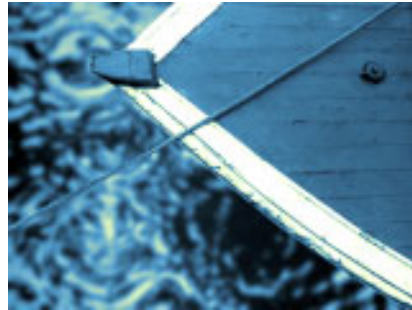


BCC MultiTone Mix Filter

The MultiTone Mix filter uses the source image's color, luma, or alpha information to create a toned image that uses up to five independent colors. MultiTone Mix works by creating a color map based on a specific channel in the source image, then replacing each color range in the map with a new color.



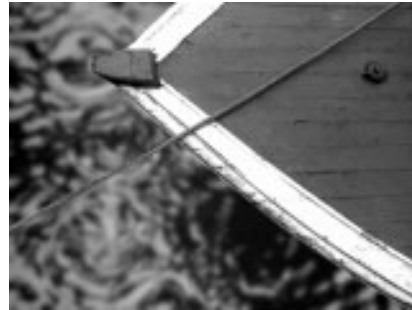
Source image



Filtered image

MultiTone Mix processes an image using the following steps:

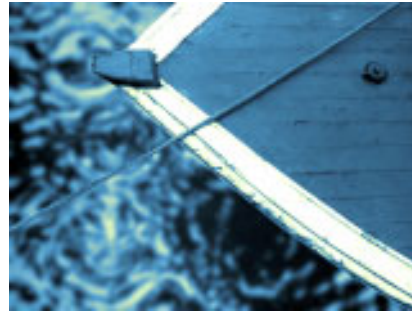
1. MultiTone Mix looks at the channel from the source image that is selected as the Input Channel. In this example, the image's Luma channel is used as the Input Channel.



2. Where the value of the Input Channel is 0, the Black Color is substituted. Where the value of the Input Channel is 255, the White Color is substituted. Three additional points on the value range, which are specified in the Settings tab, are replaced with the pure Color 1, Midpoint, and Color 3 colors.



3. Pixels whose Input Channel value falls between the specified points are replaced with a mix of two contiguous colors. For example, if a pixel's value falls between the Color 1 and Midpoint levels, it is replaced with a blend of the Color 1 and Midpoint colors.



The **Black Source menu** sets the media used to replace black pixels in the Input Channel.

Black Color sets the color output for pixels whose Input Channel value is 0.

The **Source 1, Midpoint Source, and Source 3 menus** set the sources used to replace intermediate pixels whose input channel values equal the corresponding color level.

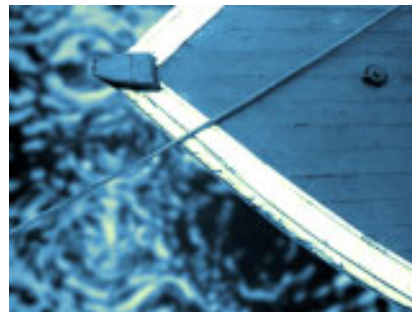
The **White Source menu** sets the source that is used to replace white pixels in the Input Channel.

For each of these menus, you can choose from the following options:

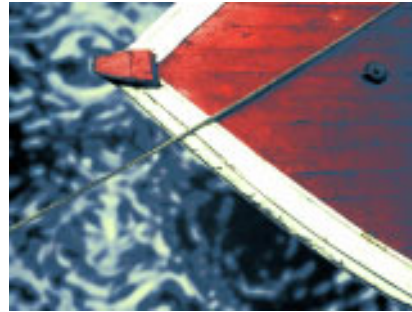
- **Color** uses the corresponding color chosen with the Black Color, Color 1, Midpoint Color, Color 3, or White Color parameters (see below).
- **Layer 1** and **Layer 2** use the color information from the corresponding clips or layers selected in the Source Layer 1 and Source Layer 2 menus (see page 34).
- **Off** eliminates the corresponding input level from the composite image, ignoring the corresponding color chosen with the Black Color, Color 1, Midpoint Color, Color 3, or White Color parameters (see below). This option is not available in the Black Color or White Color menus.

For example, if you set Color 1, Midpoint Color, and Color 3 to Off and Black and White to Color, the filter acts as a simple toner, mapping the image from the black color to the white color.

In this example, all of the Source menus are set to Color. The source image pixels are toned according to the chosen Black Color, Color 1, Midpoint Color, Color 3, and White Colors.



In this example, the Source 1 menu has been set to Layer 1, and the Source Layer 1 menu is set to the original source image. The dark grey pixels in the source image retain their original color. The Black Source, Midpoint Source, Source 3, and White Source menus are still set to Color, so that the other pixels in the source image are toned according to the chosen Black Color, Color 1, Midpoint Color, Color 3, and White Colors.



In this example, the Color 1 menu has been set to Off, so the dark gray level is eliminated from the range. The dark gray pixels in the source image have been toned a mixture of the Black Color (purple) and the Midpoint Color (yellow) according to their luminance values.



White Color sets the color output for pixels whose Input Channel value is 255.

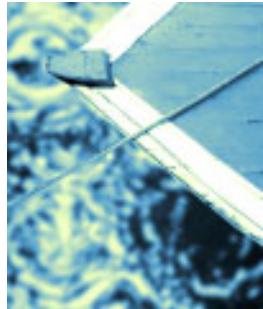
The **Color 1**, **Midpoint Color**, and **Color 3** determine the colors output for pixels at intermediate values on the input value range. You can adjust the values that are output to each color with the Level parameters (see below).



The Black Color, White Color, Color 1, Midpoint Color, and Color 3 colors are used in the output only if the corresponding Source menu is set to Color.

The Level parameters control the levels at which the output is taken directly from each source.

- **Source 1 Level** is the input channel value for which the output is the pure Color 1 color. A value of 0 sets this level to the Black Level, and a value of 100 sets it to the Midpoint Level.
- **Midpoint Level** is the input channel value (between 0 and 255) for which the output is the pure Midpoint color. Decreasing the Midpoint Level gives more prominence to the Color 3 and White Colors because it widens the input value range for these colors. Conversely, increasing the Midpoint Level gives more prominence to the Color 1 and Black Colors.



Midpoint Level=75



Midpoint Level=125



Midpoint Level=175

- **Source 3 Level** is the input channel value for which the output is the pure Color 3 color. A value of 0 sets this level to the Midpoint Level, and a value of 100 sets it to the White Level.

The **Source Layer 1 menu** sets the source clip or layer used for any source(s) set to Layer 1. If Source Layer 1 is set to *None*, the input layer is used with previous filters applied. If it is set to one of the layers in the composition, the corresponding layer is used with no filters applied.

The **Source Layer 2 menu** sets the source clip or layer used for any source(s) set to Layer 2. If Source Layer 2 is set to *None*, the input layer is used with previous filters applied. If it is set to one of the layers in the composition, the corresponding layer is used with no filters are applied.

The **Input Channel menu** specifies the channel in the source image used to create the color map for the toned image. The choices are *Luma, Red, Green, Blue, Luma Inverse, Red Inverse, Green Inverse, and Blue Inverse*.

The **Output Channels menu** specifies the channels in the image to be processed and output by the filter. The choices are *RGB, Red, Green, Blue, Red and Green, Red and Blue, Green and Blue, and Difference*. Difference uses the difference between each filtered channel and the corresponding source channel.

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

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.