

20. The FX Menu

The FX menu contains image processing, synthetic texture, filter and utility effects. There are five groups of effects:

- **Image Process.** A wide variety of processing functions including effects as simple as a black & white filter as well as more advanced operations like distortion or motion blur.
- **Image Correct.** Color and luminance filters.
- **Boolean.** As the name suggests, boolean arithmetic on images.
- **Noise.** A variety of noise filters, which can be used to modify images or to produce black & white images, suitable for special wipes, bumps or distortions.
- **(De)Interlace.** Effects to create a single interlaced frame from two single inputs, and to de-interlace interlaced frames.
- **Utility.** Some useful tools and black & white image pattern generators.

Creating Effects

A new fx clip is created by selecting the corresponding menu entry from the fx menu.

If one or more clips are selected in the reel, an effect clip is created for each of them and placed on top of the bar in the reel. Its length will be exactly the same as the length of the underlying clip object. Its effect extent or scope will be set to comprise the clip the effect is “fitted” to.

If nothing is selected from the reel, the new clip will be placed at the current position of the Reel cursor (see “Cursors and Markers” on page 43) and it will have a length of one (1) second.

Effect length and scope (see “Effects Clip: Fx (Red-Orange)” on page 50) can be changed at any time with the dragging operations described in the Reel reference manual: with the right and left mouse button the clip can be trimmed, while the effect scope can be dragged with the mouse left button to the extent desired.

Effect Parameters

Effect parameters can be adjusted by opening the Time Editor window (see “The Time Editor” on page 85) and selecting the clip to be modified. Its parameters, if any, will then be displayed as timecurves in the time editor window. For 3D effects and colors, special editors may be invoked from the timecurve editor window as well (see “3D View” on page 91 and “Color View” on page 96).

Although the effect clips from the FX menu do not operate on multiple input tracks, some of them can operate with multiple independent parameter sets (or Track Parameters, see “Timecurves” on page 89). You can add a new set of track parameters for this group of effects by using AddTrack from the time editor menu just as you would use it to add new input tracks.

Chapter Organization

The remainder of this chapter is organized as a separate manual page for each effect clip available. There is:

- A short description of the effect
- A list of possible inputs, denoting if image or alpha information, or both are used to calculate the effect
- A description of the output in image and mask (alpha) channel
- A parameter description. There can be two types of parameters:
 - Global parameters are present once and control global effect operation
 - Track parameters are present once for each input track
- A comment section where applicable
- A reference to other related effects

20.1 B & W

Description

Removes all the color from the input track and outputs a black & white version.

Inputs

1. The image track to be processed
 - Image and, optionally, alpha. If alpha is present, the effect will only be applied to areas masked

Output

- Image: a black & white version of the input image channels
- Mask: the mask channel of the input is piped through unmodified

Parameters

None.

Comments

The alpha channel of the input is used to limit the application of the effect to masked image areas.

See Also

None.

20.2 Negative

Description

Creates a “negative” from the input track.

Inputs

1. The image track to be negated
 - If alpha is present, the effect will only be applied to areas masked

Output

- Image: a negative version of the input image channels
- Mask: the mask channel of the input is piped through unmodified

Parameters

None.

Comments

The alpha channel of the input is used to limit the application of the effect to masked image areas.

See Also

“Complement” on page 235

20.3 Blur

Description

Blurs the image and/or mask channel of the input track

Inputs

1. The image track to be processed
 - Image and, optionally, alpha. Blur will be applied to both, depending on parameter settings.

Output

- Image: a blurred version of the input image channels
- Mask: a blurred version of the input alpha channel

Parameters

- RadC: the blur radius in pixels for the image channel of the input. Although there is no upper limit to the possible values, usually small values (<10 or even <5) are more than sufficient. If a mask channel is present, the blur is only applied to the masked areas.
- RadA: the blur radius in pixels for the mask channel of the input. Although there is no upper limit to the possible values, usually small values (<10 or even <5) are more than sufficient.

Comments

The alpha channel of the input is used to limit the application of the effect to masked image areas.

Blur is not very useful for “Depth of field” effects in a composite, as it may introduce a “contamination” with the original background color. To prevent this, use the Foreground Blur effect.

See Also

“Foreground Blur” on page 183

20.4 Sharpen

Description

Sharpens the image channel of the input track.

Inputs

1. The image track to be processed
 - Image and, optionally, alpha. If alpha is present, the effect will only be applied to areas masked

Output

- Image: a sharpened version of the input image channels
- Mask: the mask channel of the input is piped through unmodified

Parameters

- Rad: The radius of the sharpen filter in pixels.
 - Default: 0. A good effect is typically accomplished with a value around 0.22
- Ampl: contrast value for the sharpening effect.

Comments

The alpha channel of the input is used to limit the application of the effect to masked image areas.

See Also

None.

20.5 Solarization

Description

Creates a solarization effect. Solarization is a contrast enhancement applied to a number of brightness “bands”, or ranges, in the image independently. In each of these bands, bright colors will be made brighter and dark colors made darker.

Inputs

1. The image track to be processed
 - Image and, optionally, alpha. If alpha is present, the effect will only be applied to areas masked

Output

- Image: a processed version of the input image channels
- Mask: the mask channel of the input is piped through unmodified

Parameters

- Steps: the number of “bands” the image is subdivided to. With a value of 1, the contrast change is applied to the whole color range of the image, in effect degenerating the solarization effect to a contrast filter. The higher the number, the higher the number of independent contrast bands.
- Grade: the amount of contrast increase applied to each band.

Comments

With the Steps parameter set to 1, the Solarization operates like a simple contrast filter.

The alpha channel of the input is used to limit the application of the effect to masked image areas.

See Also

None.

20.6 Posterization

Description

Reduces the number of color levels per base color.

Inputs

1. The image track to be processed
 - Image and, optionally, alpha. If alpha is present, the effect will only be applied to areas masked

Output

- Image: a posterized version of the input image channels
- Mask: the mask channel of the input is piped through unmodified

Parameters

- Steps: the number of color levels. 256 is the maximum, as this is the original image color resolution per channel when captured with 24 bit color resolution.

Comments

The alpha channel of the input is used to limit the application of the effect to masked image areas.

See Also

None.

20.7 Mosaic

Description

Creates a mosaic effect from the image by averaging a rectangle of pixels to a single value

Inputs

1. The image track to be processed
 - Image and, optionally, alpha. If alpha is present, the effect will only be applied to areas masked

Output

- Image: a processed version of the input image channels
- Mask: the mask channel of the input is piped through unmodified

Parameters

- SizeX: X size of the mosaic tile in percent of picture width
- Size Y: Y size of the mosaic tile in percent of picture width

Comments

The alpha channel of the input is used to limit the application of the effect to masked image areas.

See Also

None.

20.8 Bump

Description

Creates a bump effect, often also called “emboss”, i.e. the illusion that parts of the image are raised or etched in. The bump effect, in contrast to the displacement mapping achieved using the 3D DVE, is just an illusion - that is, when you rotate the bumped image in 3D space, you will not see any 3D profile. Bump does only work convincingly in a frontal or just slightly rotated view.

Inputs

1. The image track to be processed
 - Image and alpha. The information in the alpha channel determines the impression made on the image (and in some cases, the impression *of* the image, as well).

Output

- Image: a black & white version of the input image channels
- Mask: the mask channel of the input is piped through unmodified

Global Parameters

- Blur: blur the relief information. This will improve bump quality by removing banding effects and by creating the appearance of rather rounded emboss edges.
- LmtL: defines (in percent) a clip value for valley depth, i.e. the maximum depth for impressions. Note that the impression depth is not scaled, but clipped to the low value.
- LmtH: defines (in percent) a clip value for mountain height, i.e. the maximum height for reliefs. Note that the relief is not scaled, but clipped to the high value.
- Ampl: the overall amplitude of the bump. Negative amplitude values will impress the relief in the image, positive values will raise it.
- Shad: shadow intensity on the “non-lighted” side of the relief.
- Refl: Intensity on the bright side of the relief.
- TrX/TrY: an optional displacement in the image plane.
- IllumX/Y: the direction of the imaginary light shining on the relief. The default value (100/100) refers to light coming from the upper left corner, (0/0) would be light from screen center.

Comments

Usually, the alpha information used to determine the bump should not have too hard contrast edges. Slightly soft-edged information gives better bumps.

For best results, use the blur parameter of the bump effect to soften a bump. An external blur effect will not give the same result.

A typical use of bump:

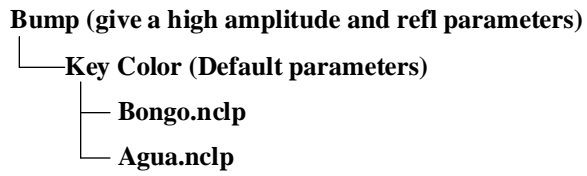


FIGURE 54. Example for Bump Usage

See Also

“DVE 3D” on page 191

“Noise” on page 237

“Plasma” on page 240

“Wave Patterns” on page 248

“Stripe Patterns” on page 250

20.9 Distort

Description

Distorts an image using information taken from a second input channel.

The red level of the input determines distortion in X and the green level determines distortion in Y. Normally, distortion is only applied to the image channels of the input, but optionally the blue level of the input can be used to determine an amount of distortion for the alpha channel.

Inputs

1. The image track to be processed
 - Image and, optionally, alpha.
2. The image track used to do the distortion
 - Image only

Output

- Image: a processed version of the input image channels.
- Mask: a processed version of the input mask channel.

Global Parameters

- Zero X: the level of red input that defines undistorted X. By default 50, i.e. areas are distorted to the left if the red channel of the distortion track has a value smaller than 50 and to the right if its value is larger. This mapping can be readjusted.
- Zero Y: the level of green input that defines undistorted Y. By default 50, i.e. areas are distorted downwards if the green channel of the distortion track has a value smaller than 50 and upwards if its value is larger. This mapping can be readjusted.
- Zero A: have the blue value of the distortion input shift the alpha *value* of the input to be distorted. The alpha channel is always distorted geometrically in the same direction as the image channels, but with ZeroA it can also be distorted in value. ZeroA maps a value of Blue to “no changes” in alpha.
- Rad X: amount of distortion in X, in percent of screen width.
- Rad Y: amount of distortion in Y, in percent of screen width.
- Band A: amount of value shift in alpha.
- Zoom X/Y: optional zoom of the distorted image. Useful to refit the image to the screen in case a distortion has been strong enough make the background visible.
- ShX/Y: optional Shift of the distorted image. Useful to refit the image to the screen in case a distortion has been strong enough make the background visible.

Comments

See Also

“DVE 3D” on page 191

“Noise” on page 237

“Plasma” on page 240

“Wave Patterns” on page 248

“Stripe Patterns” on page 250

20.10 Motion Blur

Description

To each frame of an image clip, Motion Blur mixes an “echo” of the previous frame of the input. The result is a blur-like effect on moving parts of the image.

Inputs

1. The image track to be processed
 - Image only

Output

- Image: a processed version of the input image channels
- Mask: an empty (opaque) mask channel

Global Parameters

- Reverb: the extend of time for the echo; with higher values, echo time grows exponentially.

Comments

Motion Blur is a cumulative effect. You cannot see the effect in a still frame prior to rendering, because it has to be evaluated sequentially to make any sense. Therefore, scrubbing over it in random order with the monitor cursor might give quite erratic results.

You cannot have more than one motion blur effect at the very same time; if you need more than one concurrently or overlapping, use Render Group to precalculate the effect. It is perfectly safe to have one motion blur effect after the other in a reel, as long as they do not overlap.

See Also

“Feedback (Motion Trails)” on page 221

20.11 Feedback (Motion Trails)

Description

Although Feedback is quite universal, its most common application is to produce movement trails.

The Feedback effect acts like an image register. If you use feedback as an input, it will simply copy its input to its output - and it will keep a copy of the image piped through for itself.

A typical application for feedback is to pipe the result of a process tree for one frame back to the input, to be an input for processing the next frame.

If feedback has not been used at least once with an input track, it will just produce black images.

Inputs

Feedback can either have no input or a single input, consisting of image and optionally alpha.

Output

Feedback always outputs image and mask, if defined.

- If used without input: the last frame read into a feedback with input
- If used with input: an exact copy of the input, including mask.

Global Parameters

None.

Comments

Feedback is an accumulative effect that needs to be used at least as a pair. It has to be evaluated sequentially to make sense. Therefore, scrubbing over it in random order with the monitor cursor might give quite erratic results.

Feedback requires at least two instances to work: One with an input track that feeds the register, and one without to read the stored image. Once an image has found its way into the register, it can be read out as many times as desired. The content of the feedback register will be overwritten whenever the next frame of the effect with the input track is used. Using more than one feedback with input at the same or overlapping relative time in the reel is not advisable, as the content of the register then depends on the exact setup - actually, the last feedback with input evaluated determines register content.

An application for creating trails:

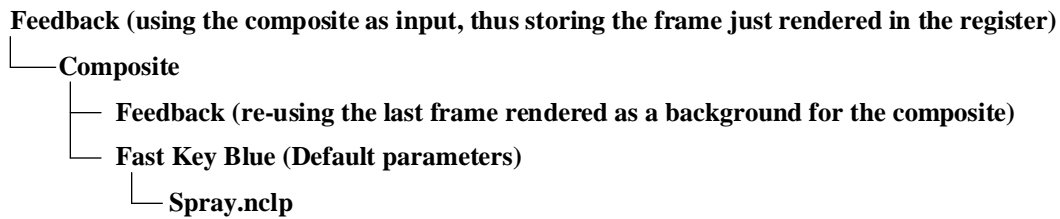


FIGURE 55. Motion Trails using Feedback

The example above works by feeding back a frame just rendered to be the new background for the composite of the next frame - the upper feedback puts the result of the composite in its register, and the feedback below uses this value to input it to the composite. You should evaluate this effect sequentially, using the shuttle buttons - although you can scrub through it, maybe even touch other feedback settings on the way, this will certainly not give you the same result as a sequential playthrough.

This just leaves open one question: Where does the input for the first frame come from? Actually, if there has not been an evaluation of any feedback with input before, the image output will be black. Otherwise, the last image stored is reused, no matter from where it came. To get a special background for the first time, use a setup like this:

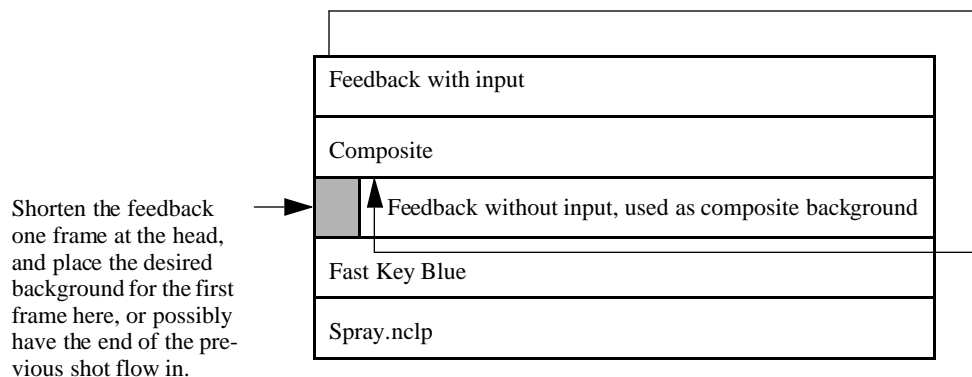


FIGURE 56. First Frame Background for Motion Trail Setup

See Also

None.

20.12 Border

Description

Creates a border around an image. This can be used as an effect, or to fill up the black borders that are usually the result of grabbing non-digital video.

Inputs

1. The image track to be processed
 - Image and, optionally, alpha.

Output

- Image: a processed version of the input image channels
- Mask: the mask channel of the input is piped through, but it may be modified in the area where the border is created.

Global Parameters

- Red: percentage of red color for the border to be created.
- Green: Percentage of green color for the border to be created.
- Blue: percentage of blue color for the border to be created.
- Gain: border Size in percent of image width
- Clip: softness of Border
- LRonly: a parameter for correction of typical digitalization errors. Very often, the uppermost and lowermost line of the signal are affected. If this parameter is set to 1, the upper and lower border will only fill these lines.

Comments

Border color can also be adjusted using the Color View from the time editor.

See Also

“Crop” on page 229

20.13 Luma

Description

Applies a luminance correction

Inputs

1. The image track to be processed
 - Image and, optionally, alpha. If alpha is present, the effect will only be applied to areas masked

Output

- Image: a processed version of the input image track
- Mask: the mask channel of the input is piped through unmodified

Global Parameters

- Gamma: apply a gamma correction
- Bright: increase or decrease image luminance

Comments

The alpha channel of the input is used to limit the application of the effect to masked image areas.

See Also

None.

20.14 HLS

Description

Applies a hue, luminance, chrominance (saturation) and black level correction

Inputs

1. The image track to be processed
 - Image and, optionally, alpha. If alpha is present, the effect will only be applied to areas masked

Output

- Image: aprocessed version of the input image channels.
- Mask: the mask channel of the input is piped through unmodified

Parameters

- Hue: Hue shift. Rotates all colors of the image channels the given angle on the color circle. A visual interpretation of the color circle can be seen by opening the color view (see “Color View” on page 96).
- Bright: Luminance correction
- Chroma: Chrominance correction
- Black Level: Black level factor.

Comments

The alpha channel of the input is used to limit the application of the effect to masked image areas.

See Also

“RGB Filter” on page 226

“RGB Transform” on page 227

20.15 RGB Filter

Description

Applies a color correction on a per RGB-component base if used with an input, or creates a full color frame if used without.

Inputs

RGB Filter can be used without or with a single input.

1. The image track to be processed

- Image and, optionally, alpha. If alpha is present, the effect will only be applied to areas masked

Output

- Image: a filtered version of the input image channels or a full color frame, if no input is available.
- Mask: the mask channel of the input is piped through unmodified

Global Parameters

- Red: Red filter value.
- Green: Green filter value.
- Blue: Blue filter value

Comments

Filter color can also be controlled using the Color View window of the time editor.

The alpha channel of the input is used to limit the application of the effect to masked image areas.

See Also

“RGB Filter” on page 226

20.16 RGB Transform

Description

A color transformation where each color component can be modified by the other color components and a constant color value.

Inputs

1. The image track to be processed
 - Image and, optionally, alpha. If alpha is present, the effect will only be applied to areas masked

Output

- Image: a processed version of the input image channels
- Mask: the mask channel of the input is piped through unmodified

Parameters

- RConst: constant part of the red output. By default, 0
- R(r): the original red input signal level. By default, 1
- R(g): the green input level to be added to the red output. By default, 0
- R(b): the blue input level to be added to the red output. By default, 0
- GConst: constant part of the green output. By default, 0
- G(r): the red input level to be added to the green output. By default, 0
- G(g): the original green input signal level. By default, 1
- G(b): the blue input level to be added to the green output. By default, 0
- BConst: constant part of the blue output. By default, 0
- B(r): the red input level to be added to the blue output. By default, 0
- B(g): the green input level to be added to the blue output. By default, 0
- B(b): the original red input signal level. By default, 1

Comments

The default parameters are setup to pipe through unmodified pixels.

The output for each color is the sum of:

- The adjustable input level of this color component (levels are adjusted with the parameters R(r), G(g) and B(b))
- The adjustable input level of the other color components (levels are adjusted with the parameters R(g), R(b), G(r), G(b), B(r), B(g)). In effect, these parameters determine how much the output color is influenced (or transformed) by the input level of the two other color components.

- A constant base color level (adjustable with the parameters Rconst, Gconst, Bconst).
- The alpha channel of the input is used to limit the application of the effect to masked image areas.

See Also

“HLS” on page 225

20.17 Crop

Description

Allows to crop the borders of an image independently and to replace the cropped areas with a color.

Inputs

1. The image track to be processed
 - Image and alpha.

Output

- Image: a processed version of the input image channels
- Mask: a processed version of the input mask channel

Global Parameters

- Left: Left border, in percent of image width
- Right: Right border, in percent of image width
- Up: Upper border, in percent of image width
- Down: Lower border, in percent of image width
- Red/Green/Blue: Border color
- Alpha: Alpha of the border to be created

Comments

None.

See Also

“Border” on page 223

20.18 Crop Expand

Description

Allows the user to crop an image, extending to the border using the color/alpha of the pixel where the crop occurred.

Inputs

1. The image track to be processed
 - Image and alpha.

Output

- Image: a processed version of the input image channels.
- Mask: a processed version of the input mask channel.

Global Parameters

- Left: left border, in percent of image width
- Right: right border, in percent of image width
- Up: upper border, in percent of image width
- Down: lower border, in percent of image width

Comments

None.

See Also

“Border” on page 223

20.19 Logical AND

Description

Performs a logical AND operation between the inputs, including alpha channels if available.

Inputs

1. First input track
 - Image and, optionally, alpha.
2. Second input track
 - Image and, optionally, alpha.

Output

- Image: a logical AND of the image channels of the input tracks.
- Mask: a logical AND of the mask channels of the input tracks.

Parameters

- None.

Comments

It is possible to use Logical AND with more than two inputs. This is equivalent to placing the third input and the result of the AND under another Logical AND effect.

See Also

None.

20.20 Logical OR

Description

Performs a logical OR operation between the inputs, including alpha channels if available.

Inputs

1. First input track
 - Image and, optionally, alpha.
2. Second input track
 - Image and, optionally, alpha.

Output

- Image: a logical OR of the image channels of the input tracks.
- Mask: a logical OR of the mask channels of the input tracks.

Parameters

- None.

Comments

It is possible to use Logical OR with more than two inputs. however, this is equivalent to placing the third input and the result of the OR under another Logical OR effect.

See Also

None.

20.21 Add

Description

Sums up the input channels, including alpha channels if available, optionally adding a constant value to each color/mask channel.

Inputs

One or two input tracks:

1. First input track
 - Image and, optionally, alpha.
2. Second input track
 - Image and, optionally, alpha.

Output

- Image: the sum of the image channels of the input tracks, plus a constant.
- Mask: the sum of the mask channels of the input tracks, plus a constant.

Parameters

- R, G, B, A: A constant value added to the red, green, blue and alpha channel, respectively.

Comments

If the result in any channel is larger than 100% or lower than 0%, it is clipped to 100% or 0%, respectively.

If Add is used with one input, only the constant is added to the track. This can be used very nicely to animate transparency, that is to “fade in” a channel. Simply animate the alpha constant from - 100% to 0%.

It is possible to use Add with more than two inputs. however, this is equivalent to placing the third input and the result of the Add under another Add effect.

See Also

None.

20.22 Sub

Description

Computes the difference of the input channels, including alpha channels if available, optionally adding a constant value to each color/mask channel.

Inputs

1. First input track
 - Image and, optionally, alpha.
2. Second input track
 - Image and, optionally, alpha.

Output

- Image: the difference of the image channels of the input tracks.
- Mask: the difference of the mask channels of the input tracks.

Parameters

- R, G, B, A: A constant value added to the red, green, blue and alpha channel, respectively.

Comments

If the result in any channel is larger than 100% or lower than 0%, it is clipped to 100% or 0%, respectively.

It is possible to use Sub with more than two inputs. however, this is equivalent to placing the third input and the result of the Sub under another Sub effect.

See Also

None.

20.23 Complement

Description

Computes the complement of the input channels, including alpha if available. It is equivalent to a “per channel negative” operation.

Inputs

1. Input to be complemented
 - Image and, optionally, alpha

Output

- Image: the complement of the image channels of the input track, calculated per channel
- Mask: the complement of the mask channel of the input track

Parameters

None.

Comments

See Also

“Negative” on page 210

20.24 Grow-Shrink

Description

A function to “grow” or “shrink” the area covered by each color/mask channel of the image independently. For each pixel that has a value larger than the pixels around it, its value will be substituted for these pixels (with a selectable extent).

This function can be used for a great variety of special effects. It is also quite applicable to add a look of “old photography” to imagery if used together with noise.

Inputs

1. The image track to be processed
 - Image and, optionally, alpha. If alpha is present, the effect will only be applied to areas masked

Output

- Image: a processed version of the input tracks image channels
- Mask: a processed version of the input tracks mask channel

Global Parameters

- R, G, B, A: The growth or shrink of the color/mask channel, given in percent of the size of the monitor.

Comments

An example for an “old-photo-effect” and another more general example:

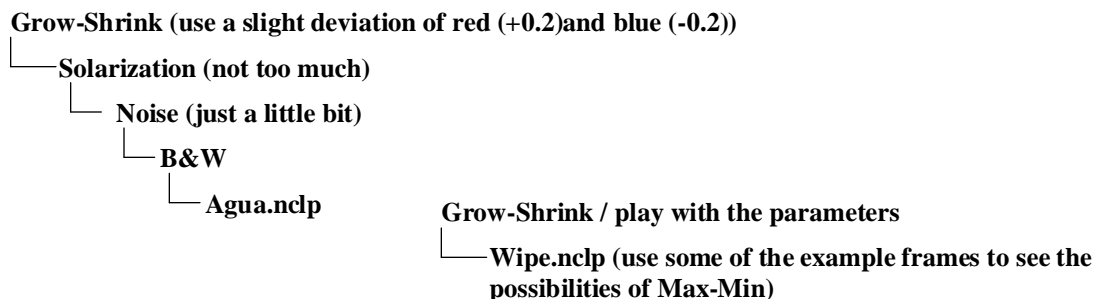


FIGURE 57. Min-Max Example

See Also

“Size Shrink/Grow” on page 179

20.25 Noise

Description

Creates noise pattern that can be animated with a multitude of parameters

Inputs

Noise can operate with or without input. In case an input is available, the input is processed. If not, a black & white image is generated.

1. The image track to be processed

- Image and, optionally, alpha. If alpha is present, the effect will only be applied to areas masked

Output

- Image: a processed version of the input image track, or, if used without image, a black & white noise image.
- Mask: the mask channel of the input, if available, is piped through unmodified

Global Parameters

- Key: to achieve a noise pattern that changes over time, the key parameter should be animated over time.
 - Default 1, Minimum 0, no maximum defined.
- RadX: medium width of the noise bands generated.
- RadY: medium height of the noise bands generated. This parameter does only have an effect if the Pass parameter is larger than 0.
- Pass: milter quality of the effect.
 - Default 2, Minimum 0, no maximum defined, also values larger than 4 do not make a lot of sense.
- Bright: correction of luminance before applying noise. This may be necessary as application of noise will in one way or the other have consequences for image brightness.
 - Default: 100% (no change)
- Amp-P: noise amplitude correction applied to noise values brighter than a medium grey
- Amp-N: noise amplitude correction applied to noise values darker than a medium grey
- Gam-P: gamma correction applied to noise values brighter than a medium grey
- Gam-N: gamma correction applied to noise values brighter than a medium grey
- RollX/Y/Z: imagine the noise pattern painted on the surface of a sphere located behind the monitor. Rotating the sphere about the X, Y and Z axis can then be used to animate the pattern.

Comments

Noise is a cyclical effect - that is, a noise pattern “scrolled out” of the monitor to the left will flow in on the right again.

The alpha channel of the input is used to limit the application of the effect to masked image areas.

As noise can, depending on parameter settings, contain rather high frequency signals, it is advisable to view the result using high res mode or the Single Field/Frame command of the monitor. In low res mode, it will be difficult to judge the final result.

See Also

“Plasma” on page 240

“Bump” on page 216

“Distort” on page 218

“DVE 3D” on page 191

20.26 Granulate

Description

A noise-based effect that, depending on parameter settings, can either be a special effect or resemble film grain patterns.

Inputs

1. The image track to be processed
 - Image and, optionally, alpha. If alpha is present, the effect will only be applied to areas masked

Output

- Image: a processed version of the input image track
- Mask: the mask channel of the input is piped through unmodified

Global Parameters

- Rep: the number of frames after that the distortion pattern changes
 - Default: 1
- Rad: the radius of the sphere-shaded spots applied to the image.
 - Default: 4
- Bright: correction of luminance before applying noise. This may be necessary as application of noise will in one way or the other have consequences for image brightness.
 - Default: 100% (no change)
- Ampl-X: noise amplitude
 - Default: 100%
- Gamma: gamma correction value
 - Default: 0

Comments

The alpha channel of the input is used to limit the application of the effect to masked image areas.

As the Granulate effect may create rather small entities, it is advisable to view the result using high res mode or the Single Field/Frame command of the monitor.

See Also

None.

20.27 Plasma

Description

A noise-based effect that creates rather homogeneous, “plasma-like” patterns.

Inputs

Plasma can operate with or without input. In case an input is available, the input is processed. If not, a black & white image is generated.

1. The image track to be processed

- Image and, optionally, alpha. If alpha is present, the effect will only be applied to areas masked

Output

- Image: a processed version of the input image track, or, if used without image, a black & white noise image.
- Mask: the mask channel of the input, if available, is piped through unmodified

Global Parameters

- Key: to achieve a plasma pattern that changes over time, the key parameter should be animated over time.
 - Default 1, Minimum 0, no maximum defined.
- RadX: medium width of the noise bands generated.
- RadY: medium height of the noise bands generated. This parameter does only have an effect if the Pass parameter is larger than 0.
- Pass: filter quality of the effect.
 - Default 2, minimum 0, no maximum defined, although values larger than 4 do not make a lot of sense.
- Bright: correction of luminance before applying noise. This may be necessary as application of noise will in one way or the other have consequences for image brightness.
 - Default: 100% (no change)
- Ampl: plasma amplitude
 - Default: 100%
- Gamma: gamma correction value
 - Default: 0
- RollX/Y/Z: imagine the plasma pattern painted on the surface of a sphere located behind the monitor. Rotating the sphere about the X, Y and Z axis can then be used to animate the pattern.

Comments

Plasma is a cyclical effect - that is, a noise pattern “scrolled out” of the monitor to the left will flow in on the right again.

The alpha channel of the input is used to limit the application of the effect to masked image areas.

As noise can, depending on parameter settings, contain rather high frequency signals, it is advisable to view the result using high res mode or the Single Field/Frame command of the monitor. In low res mode, it will be difficult to judge the final result.

See Also

“Noise” on page 237

“Bump” on page 216

“Distort” on page 218

“DVE 3D” on page 191

20.28 Stamp

Description

Distorts the input by “stamping” small square stamps over the image.

Inputs

1. The image track to be processed
 - Image and, optionally, alpha. If alpha is present, the effect will only be applied to areas masked

Output

- Image: a distorted version of the input image track
- Mask: the mask channel of the input is piped through unmodified

Global Parameters

- **Rep:** the number of frames after that the distortion pattern changes
Default: 1

Comments

The alpha channel of the input is used to limit the application of the effect to masked image areas.

As the stamp effect creates small entities, it is advisable to view the result using high res mode or the Single Field/Frame command of the monitor.

See Also

None.

20.29 Displacement

Description

A random displacement of all pixels in the image. After processing, each pixel will have changed its position in the image.

Inputs

1. The image track to be processed
 - Image and, optionally, alpha. If alpha is present, the effect will only be applied to areas masked

Output

- Image: a filtered version of the input image track
- Mask: the mask channel of the input is piped through unmodified

Global Parameters

- **RadX**: mMedium displacement range in X
 - Default: 0
- **RadY**: medium displacement range in Y
 - Default: 0
- **Rep**: the number of frames after that the distortion pattern changes
 - Default: 1

Comments

The alpha channel of the input is used to limit the application of the effect to masked image areas.

As the displacement operates on very small entities (i.e. pixels), it is advisable to view the result using high resolution mode or the Single Field/Frame command of the monitor.

See Also

“Distort” on page 218

20.30 Interlace

Description

Create a single interlaced frame from two input tracks.

Inputs

1. The first field to merge
 - Image and, optionally, alpha.
2. The second field to merge
 - Image and, optionally, alpha.

Output

- Image: an image track consisting of the interlaced input tracks
- Mask: a mask channel consisting of the interlaced alpha information of the input tracks.

Parameters

None.

Comments

As with all interlace/de-interlace effects, we recommend you do not use these effects in a large stack of effects. Rather use it as a simple effect applied to images and then use Render Group to create a modified clip. Note that you should switch on field rendering after creating an interlace, as otherwise the process does not make a lot of sense.

See Also

Render > Fields, page 114

Clip > Render Group, page 71

De-Interlace Interpolate, page 245

De-Interlace Duplicate, page 246

De-Interlace Mix, page 247

20.31 De-Interlace Interpolate

Description

Extracts a single field from an interlaced frame. The “missing” scanlines are created by interpolation between two neighboring field scanlines.

Inputs

1. The frame the field data shall be extracted from.
 - Image and, optionally, alpha.

Output

- Image: an image track consisting of one interpolated input field
- Mask: amask channel consisting of the interpolated alpha information of one input field.

Parameters

- Field: decides which field will be extracted. A value of 0 extract the first field in time, a parameter of 1 extracts the second field in time.

Comments

The precise meaning of the field parameter depends on the video mode you are using - field order is different in PAL and NTSC. The de-interlace parameters always correspond to the temporal order of the fields.

As with all interlace/de-interlace effects, we recommend you do not use these effects in a large stack of effects. Rather use it as a simple effect applied to images and then use Render Group to create a modified clip. Note that you should switch on field rendering after creating an interlace, as otherwise the process does not make a lot of sense.

See Also

Render > Fields, page 114

Clip > Render Group, page 71

Interlace, page 244

De-Interlace Duplicate, page 246

De-Interlace Mix, page 247

20.32 De-Interlace Duplicate

Description

Extracts a single field from an interlaced frame. The “missing” scanlines are created by duplicating the scanline below or above. If the field is even, scanline 0 is duplicated in scanline 1, 2 in 3 and so on. If the field is odd, scanline 1 is duplicated in 0, 3 in 2 and so on.

Inputs

1. The frame the field data shall be extracted from.
 - Image and, optionally, alpha.

Output

- Image: an image track consisting of one duplicated input field
- Mask: amask channel consisting of the duplicated alpha information of one input field.

Parameters

- Field: Decides which field will be extracted. A value of 0 extract the first field in time, a parameter of 1 extracts the second field in time.

Comments

The precise meaning of the field parameter depends on the video mode you are using - field order is different in PAL and NTSC. The de-interlace parameters always correspond to the temporal order of the fields.

As with all interlace/de-interlace effects, we recommend you do not use these effects in a large stack of effects. Rather use it as a simple effect applied to images and then use Render Group to create a modified clip. Note that you should switch on field rendering after creating an interlace, as otherwise the process does not make a lot of sense.

See Also

Render > Fields, page 114

Clip > Render Group, page 71

Interlace, page 244

De-Interlace Interpolate, page 245

De-Interlace Mix, page 247

20.33 De-Interlace Mix

Description

Extracts both fields from the input, using interpolation. The result, two interpolated frames (one for each field), is then mixed.

Inputs

1. The frame the field data shall be extracted from.
 - Image and, optionally, alpha.

Output

- Image: an image track containing the de-interlaced image.
- Mask: a mask channel containing the de-interlaced mask.

Parameters

None.

Comments

As with all interlace/de-interlace effects, we recommend you do not use these effects in a large stack of effects. Rather use it as a simple effect applied to images and then use Render Group to create a modified clip. Note that you should switch on field rendering after creating an interlace, as otherwise the process does not make a lot of sense.

See Also

Render > Fields, page 114

Clip > Render Group, page 71

Interlace, page 244

De-Interlace Interpolate, page 245

De-Interlace Duplicate, page 246

20.34 Wave Patterns

Description

An image generator creating circular wave patterns as black & white image “footprints”. By using these images as input for bump or displacement effects, wave effects can be created quite easily.

Inputs

None.

Output

- Image: a black & white image track
- Mask: an empty (opaque) mask channel

Global Parameters

None.

Track Parameters

- CentX/CentY: the position of the wave center in percent of the screen size. The default value, 50%, thus positions the wave in the center of the monitor.
- Wlen: the wave length of the wave
- Phase: the current wave phase. To “make a wave roll”, you would typically animate this parameter from 0 to “infinity” (i.e. as far as you wish the wave to go) over the time of the effect.
- Amplitude: the maximum color value achieved by the peak of the wave. By default 100%, that is, white.
- Decay: the speed the amplitude of the wave decreases depending on distance from center.
- Count: number of oscillations. A value of 2 means one complete phase of the wave. You can not see the effect of this parameter if you do not animate or at least raise the phase to a value that is high enough to see the appropriate number of phases.

Comments

Each Track added to the Time Editor represents a single wave center with its own set of track parameters. Using these, you can position the center on the image and you can set all the wave parameters that control its animation. Just as usual in the Time Editor, a new track is added using the Add Track command from the Time Editor menu. If multiple wave centers are used, the resulting image will exhibit typical wave interference patterns, as the wave amplitudes of all participating waves are added.

Hint: To position a wave center precisely on an image, it can be helpful to place the image clip and the Wave Pattern temporarily under a 50% mix, just to adjust the wave positions in the overlay display.

If you have various wave sources, limit the amplitude of the single tracks to prevent clipping for values adding up to more than 100%.

The Wave Pattern output can be used very nicely to create all kinds of mask based effects (in particular, if used in conjunction with a Key Color to make it the alpha for any given image channel). Try the Wave Pattern as a bump map, as a distortion or as a displacement map for the 3D DVE (reduce its amplitude parameter):

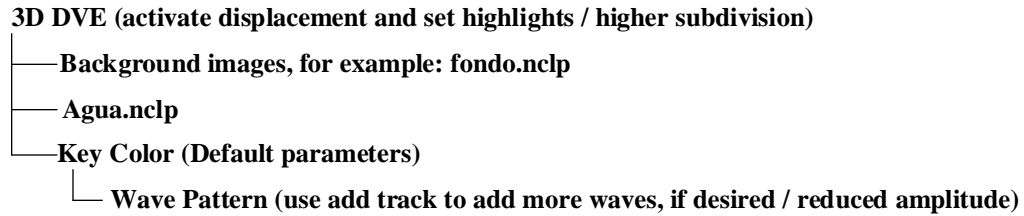


FIGURE 58. Example for “Wavy” 3D Effect

See the manual page on “Stripe Patterns” on page 250 for another example.

See Also

“Stripe Patterns” on page 250

“Wipe Library” on page 202

“Bump” on page 216

“Distort” on page 218

“DVE 3D” on page 191

20.35 Stripe Patterns

Description

A black & white image generator creating the intersection of any number of stripe sets, each with independent parameters. A stripe set is a number of parallel stripes, controlled by common parameters. Each track added to the effect using the time editor controls one stripe set.

The same effect, with input tracks, is used to generate the Wipes from the Wipe Library.

Inputs

None.

Output

- Image: a black & white image track
- Mask: an empty (opaque) mask channel

Global Parameters

None.

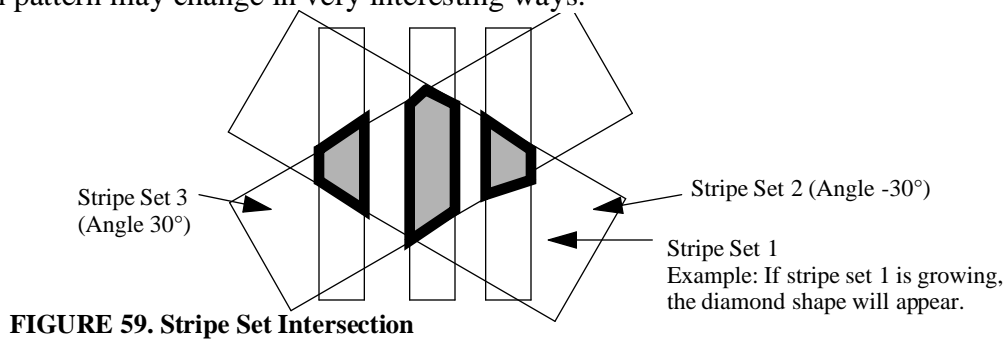
Track Parameters

- Angle: the angle of the stripe set. An angle of 0 is a vertical stripe.
- Soft: edge blur for the stripes of a stripe set.
- Strip: the width of the stripes in the stripe set. This also controls the number of stripes per stripe set. When the grade parameter is set to 50, the stripe effect will fill the screen with as many stripes, evenly spaced, as fit. Distance between the stripes is equal to the strip size.
- Phase: offset position for the strips. Is usually adjusted to program the start position of the stripes, before any movement occurs.
- Grade: strip pattern animation control. By animating the grade from 0 to 100 or back, the strip size increases or decreases. At a grade of 0, the strips are invisible, at 100 there is no space between them, i.e. they present a solid area. At 50, the strips are evenly spaced, being as wide as there is space inbetween them.

Comments

Each track added to the Time Editor represents a single set of stripes with its own set of track parameters. Using these, you can control the stripe angle, softness and movement. Just as usual in the Time Editor, a new track is added using the Add Track command from the Time Editor menu. If multiple stripe sets or tracks are used, the result is the intersection of all stripes, that is, an image

area will only be white at areas where all stripe sets overlap. As the stripes are animated, the intersection pattern may change in very interesting ways.



The stripe pattern generator is used to create all the wipe patterns from the Wipe Library. Whenever you use one of these effects, you in fact create a stripe pattern; the parameters to edit the Wipe Library patterns are exactly the same as for the Stripe Pattern. You can actually use the Wipe Library Presets as generators by using them without an input.

Besides wipes, the Stripe Pattern output can be used very nicely to create all kinds of mask based effects (in particular, if used in conjunction with a Key Color to make it the alpha for any given image channel). Try the Stripe Pattern as a bump map, as a distortion or as a displacement map for the 3D DVE (reduce its “amplitude” with a luma correction before)

For most of these effects, you will want to use at least some degree of edge smoothness in the pattern - a bump or 3D displacement looks much better if the edge contrast is not quite as extreme as with hard edges. Displacement effects also look interesting with hard edges:

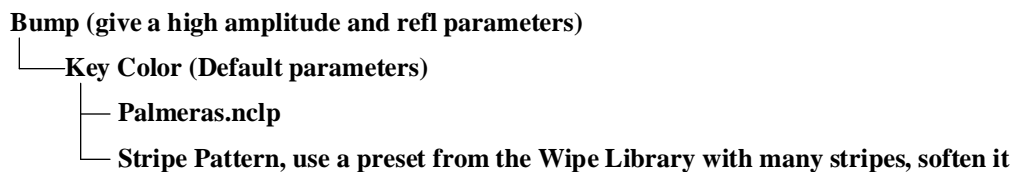


FIGURE 60. Example for Stripe Pattern Usage

See the manual page on “Wave Patterns” on page 248 for another example.

See Also

“Wave Patterns” on page 248

“Wipe Library” on page 202

“Bump” on page 216

“Distort” on page 218

“DVE 3D” on page 191

20.36 Color Gradient

Description

Creates a color gradation, using a maximum of 4 colors placed at the corners of the image.

Inputs

None.

Output

- Image: a color gradation
- Mask: an empty (opaque) mask channel

Parameters

- 4 color “directories”, one for each corner of the grade, containing each:
 - R: percentage of red for the particular corner
 - G: percentage of green for the particular corner
 - B: percentage of blue for the particular corner

Comments

You can set the color using the time curves or by opening the color view from the time editor window. One of the four corner colors is selected for the color view by clicking on its “subdirectory” name in the time editor parameter list.

See Also

None.

20.37 Empty

Description

This is not really an effect, but a convenient “handle” to unrelated and ungrouped layers. Its input scope can be extended over as many layers as desired, but it always just outputs the uppermost of its inputs. For an example of its usage, see the environment “Complex.env” from the JALEOTU-TORIAL project.

Here, the empty effect is used to provide a common preview and caching layer for the rather complex settings below. By monitoring the empty effect, you can see all effects below without having to scroll vertically with the monitor cursor. By activating the cache on the empty layer, the whole sequence can be cached in one piece.

Inputs

- Any number of input tracks

Output

- Image: the uppermost input piped through
- Mask: the uppermost input piped through

Parameters

None.

Comments

None.

See Also

None.

