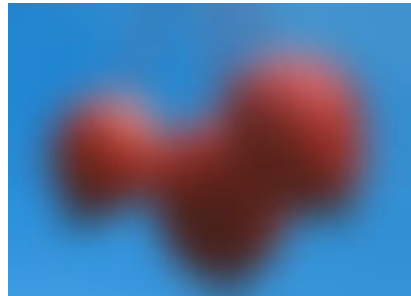


## BCC Gaussian Blur Filter

The Gaussian Blur filter implements a popular blur algorithm that produces smoother blurs but takes more time to render than the Basic Blur filter. Gaussian Blur softens the image by averaging each pixel with its neighboring pixels. The word “Gaussian” refers to the bell-shaped curve commonly used in statistical analysis. The shape of this curve determines how much each averaged pixel contributes to the output.



Source image

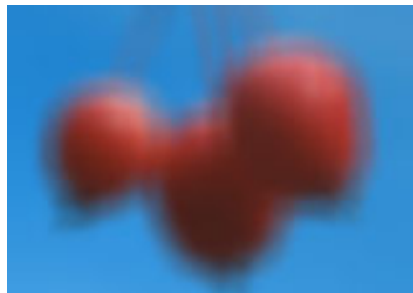


Filtered image

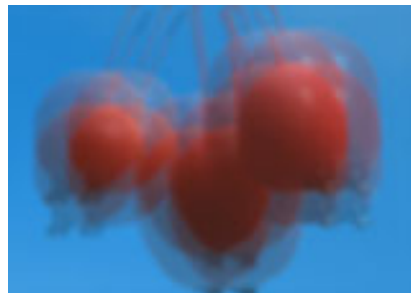
If the source image is opaque, selecting the **Opaque Source checkbox** can speed rendering and preview times. If your source is partially transparent, deselect this option for best results.

**Horizontal Blur** and **Vertical Blur** control the amount of blur in each direction. If **Lock Blur** is selected, Horizontal Blur sets the blur amount in both directions.

**Spread** adjusts the blur computation to create multiple image effects. At the default setting of 0, the input image at each pixel contributes the most “weight” to the output for that pixel. Increasing Spread modifies the computation to give more weight to points away from the center and less weight to points close to the center. This produces a double vision effect.



Spread=50



Spread=100

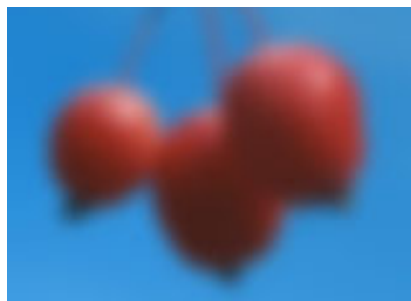
**Blur Threshold** reduces the amount of color change to each pixel by the threshold amount. Increasing Blur Threshold causes the parts of the image with abrupt changes in color to blur, while areas with subtle details remain unchanged.

**Maximum Deviation** sets the maximum deviation (based on 8 bit color) allowed for any channel. Reducing this value limits the amount a color can change. This becomes more noticeable at values below 30. Very small values of Maximum Deviation can be useful (especially combined with the PixelChooser) to reduce noise in video and digital stills.

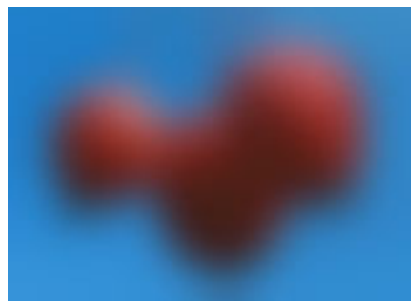
The **Avoid Clipping** checkbox allows you to render outside the source image. This will cause the edges of an opaque image that is the full size of the project to become partly transparent (just as some hosts such as After Effects' built-in blurs do). If this box is selected, the filter always uses Better Alpha Blending.

The **Blur Quality menu** controls the quality of the blur. *Pyramid* is the fastest option and is generally adequate. It produces a blur similar in quality to the Pyramid Blur filter. *Pyramid Smoother* produces a better quality pyramid blur and increases rendering times slightly. The remaining choices, *Gaussian Low*, *Gaussian Medium*, *Gaussian High*, *Gaussian Higher*, and *Gaussian Highest* produce gaussian blurs of increasing quality. These options increase rendering times proportionately.

**Iterations** determines the number of times the blur is applied to the image. Increasing Iterations produces smoother blurs but increases render and preview time.



Iterations=2



Iterations=10

The **Apply Mode menu** controls how the filtered image is composited with the source image.



For descriptions of all the possible Apply Modes, see Appendix A in the User Guide.

**Apply Mix** controls the mix of the specified Apply Mode with the *Normal* apply mode. If the Apply Mode is Normal, Apply Mix has no effect. If Apply Mix is 0, Apply Mode has no effect. Increase Apply Mix to blend the Apply Mode setting with the Normal apply mode.

The **Channels menu** specifies which channels are blurred. You can blur all four channels (*RGBA*), just the *RGB* channels, just the *Alpha* channel, or any combination of the *Red*, *Green*, and *Blue* channels.

**Mix with Original** blends the source and filtered images. Use this parameter to animate from the unfiltered to the filtered image without adjusting other settings, or to reduce the affect of the filter by mixing it with the source image.

If you are using the controls in the PixelChooser parameter group, the **Apply PixelChooser menu** determines when the PixelChooser controls are applied to the blurred image.

- Choose *Post-Effect* for the PixelChooser to affect the image before the blur is applied.
- Choose *Pre-Effect* for the PixelChooser to affect the image after the blur is applied.
- Choose *Both* for the PixelChooser to affect the image both before and after the blur is applied.

### **The PixelChooser Parameter Group**

The PixelChooser is included in many Boris filters and provides several methods to selectively filter an image.



For more information on the PixelChooser, see Chapter 10, “The PixelChooser” in the User Guide, or open the help file for the standalone PixelChooser filter.