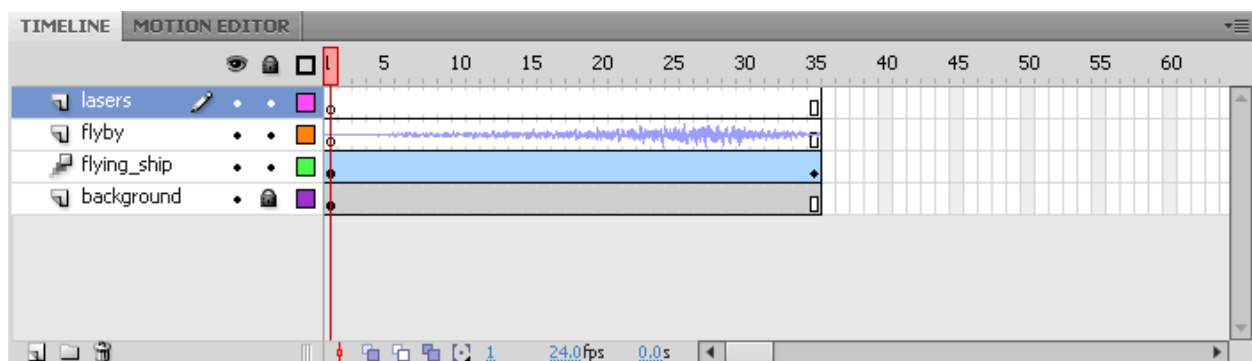


Figure 15 – Timeline with Sound Waves in the Flyby Layer

Using the Sounds Library

Flash CS4 includes a *Sounds Library* containing many useful sounds that can be used for effects.

To import a sound from the Sounds Library:

1. Click the **Windows** menu, point to **Common Libraries**, and select **Sounds**. The **Sounds Library** panel opens (see Figure 16).
2. Drag the **Science Fiction Sci-Fi Electronic Short Computer Calculation 64.mp3** sound file from the **Sounds Library** panel to the **Library** panel.
3. Right-click the **Sounds Library** panel tab and select **Close**.

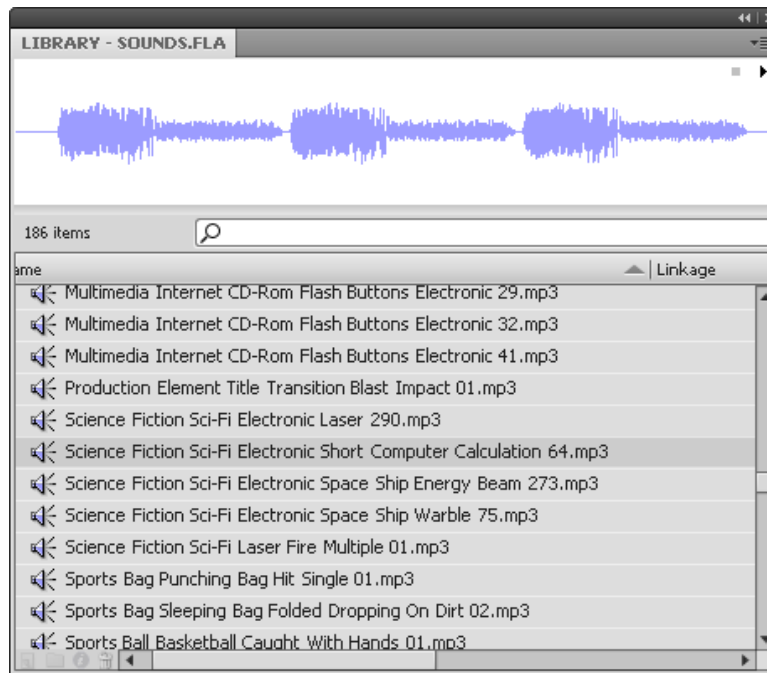


Figure 16 – Sounds Library Panel

4. Select the **lasers** layer in the **Timeline**.
5. Right-click frame **10** of the **lasers** layer and select **Insert Blank Keyframe**.
6. Drag the **Science Fiction Sci-Fi Electronic Short Computer Calculation 64.mp3** sound file from the **Library** panel to the **Stage**. Sound waves are added to the **lasers** layer in the **Timeline** (see Figure 17).
7. Press **Ctrl+Enter** to preview the animation.

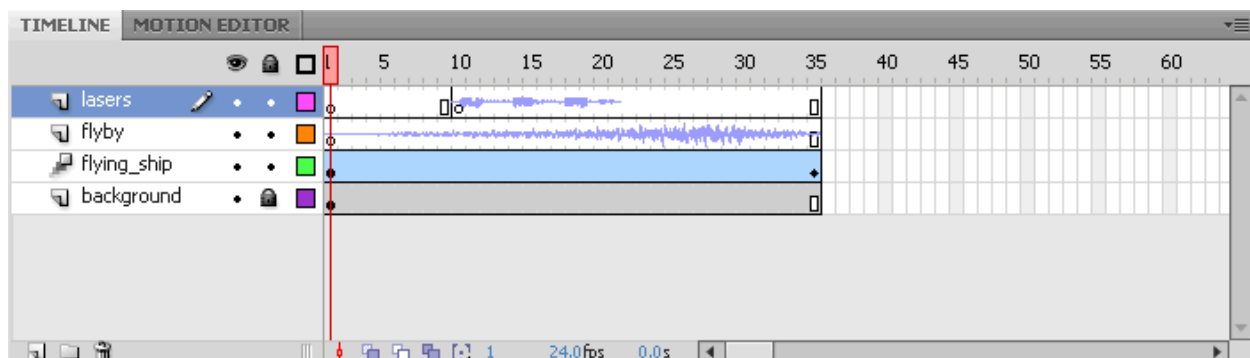


Figure 17 – Timeline with Sound Waves in the Lasers Layer

Increasing Interactivity

Flash CS4 can be used to create rich and interactive content.

Creating a Button Symbol

Button symbols can be used to create interactive buttons that respond to mouse clicks, rollovers, or other actions. Button symbols contain a specialized internal Timeline with four frames. The first three frames display the button's three possible states; the fourth frame defines the active area of the button (see Table 1). ActionScript is required to control button instances.

Table 1 – Button States

State	Description
Up	How the button looks whenever the mouse pointer is not over it.
Over	How the button looks when the mouse pointer is placed over it.
Down	How the button looks when it is clicked.
Hit	The area that responds to the mouse click.

To create a button symbol:

1. Click the **File** menu and select **Open**. The **Open** dialog box opens.
2. Locate and select the **site_station fla** file, and then click the **Open** button.
3. Click the **Insert** menu and select **New Symbol**. The **Create New Symbol** dialog box opens (see Figure 18).
4. Type **explore_button** in the **Name** box.
5. Click the **Type** arrow and select **Button** from the list.
6. Click the **OK** button.

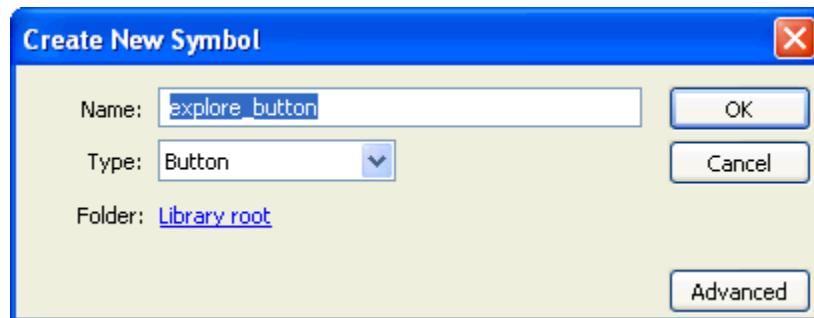


Figure 18 – Create New Symbol Dialog Box (explore_button)

To create a text button:

1. Select the **Text** tool **T** in the **Tools** panel.
2. In the **Property inspector**, under **Character**, click the **Family** arrow and select **OCR A Extended** from the list.
3. Click the hot text next to **Size** and type **20** in the box.
4. Click the **Color** box and select the color **black (#000000)** from the palette.
5. Click in the center of the **Stage** and type **Explore**.

To align the text on the Stage:

1. Select the **Selection** tool **☒** in the **Tools** panel.
2. Click the **Window** menu and select **Align**. The **Align** panel opens (see Figure 19).
3. Drag the **Align** panel by its title bar and place it above the **Property inspector** and the **Library** panel.
4. Click to select the **To stage** button **☐** in the **Align** panel.

- Click the **Align horizontal center** button  and the **Align vertical center** button  in the **Align** panel.

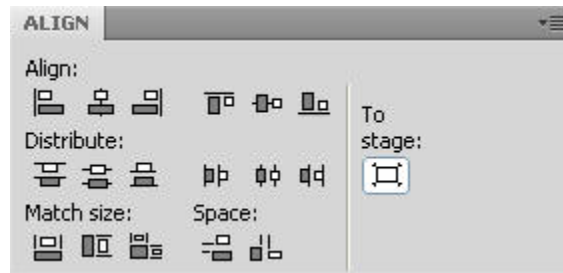


Figure 19 – Align Panel

NOTE: The **Align** panel can be used to keep all symbols centered. Symbols that are not centered may cause positioning problems in the main **Timeline**.

To set the Over state of the button symbol:

- In the **Timeline**, right-click the **Over** frame and select **Insert Keyframe**.
- Click the **Explore** text on the **Stage**.
- In the **Property inspector**, click the **Color** box and select the color **grey (#666666)** from the palette.
- In the **Timeline**, right-click the **Down** frame and select **Insert Keyframe**.
- In the **Timeline**, right-click the **Hit** frame and select **Insert Keyframe** (see Figure 20).

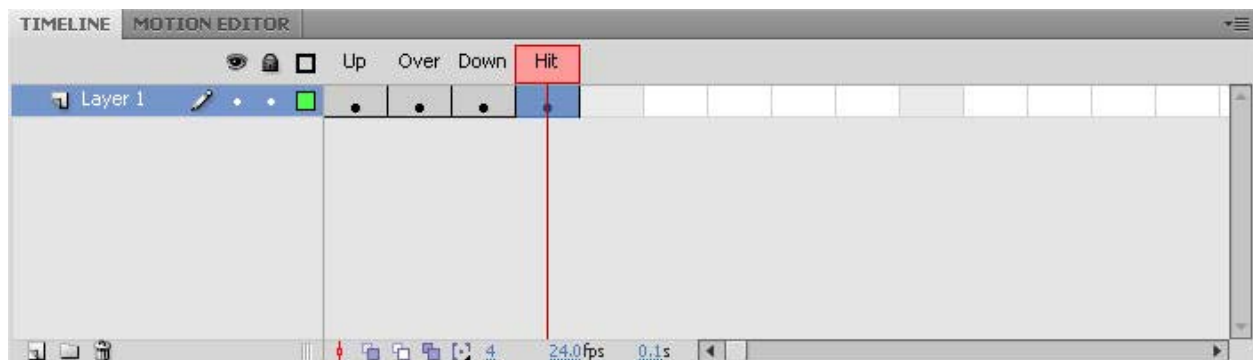





Figure 20 – Timeline of a Button Symbol

To insert the button:

- Click **Scene 1** on the **Edit** bar to return to the main scene.
- In the **Timeline**, click to select frame **1** of the **explore** layer.
- Drag the **explore_button** symbol from the **Library** panel to the **Stage**.
- Right-click frame **2** of the **explore** layer and select **Insert Frame**.

To align all the buttons together:

- With the **explore** layer still selected, hold down the **Shift** key and click to select the **about** and **home** layers (see Figure 21).
- In the **Align** panel, click to deselect the **To stage** button .
- Click the **Align left edge** button  and the **Distribute vertical center** button .
- Press **Ctrl+Enter** to preview the animation and test the buttons.

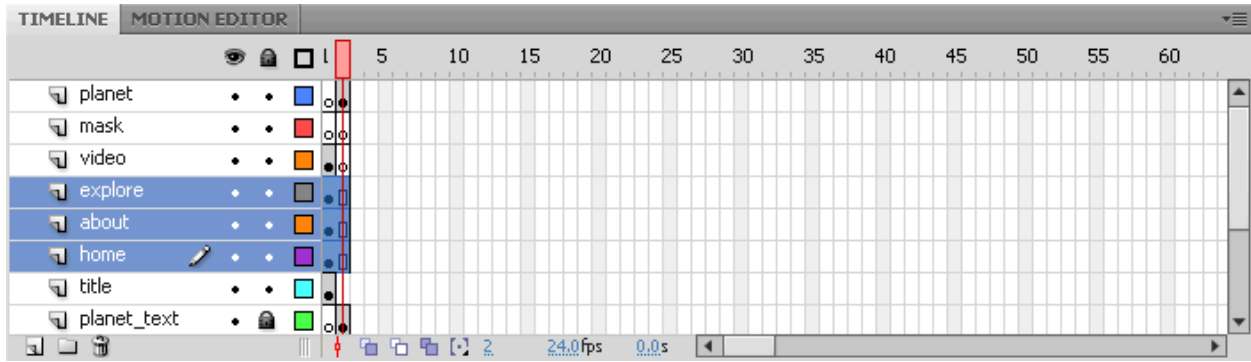


Figure 21 – Three Button Layers Selected in the Timeline

To preview the next page:

1. Click the **Control** menu and select **Step Forward One Frame**.

Using the Buttons Library

A quick way to add a button to a Flash document is by using one of the predesigned buttons in the *Buttons Library*.

To insert a button from the Buttons Library:

1. Click the **Window** menu, point to **Common Libraries**, and select **Buttons**. The **Buttons Library** panel opens (see Figure 22).
2. Click the arrow next to the **buttons bar** folder to expand it.
3. Drag the **bar grey** button symbol from the **Buttons Library** panel to the **Library** panel.
4. Right-click the **Buttons Library** panel tab and select **Close**.

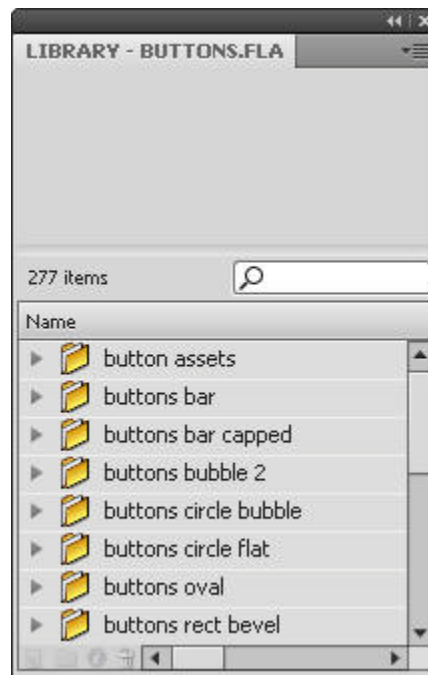


Figure 22 – Buttons Library Panel

Importing and Embedding a Flash Video File

To import a video into a Flash document, it must be in either the FLV or F4V format. These Flash video formats stream high quality video at a very low file size. Users can embed a small, short-duration video file directly into a Flash document and publish it as part of the SWF file.

To import and embed a video:

1. In the **Timeline**, click to select frame **1** of the **video** layer.
2. Click the **File** menu, point to **Import**, and select **Import Video**. The **Import Video** dialog box opens (see Figure 23).
3. Click the **Browse** button. The **Open** dialog box opens.
4. Locate and select the **mars_video.f4v** video file, and then click the **Open** button.
5. Click the **Next** button.

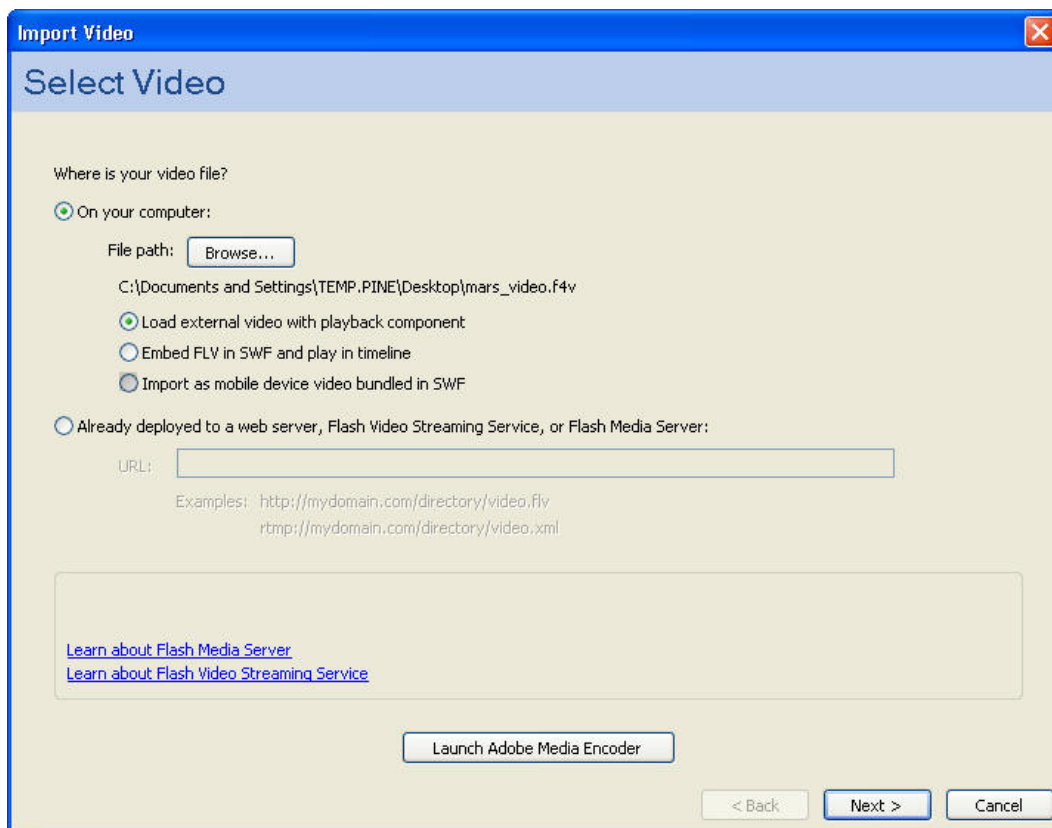


Figure 23 – Selecting a Video File in the Import Video Dialog Box

6. Click the **Skin** arrow and select **SkinUnderAll.swf** from the list (see Figure 24).
7. Click the **Color** box and select the color **black (#000000)** from the palette.
8. Click the **Next** button.
9. Click the **Finish** button.

NOTE: The video is imported directly onto the **Stage**.

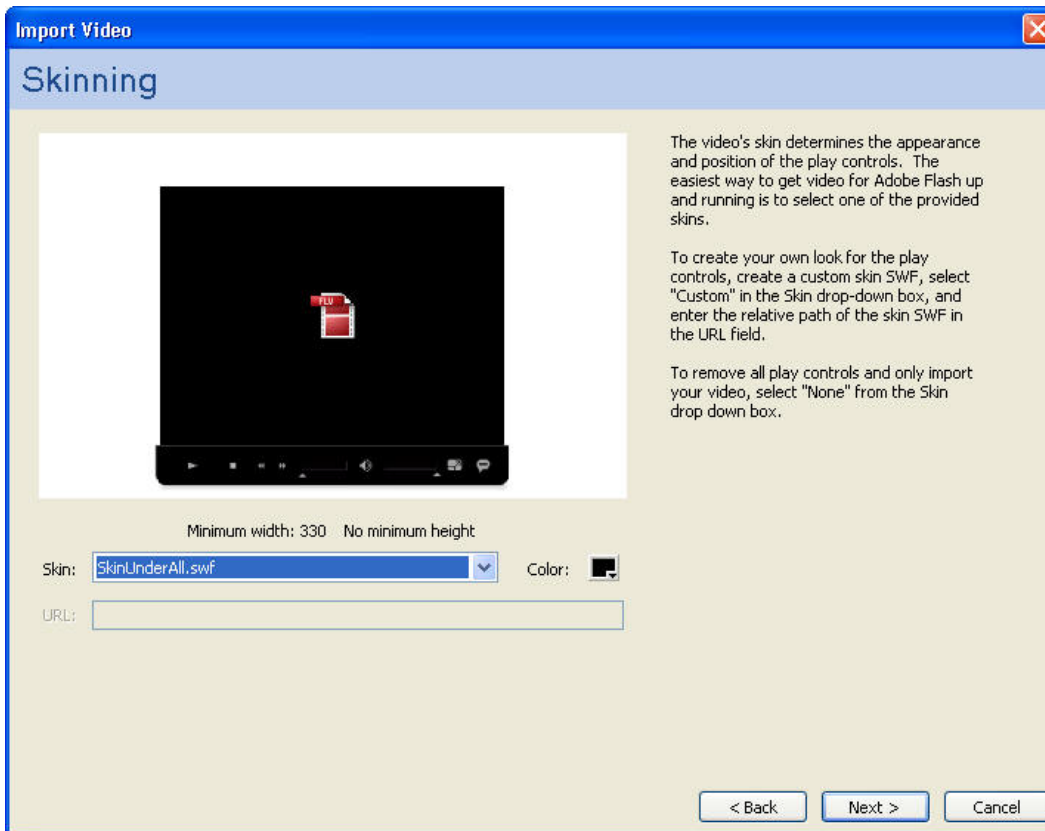





Figure 24 – Selecting a Video Skin in the Import Video Dialog Box

To resize the video:

1. Make sure the **mars_video.f4v** video is selected on the **Stage**.
4. Select the **Free Transform** tool  in the **Tools** panel. Transformation handles appear around the video.
3. Drag the handles to resize the video.
4. Position the video under the **Video** heading.

To change the Playback settings:

1. Select the **Selection** tool  in the **Tools** panel.
2. Select the **mars_video.f4v** video on the **Stage**.
3. In the **Property inspector**, click the **Component Inspector panel** button . The **Component Inspector** panel opens.
4. Click the value next to **autoPlay**, click the down arrow that appears, and select **false** (see Figure 25).

NOTE: Setting **autoPlay** to true makes the video play automatically when the site loads.

5. Right-click the **Component Inspector** panel tab and select **Close**.
6. Press **Ctrl+Enter** to preview the video in the SWF file.

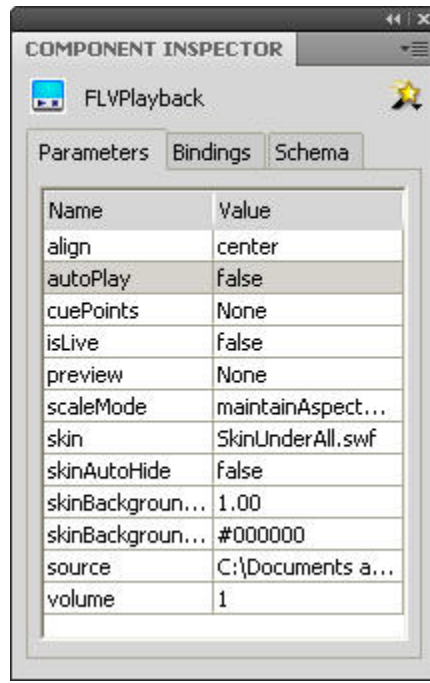


Figure 25 – Component Inspector Panel



Manipulating Symbols

Blend effects, masks, and filters can be used to change the appearance of symbols.


Applying Blend Effects

Blend effects change the appearance of an image on the Stage by combining it with the color content of objects beneath it. Some of the effects include darken, multiply, lighten, and screen.

To insert a symbol:

1. In the **Timeline**, click the eye icon  at the top of the **Eye** column to hide all layers.
2. Click the red x icon  next to the **background** layer to show the layer.
3. Select the **background** layer in the **Timeline**.
4. Drag the **galaxy_overlay** symbol from the **Library** panel to the **Stage**.

To apply a blend effect:

1. In the **Property inspector**, click the arrow next to **Display** to expand the section.
2. Under **Display**, click the **Blending** arrow and select **Hard Light** from the list (see Figure 26).
3. In the **Timeline**, right-click frame **2** of the **background** layer and select **Insert Keyframe**.
4. Double-click the eye icon  at the top of the **Eye** column to show all layers.

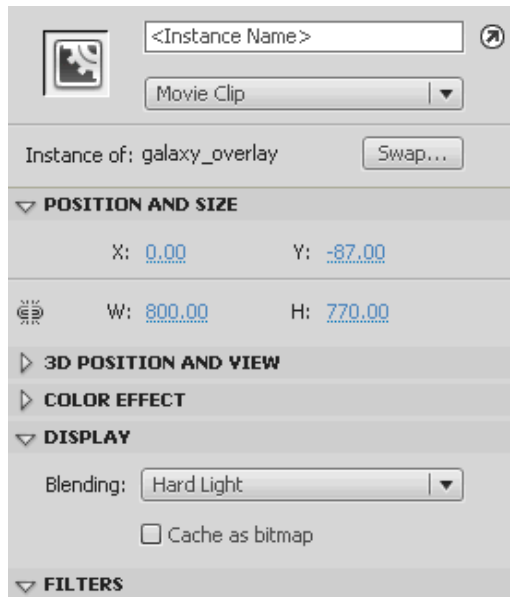


Figure 26 – Display Section of the Property Inspector

Masking

Applying a mask creates a hole through which underlying layers are visible. A mask item can be a filled shape, a type object, an instance of a graphic symbol, or a movie clip.

To create a mask:

1. In the **Timeline**, click to select frame **2** of the **mask** layer.
2. Drag **outerspace.jpg** from the **Library** panel to the **Stage** and place it on top of the planet shape (see Figure 27).
3. In the **Timeline** panel, right-click the **planet** layer and select **Mask**.
4. Press **Ctrl+Enter** to preview the SWF file.




Figure 27 – Masking Effect

Applying Filters

Filters can be used to add interesting visual effects to text, buttons, and movie clips. Multiple filters can be applied to a single object. Flash includes preset filters such as drop shadow, blur, glow, and bevel.

To apply a filter:

1. In the **Timeline**, click to select frame **1** of the **title** layer.
2. Click the **International Space Alien Station** text on the **Stage**.

3. In the **Property inspector**, click the arrow next to **Filters** to expand the section.
4. In the **Filters** section, click the **Add filter** button  and select **Drop Shadow**. The **Drop Shadow** filter appears in the **Filters** section (see Figure 28), and a drop shadow is applied to the selected text.
5. Click the hot text next to **Blur X** and type **6** in the box.
6. Click the hot text next to **Blur Y** and type **6** in the box.
7. Click the hot text next to **Strength** and type **35** in the box.
8. Click the hot text next to **Distance** and type **2** in the box.
9. In the **Timeline**, right-click frame **2** of the **title** layer and select **Insert Keyframe**.
10. Press **Ctrl+Enter** to preview the SWF file.

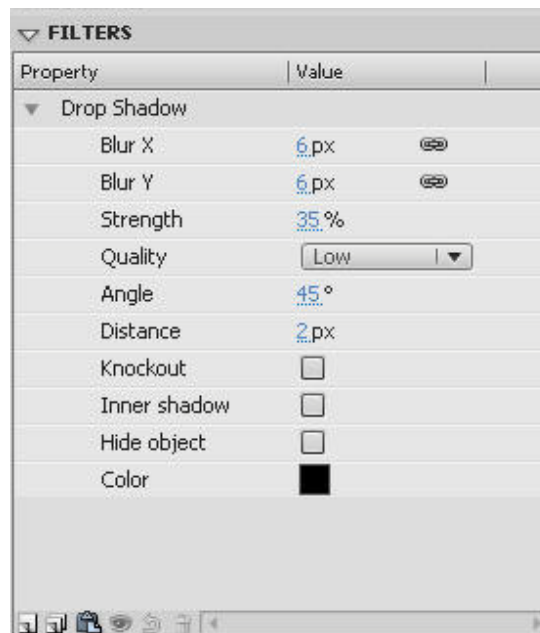


Figure 28 – Filters Section of the Property Inspector