Working with the BCC Sphere Filter

The Sphere shape maps the source image onto a 3D modeled sphere. A number of controls allow you to adjust the position, scale, size, and pivot point of the shape, crop and mask the sphere, adjust the camera perspective of the sphere, apply motion blur and lights, and control the compositing of the sphere with other objects.

The BCC Sphere can also be used as a transition. For information on how to apply a Sphere as a transition, see Chapter 1 in the User Guide.

For details on the common parameters, see the User Guide.

Faces Parameter Group

The **Source menu** allows you to choose any clip layer in the timeline to map to the surface of the sphere. If you choose **None**, the filtered clip is used.

The **Wrap menu** determines how the source image wraps around the sphere.

**Around** wraps the image completely around the shape. This is the most likely choice to use to place media on the shape and spin or tumble it. If the image is fully wrapped, wrapping Around only shows roughly half the source at any given time. This is not always the best choice if you do not spin or tumble your sphere. As you unwrap the sphere using the Around setting, the source covers a smaller part of the modeled shape, and the uncovered area becomes transparent.

**One Way Repeat** renders two copies of the source image, one on the front and one on the back of the sphere. You can see the seam between the two images if you spin the sphere 90° or 270°. Unwrapping the sphere using One Way Repeat causes multiple copies of the source (as many as required to fill the shape) to wrap horizontally around the shape.
Back & Forth Repeat also renders two copies of the source, but the back copy is a mirror image. This causes the corresponding sides to line up and mirror each other at the seams. This setting unwraps in the same manner as the One Way Repeat setting.

Front maps the image onto the front of the sphere and leaves the back transparent. This creates a semi-sphere, visible if you spin or tumble the object. In this example, the sphere has been rotated 90° to show the transparent back half.

Tile is similar to One Way Repeat, but it also repeats the image vertically as it unwraps. You can create a tiled sphere by reducing Scale and Wrap Percentage.

The Faces menu determines which faces of the sphere are visible and allows you to map a separate image to the inside of the sphere.

• Choose Front to map the chosen Source Layer to the outside of the sphere.
• Back maps the Source Layer to the inside of the sphere.
• Both maps media to both the inside and outside of the shape. When Both is chosen, you can map another layer from the timeline to the inside of the sphere using the Alternate Back menu.

Front Opacity controls the opacity of the image on the outside of the sphere. You can use this setting to make the outside of the sphere partially or fully transparent to reveal an image on the inside. A setting of 100 makes the outside of the sphere completely opaque; a setting of 0 makes the outside completely transparent.
Geometry Parameter Group

**Position Acceleration** lets you ease in or out of keyframes for the Position parameters. At a value of 0, Linear interpolation is applied; a value of 100 provides a significant curve for easing in and out of keyframe values. If the Position values are not animated, this parameter has no affect.

**Position XY** sets the X and Y coordinates of the center point of the sphere.

**Position Z** adjusts the apparent depth of the sphere. Decreasing negative values move the sphere closer to the viewer, while increasing positive values move the sphere farther away from the viewer. Very low Position Z values move the sphere behind the viewer, making it invisible.

**Wrap Percentage** controls the extent to which the image wraps around the shape. As Wrap Percentage approaches 0, the shape is less spherical and closer to the original flat image. A Wrap Percentage of 100 wraps the image completely around the sphere. As you reduce the value, four things happen to the physical model: the radius gets larger, the image is mapped on a smaller section of the 3D shape, the viewer’s eye moves further away, and the aspect ratio is adjusted toward the original aspect ratio of the source. The overall effect is a gradual flattening of the image as the sphere unwraps.

If you spin, tumble, or rotate a sphere and then unwrap it, the object moves back to its original position in 3D space as it unwraps. To animate the sphere so that it spins through one full revolution and unwraps, animate Spin from –360 to 0 (or 360 to 0 to go the other direction). Otherwise, the image’s motion counteracts the Spin as it moves to the original, unrotated position.

**Scale Acceleration** lets you ease in or out of keyframes for the Scale parameter. At a value of 0, Linear interpolation is applied; a value of 100 provides a significant curve for easing in and out of keyframe values. If the Scale value is not animated, this parameter has no affect.

**Scale** adjusts the size of the sphere.

**Rotation Acceleration** lets you ease in or out of keyframes for the Tumble, Spin and Rotate parameters. At a value of 0, Linear interpolation is applied; a value of 100 provides a significant curve for easing in and out of keyframe values. If the Tumble, Spin and Rotate values are not animated, this parameter has no affect.
Tumble, Spin, and Rotate move the sphere around the X, Y, and Z axis respectively. Tumble, Spin, and Rotate can be animated over values greater than 360° to make the sphere complete more than one full revolution.

The Crop controls crop the edges of the image. The Crop Top-Left and Crop Bot-Right set the upper left and lower right corners of a rectangle that define the borders of the crop.

**Motion Blur Parameter Group**

Select the Motion Blur On checkbox to turn Motion Blur on.

Motion Blur is a very processor-intensive feature. You might want to turn motion blur off while you work, then enable it just before rendering. You can also select the Draft Mode checkbox in the General Controls parameter group to speed your previews. Remember to deselect this checkbox before rendering.

The Motion Blur menu determines how many times the effect samples between the time the “shutter” opens and the time it closes. Increasing the number of samples creates a smoother blur but increases render and preview time proportionately. Choose **Rough**, **Medium**, **Smooth**, or **Smoothest**. Rough uses the fewest samples, while Smoothest uses the most.

**Shutter Angle** refers to the workings of a conventional film camera. Normally the shutter is open to 180°, meaning that the shutter is open for half of each frame. Increasing the angle opens the shutter longer, creating a wider blur. Decreasing the angle produces a thinner blur.

**Camera/Pivot Parameter Group**

The parameters in this section are identical to the corresponding controls in the DVE filter. See the DVE Filter in Chapter 3 of the User Guide for more information.

**Light 1, Light 2, and Light 3 Parameter Groups**

The parameters in this section are identical to the corresponding controls in the DVE filter. See the DVE Filter in Chapter 3 of the User Guide for more information.

**Drop Shadow Parameter Group**

For information on these parameters, see Chapter 1 in the User Guide, “Working with the Drop Shadow Controls”.