

**NOW
WITHOUT
LENS
FLARES**

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Krokodove is an ever growing set of tools for **Digital Fusion**. All tools come from daily needs and ideas in actual video and film productions. The collection ranges from simple but useful **productivity improvements** to inspiring **graphic effects** and a full-featured **morph tool**.

There are different levels of tools. Tools of level **one** are free. Level **2 and higher** require a license. If you purchase a **level 4** license, you get (beside a few additional tools) **floating precision** processing on most image tools.

Requirements

A PC running **DFX+** or **Digital Fusion v2.50** or later (at least **v3.12** is preferred, and **v4.00** is required for floating precision calculation)

contact info

raf schoenmaekers
raf@komkomdoorn.com
www.komkomdoorn.com
st.-pietersnieuwstr. 134
9000 gent
belgium
telephone & fax
+32-9-2342215

Try before you buy

Full details and demo versions are available online at
www.komkomdoorn.com

hint

* A Level 4 license adds floating precision processing to these tools. Other tools have 16-bit integer precision only...

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analyser ^[2]

An image analysis tool, currently only to create a classic **histogram**.

audio ^[2]

Starting from an audio (PCM wave) file, this tool generates a visual representation as well as a numeric output to which Fusion parameters can be connected. Animate your flow singing, jazz up your effects clapping and kill the deadlines laughing (or whichever way you feel like making noise).

average ^[1]

Makes the average of a specified number of consecutive frames. Useful for improved time speedups, noise removal on static images or more graphic experiments.

beams ^[3]

Light beams coming out of an objects or its edges.

bend ^[2]

Bending an image. It may sound simple, but you need the tools for it. This is the one.

bevel ^[1]

A classic bevel tool, with the option of creating any kind of **bevel shape** and various lighting conditions.

blobs ^[2]

Two-dimensional blob-like shapes.

blur in space ^[1]

A mere re-packaging of two basic Digital Fusion tools: color space swapping and blur.

All credits here go to EyeOn.

canvas ^[2]

Rotating the image without first “cropping” to a larger size? Extending your canvas with a solid, non-black color, edge color or warping its image? Fiddling with the image aspect? Canvas...

channel shifter ^[3]

Transform or blur individual channels (red, green, blue and alpha).

clean edges ^[1]

A simple tool, to clean image edges or give them a solid color.

A typical problem for footage coming from (video) tape: Ever wanted to blur an image and hated the black border “eating into” your image? Clean it first.

color ^[1]

This must be the most simple tool ever. It however allows **easy fading** to blue (or your preferred color), without first creating an extra “background” tool.

contour ^[3]

(Multiple) outlines. Start from a seriously blurred image to learn what it does...

crop monsieur ^[1]

A simple crop tool with a few more whistles and bells: place your **cropping region visually** and crop **sub-pixel accurately**.

directional scale ^[2]

A tool which comes in handy if you need it. You might want to try it to know if you need

hint

the number after each tool indicates the level of the tool

it... or create a need for it, by being creative.

dither ^[1]

This plug-in is mainly written to take full advantage of the 16-bit capabilities of Fusion, even when saving to a less capable output format (such as DPS Perception/Hollywood/Reality). Instead of throwing away the extra information, it uses it to create a **logical noise**, which often solves the well-known **banding problem** on these devices. Place the tool right in front of your 'saver' and experiment with different settings for best results. Of course, other creative uses might be found.

duplicate ^[2]

The image gets duplicated along the edge of a basic shape: **circle**, **line**, **polygon** or **spiral**. Two shape set-ups can be created and morphed between, resulting in several interesting graphical effects. In combination with the include blur, it also allows you to create a "defocus-like" effect.

eat ^[2]

This tool eats out pixels at the "edge". A pretty rough and ugly effect, but I needed it in a production. So... you might as well.

extrude ^[3]

Give your text, logos or graphics some **depth** by extruding them.

flur ^[3]

Fast radial blur. Still quite erratic, but occasionally useful already.

gradient ^[1]

Believe it or not, this one creates gradients. Beside a linear and radial gradient, there's a **light** gradient, which simulates the shining of

a spotlight on the background image.

hue|saturation ^[1]

It's a simple color correction plug-in, operating in HLS (hue, lightness, saturation) color space. People coming from that 'other' graphics program, often find it missing in Digital Fusion.

invert ^[1]

One more of those simple but useful tools you'll soon start using in every flow.

kaleidoscope ^[3]

Relive your youth.

lines ^[2]

How many times you created a grid or any other **line pattern** and wished for an easy but versatile all-round tool for it? And how many times you then wished you could animate all the parameters easily? Wish no more, it's here.

map filter ^[3]

Your custom designed blur? Your own pattern to replicate images? Draw a map and have your images filtered accordingly. Though potentially very slow, sometimes it might be the only solution.

mask fill ^[2]

Call it flood fill or magic wand... The **Mask Fill** selects pixels starting from a certain color at a certain position, with a certain tolerance and softness, ... you certainly are going to like this one.

match color ^[2]

You have two plates: different black levels, different skin tones, different white balance,

hint

tools of level one are free
and require no licence

different atmosphere or simply different. The easy “select-what-it-is” and “pick-what-it-should-be” principle, will match them on levels, contrast and gamma, for each color channel.

microwaves ^[3]

Fast beams, possibly the most requested tool so far.

mirror ^[1]

Mirrors the image. (Given the quantity of Krokodove tools these days, we like to keep the names pretty self-explanatory).

morph ^[3]

Warping and morphing. Or you know what it's about, or you better read the full section further on in this manual.

number probe ^[1]

Your wish come true. This tool allows you to control any numeric parameter by the **pixel color** or **luminosity** at a certain position or rectangular region of an image.

number random ^[1]

Random numbers: 7, 16, 3.1415, and a lot more.

offset ^[1]

The primary image's pixels are moved horizontally and vertically according to color or light intensity of a secondary image. Once you understand the principle, this tool allows very complex and controlled **image warping**.

painterly ^[3]

Giving you that instant “Van Gogh-look”, you always wanted. Use wisely, before making yourself ridiculous.

planes ^[3]

A tool combining multiple 3D DVE's in one and allowing them to be manipulated simultaneously.

plastic ^[2]

An experimental variation on the Bevel tool led to this “plastic wrap”-like filter. Try at your own risk.

positioner ^[2]

Similar but slightly more powerful than Fusions native Corner Positioner. For those cases where the four points you want to position are not necessarily the corners of the image. For those cases where you want true perspective deformation.

rasterize ^[1]

The rasterize plug-in does again what it says. Beside the classic circle and square shaped raster dot you can use any external image source as a ‘dot’. Varying the size, angle and aspect based on the background image and the way the ‘dots’ overlap, allows for some pretty **graphical effects**.

replace color ^[1]

Easy and **advanced color correcting** and replacing on a random selection or selection “around” a color. Selection of the source and target color can set the required correction. The tool operates in any color space, in which the selection range and softness can be controlled for every color channel separately.

seamless loop ^[2]

You're in a hurry and need a seamless loop where the end nicely fades back into the start of your sequence. You do it wrong twice and finally get there after losing precious

minutes. This is history.

shapes ^[2]

Along the same line as [Lines](#), there's now this Shapes tool. Wild circle and square patterns for more graphic effects.

shuffle ^[2]

Maybe I should start giving the tools less self-explanatory names... so there's something to write here...

smart field strobe ^[2]

Most people don't like fields and in their pursuit of a "film look", fields are usually the first to go. On stripping one of the two fields you [lose](#) however half of the [vertical resolution](#); this is highly undesirable. If part of the image is [static](#), there is a solution now: Smart Field Strobe. It attempts to detect motion and only when found the field is stripped.

The latest version now includes a [Time Speed](#) and [Time Stretch](#) option, for better slow-motions and speed-ups of your fielded video source...

smear ^[2]

Some call it wind, some call it blast, we call it smear. Beside directionally blurring the image (horizontal or vertical), you can create plenty of other smearing effects by shaping your own smearcurve. All this being sub-pixel accurate and resolution independent.

spherize ^[2]

Spherize deforms the image as if it were put on a globe, cylinder or

other curved object. Different algorithms and a user-defined number of iterations create plenty of variations on the same theme.

text formula ^[1]

This tool outputs numeric values as text, or combines multiple text fields. Slider values, point positions, time code, any parameter can now easily be integrated in your image after being [combined into one text](#).

text from file ^[1]

Extracts a single line of text out of a file. Timing is based on the position in the file or the frame numbers preceding the text.

text juggle ^[1]

Juggles your characters, words, or lines by swapping them around.

text write ^[1]

Tired of animating masks for [revealing a sentence, letter by letter](#)? And you really hate it when afterwards you need to set up the blinking cursor that follows those letters? Komkom Doorn to the rescue, for another easy but timesaving tool.

threshold ^[2]

It started out as a simple "threshold" tool: clipping all colors above a certain luminance to white and below to black. Now it allows a variety of [color shifting](#) and [palette rotations](#). Welcome to the seventies.

time mapper ^[2]

The source image is set off in time, based on a second image (time map). E.g. By default, source pixels are simply maintained, if they have a corresponding black pixel on the time map. There where the time map is white, source is delayed 8 frames. At intermediate grey scales on the map the interpolated delay is applied.

vector blur ^[3]

Directional blur which can be controlled in several ways: you can set the angle and length manually or use the velocity channel exported from your 3d software. (Requires Fusion 3.12 or later)

For easy setup, you can even visualize the vector field, while setting it up.

tool types

Before we discuss all tools in detail, it's interesting to know there are several **groups** of tools or tools which can be considered **of the same type**. Each group has typical characteristics or a common

way of processing the image. As a result, these groups often have common controls... These controls will be discussed in the next chapter. First a quick overview of the groups.

color tools

Changes the color of each pixel, independent of the other or surrounding pixels

color
hue/saturation
invert
match color
replace color
threshold

number tools

Digital Fusion allows not alone images to have custom modifiers but can process **numbers** too

number probe
number random

pixel tools

It's not easy to see what these tools have in common, unless you take a look at the underlying code.

beams
bevel
canvas
channel shifter
clean edges
crop monsieur
duplicate
eat
extrude
lines
map filter
planes
plastic
shapes
smear
vector blur

positional tools

The result of the tool is 'mainly' or sometime 'only' base on the position of each individual pixel.

blobs
contour
gradient

text tools

Similar to number tools, these tools won't result in an image but in a 'text'.

text formula
text from file
text juggle
text write

warp tools

These tools deform the image. Beside several interesting controls they have in common, I'd like to mention the **warp masks** here already, shared by these tools. Read all about it in the next chapter.

bend
directional scale
kaleidoscope
mirror
morph
offset
positioner
shuffle
spherize

miscellaneous

An the rest of the tools. They have nothing in particular in common, except maybe they're all part of Krokodove.

analyser
audio
average
blur in space
dither
flur
microwaves
painterly
rasterize
seamless loop
smart field strobe
time mapper
vector
visualization

krokodove common parameters and masks

Several parameters (sometimes called inputs or controls) kept surfacing in different tools. Rather than explaining them over and over again, you can now find and overview here. This doesn't mean they are available for all tools, only to the ones where it makes sense and the algorithm used allows for it.



In the control area of Fusion they can be found under the "KD" tab, next to the Fusion Common Controls.

parameters

channel selection

Red, Green, Blue and **Alpha** - Select the color channels the tool must be applied to. If the tools allow for different color spaces, these checkboxes change accordingly.

quality settings

Under sample resolution - Higher values will increase speed, but often show deterioration of the deformation quality.

Sub-pixel sampling - When checked sub-pixel sampling is enabled. Check for quality, uncheck for speed.

Super-sampling - Especially when your lines or edges show steps or "jaggies", you might want to increase super-sampling to get **better anti-aliasing**.

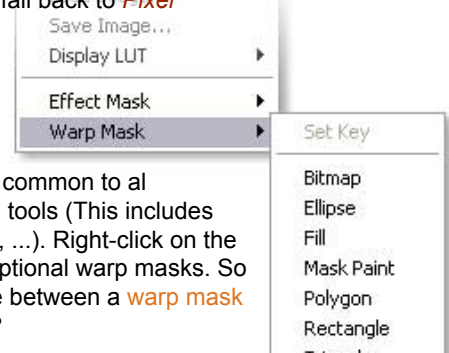
Filtering (None, Pixel, Area) - When transforming images, quality is always an issue. When you're enlarging (part of) the image, **Pixel sampling** will usually do. When scaling (part of) the image down, to less than half of it's original size, detailed areas will get jittery and badly anti-aliased. **Area sampling**

is required here, at the cost of more memory usage and higher render times. When speed is your only concern, you might get away with **No sampling**.

miscellaneous

Edges (Black, Wrap, Duplicate) - Similar to the Transform tool, you can set here what's to happen with pixels on the edge of the image.

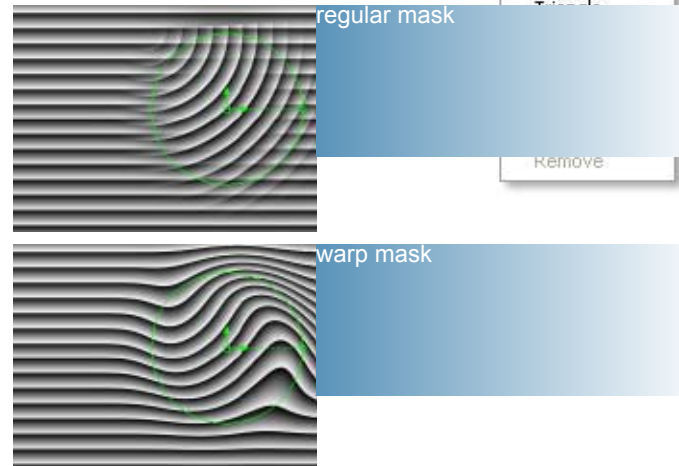
Due to the design of Digital Fusion, **Wrapped** and **Duplicated edges** can not be combined with **Area sampling** filtering. If selected anyway, filtering will fall back to **Pixel sampling**.



masks

warp mask

This type of mask is common to all deformation/warping tools (This includes **Bend, Morph, Offset, ...**). Right-click on the preview to see the optional warp masks. So what's the difference between a **warp mask** and a regular mask?



A regular mask will simply fade between the original and the deformed image. A warp mask will **gradually decrease the deformation** towards the edge of the mask. This obviously only shows when the mask has a **soft edge**.

Additionally, using warp masks, deformations will only be calculated for the pixels where required... and make overall rendering **faster**.

An image analysis tool, currently only to create a classic histogram.

This is mostly used to analyze the image color spectrum. In the preview, you can select the red, green, blue or alpha only channel to have a look at them independently.

parameters

image

Width, *Height* - Image output size.

type

Type - Currently only a histogram is available.

Vertical scale - Controls the height of the histogram.

Sample fraction - E.g. A setting of 10 means only one out of 10 image rows is scanned. So higher means faster, lower means more accurate.

guides

Scale - Scale of the guides, shown in the preview window.

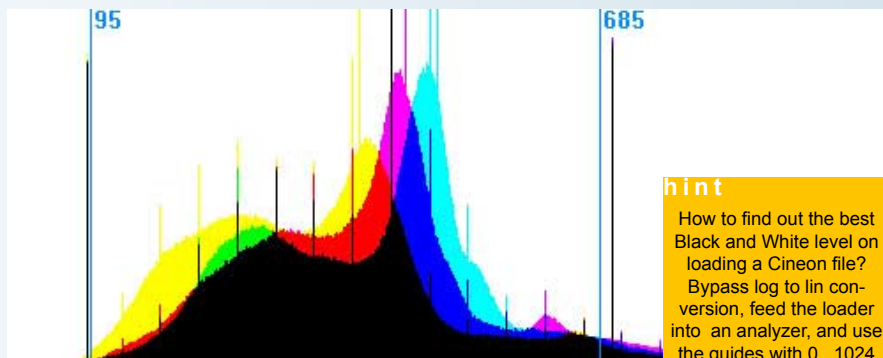
Guide 1, *Guide 2* - Normalised position of the guides

Lock both guides together - Allows to move both guides together.

Guides color - Display color in the preview window.

krokodove common parameters

See section in the beginning of this manual.



Tight integration between audio and image is often the key to interesting audio-visual effects. No this tool won't do miracles, but somehow it kept appearing on many Fusion wishlists... Komkom Doorn makes another dream come true.

Starting from an audio (PCM wave) file, this tool generates a visual representation as well as a numeric output to which Fusion parameters can be connected.

parameters

hint

Animate your flow singing, jazz up your effects clapping and kill the deadlines laughing (or whichever way you feel like making noise).

image

Process Mode, **Width**, **Height** and **Pixel Aspect** - Fusion's image creation parameters can be set as usual.

file

Filename - The audio file it's all about.

Delay - A time offset in frames between the global time and the audio.

Frames per second - Time base.

Cache file in memory, **Reload file** - If you cache the file to memory (which can speed up rendering significantly), you might want to reload the file manually if it has been altered in another application.

visual output

Type - Two representations are available: **Dots** and **Spectrum**. If you don't use the visual output (and only the numeric), set it to **None** to speed up rendering.

Position left - Position for the left audio channel...

Color left - ...and its color.

Position right and Color right - Similar for the right audio channel.

Horizontal Scale - Sets the number of frames visible in the image.

Vertical Scale - Controls the maximum height of the audio representation in the image.

numeric output

Mode - The numeric output can look for the **Average** or **Peak** value in the audio file.

Use channel - You can use the **Left**, **Right** or **Average of both channels** to set your output value.

Sample spread - Looking for the average or peak value in a wave file, the **region used around the current time** is by default 1 frame. If you want a smoother result this region can be enlarged, so the plugin will look further in time.

Clip low/high - Small amounts of noise or high volume peaks can be clipped to get a cleaner or more abrupt result.

Output low value, **Output high value** - By default the tool generates values between **0.0** (silent) and **1.0** (peak). This can be altered here.

Show value in image - To have some visual feedback on the output value, you can show the values in your image. The bottom of the image represents the low value, and the top the high value. Be sure to switch it off when you're done fine-tuning your sliders as it might slow down rendering. The shown value follows the time scale and position of the **left audio channel**.

krokodove common parameters

See section in the beginning of this manual.

Light beams coming out of an objects or its edges.

parameters

Blend original - The amount the original image should be visible. This allows you to fade between “beams only” and “image with beams”

Brightness - The overal gain of the beams.

Full...Edges - You can choose for the beams to come from the full surface of your object or from the edges only.

Perspective - You want all beams going in the same direction (**Parallel**) or come from one point (**Radial**)?

Angle (**Parallel**) - The angle of the beams.

Center (**Radial**) - The center point from where the beams come.

Length - the length of the beams.

Adapt length to perspective (**Radial**) - In case of **Radial** perspective, beams starting close to the center are normally shorter than beams further away. If you want all beams to have the same length everywhere, you can slide this to 0.0

Color type - Beams can have a single solid color or take the color of the main image...

Color (**Solid**) - ... and obviously, in the first case you can specify that color.

shape

Curve - Though most common beams fade out away from the object, you can choose to shape the beams differently here.

beams mask

When “right-clicking” on your preview with the **Beams** tool selected, you have the option

of creating a “Beams Mask”. This mask limits the source of the beams to the applied mask.

krokodove common parameters

See section in the beginning of this manual.

related tools

Extrude, Microwaves

Bending an image. I may sound simple, but you need the tools for it. This is one.

parameters

bend

Type - The bend or curve can be defined in different ways: *Three points* or *Center point and radius*.

Start, *Midpoint* and *End* (*Three points*) - The points making up the *bend curve*.

Scale horizontal and *vertical* - Scales the image taking into account the bending.

Start (*Center point and radius*) - The center point of the *circle*.

Radius (*Center point and radius*) - The radius of the *circle*.

Start angle and *End angle* (Center point and radius) - Both angle together with *Center* and *Radius* make up the *bend curve*.

krokodove common parameters

See section in the beginning of this manual.

related tools

Morph, *Spherize*

A classic bevel tool, with the option of creating any kind of **bevel shape** and various lighting conditions.

parameters

bevel

Bevel filter - As the bevel tool is based on a blur, you can select the type (and **quality**) here.

Red, **Green** and **Blue** - Select the color channels the tool must be applied to.

Lock X/Y, **Bevel Size** - Sets the size of the bevel.

Height - Defines the height of the bevel.

shape

Shape - Here you can design your custom shape for the bevel. You may find detail left from the middle (bellow "in" value 0.5) is clipped by your alpha. Therefore you might want to add the more detailed parts to the right-hand side of the graph. Try for yourself to get the shape you want.

light

Type - The type of light. Currently only "Distant" is available.

Position - The position of the light.

krokodove common parameters

See section in the beginning of this manual.

related tools

Plastic

Two-dimensional blob-like shapes.

parameters

image

Process Mode, *Width*, *Height* and *Pixel Aspect* - Fusion's image creation parameters can be set as usual.

type

Count - Number of blobs in the image.

positions

Center 1, 2, 3, ... - The positions of those blobs.

sizes

Size - The overall size.

Softness - The softness.

Sizes - *All the same* or *random*?

Radius (*All the same*) - If all the blobs have the same size, it can be set here.

Minimum, maximum radius (*Random*) - The sizes between which to be varied.

Random seed (*Random*) - Gives you the choice between random this way or random that way.

krokodove common parameters

See section in the beginning of this manual.

related tools

[Lines](#), [Shapes](#)

A mere re-packaging of two basic Digital Fusion tools: color space swapping and blur. All credits here go to EyeOn.

parameters

blur

Blur filter, *Lock X/Y*, *Blur Size* - Same as classical blur.

Color space and *Color check boxes* - Select here the color space you want to work in and which of the color components you want to blur.

krokodove common parameters

See section in the beginning of this manual.

note

This tools only makes sense if you uncheck one of the color components. Otherwise you might as well use the regular Fusion Blur

Rotating the image without first “cropping” to a larger size? Extending your canvas with a solid color (not black), edge color or warping its image? Fiddling with the image aspect? Canvas...

parameters

hint

Combining *Flip*, *Rotation* and *Crop* in one tool, might get a little confusion. It might be easier to split out the operations over multiple Canvas tools.

Flip horizontal, *Flip vertical* - Flips the image.

Rotation - Rotates the canvas.

Aspect - *None* will maintain the original aspect. *Rotate with canvas*, actually means the pixel aspect will be inverted if the rotation is 90° CW or CCW. *Invert* does what it says and *Set* allows you to enter the new pixel aspect manually

Crop - None maintains the original size. Centered chops of equal

Maintain aspect - Constrains Width and Height to maintain the overall image aspect.

Width, *Height* - New size.

Edges - If the resulting image is **larger than the original**, you can choose here what the new pixels will be filled with.

Color to extend canvas with (*Solid*) - Fill color for extended parts of the image.

krokodove common parameters

See section in the beginning of this manual.

related tools

Crop Monsieur

channel shifter

Transform or blur individual channels (red, green, blue and alpha).

parameters

master

Overall effect - All channel transformations can easily be animated back to their original position by sliding this one to 0.0.

all, red, green, blue, alpha

Blend - Blend between the original channel and the one with all the modifications bellow.

Lock blur X/Y, Blur X, Blur Y - Blur the channel.

Center - Offset the channel.

Axis - The axis around which ...

Angle - ... to rotate ...

Lock size X/Y, Size X, Size Y - ... or size.

krokodove common parameters

See section in the beginning of this manual.

related tools

Duplicate

clean edges

A simple tool, to clean image edges or give them a solid colour.

A typical problem for footage coming from (video) tape: Ever wanted to blur an image and hated the black border “eating into” your image? Clean it first.

parameters

Lock - You can choose here whether you wish to set all border sides individually or lock them together.

Pixels (*Left, Right, Top, Bottom*) - The width of the edge.. in pixels.

Type - Select here if the edge pixels need to replicate the inner image border or be filled with a solid colour.

krokodove common parameters

See section in the beginning of this manual.

This must be the most simple tool ever.
It however allows easy fading to blue (or
your preferred color), without first creating an
extra “background” tool.

parameters

color

Color - The color to be assigned.

krokodove common parameters

See section in the beginning of this
manual.

hint

You want to fill only the
image parts as cut out
by the alpha? Enable
pre-divide/post-multiply.

(Multiple) outlines. Start from a seriously blurred image to learn what it does...

parameters

Lock width, (*Horizontal*, *Vertical*) *Width* - The width of the lines.

Lock Threshold, (*Red*, *Green*, *Blue*, *Alpha*) *Threshold* - The value of the main "height line".

Lock Levels, (*Red*, *Green*, *Blue*, *Alpha*) *Levels* - The higher this value, the more contour lines will show, and the closer they will be together.

krokodove common parameters

See section in the beginning of this manual.

related tools

Threshold

crop monsieur

A simple crop tool with a few more whistles and bells: place your cropping region visually and crop sub-pixel accurately.

hint

On selecting the cropping region visually, make sure you show the *tool* before crop in your preview. Otherwise this might get very confusing. The rectangular selection indicates the *region relative to the image before cropping*.

hint

As the crop is performed sub-pixel accurately, this means the *center* (and only the center) *can be animated* smoothly.

hint

This sub-pixel business introduces a *soft blurring* of the image, so there might be times you want to switch it off, in the Krokodove common parameters tab

note

This is the first tool with more hints that there is body text.

parameters

Crop - Centered or free... it's your choice.

Center - The center of the rectangular crop selection.

Offset Horizontal, **Vertical** - Offset to the top-left corner in pixels.

Width, **Height** - Width and height in pixels.

Normalized Width, **Height** - Width and height, relative to the image size.

Edges - What happens if you go over the edge? A **black** hole? Does the universe **wrap**? Or is space infinitely **duplicated**?

Color to extend canvas with (**Solid**)

- Fill color for extended parts of the image.

krokodove common parameters

See section in the beginning of this manual.

related tools

Canvas

This plug-in is mainly written to take full advantage of the 64 bit capabilities of DF Post, even when saving to a less capable output format (such as DPS Perception/Hollywood/Reality). Instead of throwing away the extra information, it uses it to create a 'logical noise' which often solves the well-known 'banding problem' on these devices. Place the tool right in front of your 'saver' and experiment with different settings for best results.

Of course, other creative uses might be found.

hint

Sometimes you want to dither selected channels only (the channels in which banding is most visible).

The checkboxes can be found under the *Krokodove Common Parameters* tab.

parameters

Color space - Different color spaces are provided.

Output bits for each channel -

Usually is the same as the bit depth of the format you're saving to. (Unless you're after some graphical effect.)

Method - Different dither methods are provided. *None* simply reduces the bits without dithering. *Ordered dither* uses

a regular pattern to determine the noise.

Simple error distribution "spreads" the noise horizontally only. *Floyd-Steinberg* spreads it in both directions.

Multiplier (*Simple error distribution* and *Floyd-Steinberg*) - A factor with which the effect is multiplied.

Matrix size (*Ordered dither*) - The size of the pattern mentioned above, in pixels .

krokodove common parameters

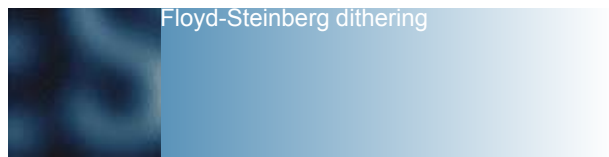
See section in the beginning of this manual.

note

Let's say your output is 8-bit, like most file formats, including *DPS Perception*,

Hollywood or *Reality*. Often soft gradients result in "banding" effects, especially visible on a TV-screen. If you have however Digital Fusion Post or Maya Fusion, all processing is done in 16 bit, and you throw away the 8 least significant bits on saving. *Dither* can now use these 8 bits to create a logical noise. To do so, place the dither tool right before your "Saver" and keep the default values.

Bellow you see an example (slightly exaggerated). Above the image without dithering. Bellow the same image, using the same amount of colors, but using the dither tool.



duplicate

The image gets duplicated along the edge of a basic shape: circle, line, polygon or spiral. Two shape setups can be created and morphed between, resulting in several interesting graphical effects. In combination with the included blur, it also allows you to create a “defocus-like” effect.

parameters

duplicates

Number of duplicates - Guess what...

Shape morph - You can set up 2 shapes (see bellow) for this tool. This slider “morphs” between both. Value *0.0* represents shape *one*, *1.0* shape *two*.

Combine - The different duplicates of the image can be combined in different ways. *Average* gives a motion-blur-like effect. *Maximum* is more defocus-like.

Blur Size - Blurs the image (Gaussian in Hi-Quality mode).

first shape | second shape

Shape - Choose here the basic shape for the placement of your duplicate images.

Shape sides (*Polygon*) - Sets the number of sides of the polygon.

Shape size, *Center*, *Angle*, *Aspect* - Define the basics of the shape.

krokodove common parameters

See section in the beginning of this manual.

related tools

Channel Shifter

This tool eats out pixels at the “edges”. A pretty rough and ugly effect, but I needed it in a production. So... you might as well.

parameters

Length - The length eating into the image.

Noise length - Noise faction of that length.

Base channel - Base channel the range bellow operates on.

Eat range - This range defines which colors are “inside” (and which are “outside”). Hence “eating” happens from the outside in.

Left, Right, Top and *Bottom* - Sides being eaten from.

Color - As you might have guessed “eating” is no more then replacing with a certain color. This is the color.

krokodove common parameters

See section in the beginning of this manual.

Give your text, logos or graphics some **depth** by extruding them.

parameters

extrude

Perspective - All points can be extruded along the same angle (**Parallel**) or towards one point (**Radial**).

Angle (**Parallel**) - This is the angle.

Center (**Radial**) - This is that point.

Length - The length of extrusion. The higher, the longer

Color type, **Color** (**Solid**) - And the edges can have a single color (**Solid**) or be the same as the object (**Original**).

light

Use Light - When enabled the extruded edges will be shaded...

Light angle - According to the angle

Remove light detail - On highly detailed objects (fine lines, sharp edges) lighting may jitter somewhat. You can try and smoothen it out by increasing this value.

Importance progression - Again a parameter you might want to change on detailed images.

krokodove common parameters

See section in the beginning of this manual.

related tools

Beams



Fast radial blur. Still quite erratic, but occasionally useful already.

parameters

Center - The center of the radial blur.

Length - The length over which pixels are smeared.

Type - The shape of the blur. This will show best on simple images.

krokodove common parameters

See section in the beginning of this manual.

related tools

[Microwaves](#)

Believe it or not, this one creates gradients. Beside a linear and radial gradient, there's a 'light' gradient which simulates the shining of a spotlight on the background image.

parameters

gradient

Type - Select here the basic type of your gradient: **Linear**, **Radial** or **Light**.

Combine - The mode in which the gradient is combined with the image... **Merge** performs a classical merge of the gradient over the image, with the **transparencies** defined under the Color tab (see below). **Add** and **Subtract** do the same as their "channel boolean"-equivalent.

Negative, Signed, Full (**Add**, **Subtract**) - This slider allows smooth transition between a full **add** and full **subtract** going over a **signed add**. E.g. A value of 0.5 in combine mode Add, can be compared to the channel boolean "Signed Add" mode... hence the "signed" label. **Experiment** on a simple example to fully grasp the idea.

Start, End - Positions controlling the gradient.

Start offset - This value is most relevant to **Radial** and **Light** gradients.

Midpoint - This slider moves the midpoint (**middle value of the gradient**) more toward

the start or end of the gradient.

End relative to start position - Mind you the line in the preview control is misleading when checked.

Light Z distance (**Light**) - Distance the virtual spotlight is placed in front of the image.

Light cone angle (**Light**) - The angle width of the spotlight.

Light fade with distance (**Light**) - Fades the light further away from the source.

Light fade with angle (**Light**) - Light intensity can vary depending on the incidence angle of a ray. Control the effect here.

colors

Start Color - Start color of the gradient.

Start Transparency - Transparency at the start point used in the **Merge** mode.

End Color, End Transparency - Same for the end position.

krokodove common parameters

See section in the beginning of this manual.

gradient

gradient

gradient

text and gradient
without and with
"pre-devide/post-multiply"

hue | saturation

It's a simple color correction plug-in, operating in HLS (hue, lightness, saturation) color space. People coming from that 'other' graphics program, often find it missing in Digital Fusion.

This tool allows simple but natural color correction. Especially the **colorize** option is appreciated by people all over the world.

parameters

Hue - Choose here how much and in which direction you want to adjust your basic color (hue). Both -1.0 and 1.0 correspond to a **full hue rotate** of 360 degrees.

Saturation Multiply and **Saturation Add** - You can adjust your global saturation level by adding or multiplying. E.g. if your initial saturation of 3 colored pixels is **0.2**, **0.4** and **0.8**. **Multiplying** with **0.5** will result in **0.6**, **0.75** and **0.9**, while **adding 0.5** gives **0.7**, **0.9** and **1.0**.

Lightness Multiply and **Lightness Add** - Controls global lightness. The same distinction has been made between **Multiply** and **Add**..

Colorize - When checked, the hue of all colors is **set to** the value above, regardless the original hue. So, you end up with a monochrome colored image.

krokodove common parameters

See section in the beginning of this manual.

invert

Another of those simple but usefull tools
you'll soon start using in every flow.



parameters

invert

Type - Three different types allow for a full
color, luminance only or hue only invert...

krokodove common parameters

See section in the beginning of this manual.

kaleidoscope

Relive your youth.

parameters

kaleidoscope

Type - *Classic* gives you triangles. *Fancy* is somewhat less classic, and somewhat more fancy.

Radius - Size of the subdivisions.

Center, *Angle*, *Size* - Position of the kaleidoscope.

View Angle (*Fancy*) - The angle controlling the angular subdivisions.

Ping-Pong along angle, *radius* (*Fancy*) - Select here whether you wish to repeat or ping-pong the image along the given direction.

source

Source Center, *Angle*, *Size* - Position of the image within the kaleidoscope.

krokodove common parameters

See section in the beginning of this manual.

related tools

Duplicates, *Mirror*

How many times you created a **grid** or any other **line pattern** and wished for an easy but versatile all-round tool for it? And how many times you then wished you could animate all the parameters easily? Wish no more, it's here.

parameters

image

Process Mode, **Width**, **Height** and **Pixel Aspect** - Fusion's image creation parameters can be set as usual.

options

Number of line sets - You can create one or more line sets. The first and last set of lines can completely be defined (see below).

If you choose three or more here, the intermediate sets are **interpolated**.

Overlap - You can specify here how colors need to be **combined** when two

or more lines overlap.

first lines| last lines

Center, **Angle**, **Spacing**, **Thickness** - The **basic setup** of your first line set. Slide and see.

Thickness increase - Makes lines become wider (or thinner) depending on their **distance to the center**.

Softness, **Softness increase** - Each line can have a **soft edge** and this again can be set to change with the distance to the center.

Dot spacing - Distance between line **dots**.

Dot length, **Dot length increase** - The length of the dots (0.5 and higher being a continuous line).

Dot softness, **Dot softness increase** - Softness of the end of the dots.

Color - The primary color of the lines.

krokodove common parameters

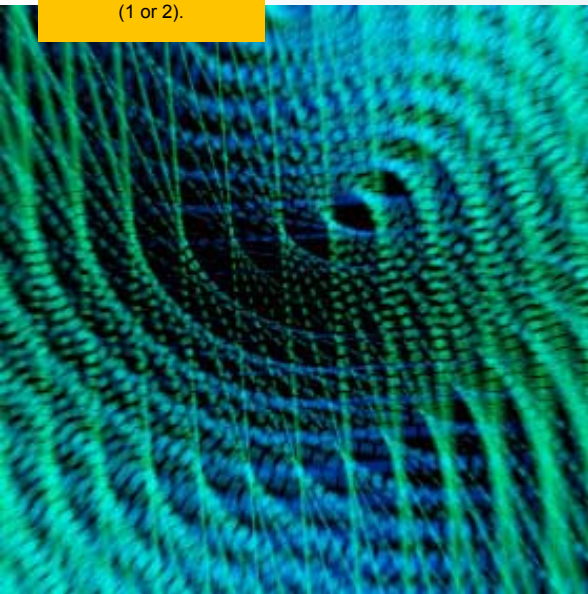
See section in the beginning of this manual.

related tools

Blobs, **Shapes**

hint

As usual experimenting is the way to learn and understand. Start with a simple setup by keeping **Number of line sets** low (1 or 2).



map filter

Your custom designed blur? Your own pattern to replicated images? Draw a map and have your images filtered accordingly. Though potentially very slow, sometimes it might be the only solution.

parameters

image

Resize map, Map width, height - The map you use as filter can optionally be resized to whatever you want.

krokodove common parameters

See section in the beginning of this manual.

related tools

Vector Blur



mask fill

Call it **flood fill** or **magic wand**... The **Mask Fill** selects pixels starting from a certain color at a certain position, with a certain tolerance and softness, ... you certainly are going to like this one.

parameters

Show view controls, Level, Soft Edge, Paint Mode, Invert - The usual mask controls. They're all applied "after" the initial fill mask is calculated.

hint

Mask Fill is not a regular tool, in that it *can not be found* in the Fusion *Tools* list.

You can access it however by right-clicking on any image in the preview window. Select *Effect Mask* and go for *Fill*.

Image to fill - The image it all starts with...

Channel - ... and the channel to use.

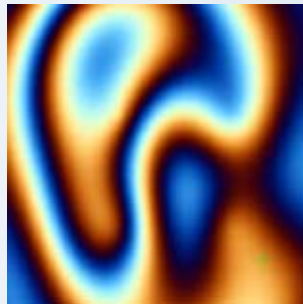
Center - The point where the fill starts. The initial "seed".

Tolerance - The maximum difference in color a pixel may have to still be selected.

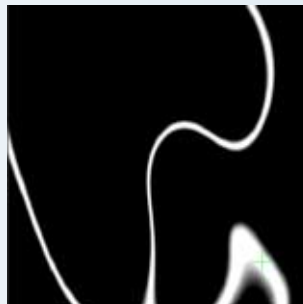
Tolerance softness - The "fade off" difference, over which the mask will go to black.

krokodove common parameters

See section in the beginning of this manual.



the image to fill and the center



the resulting mask

match color

You have two plates: different black levels, different skin tones, different white balance, different atmosphere or simply different.

The easy “select-what-it-is” and “pick-what-it-should-be” principle, will match them on levels, contrast and gamma, for each color channel.

related tools

[Replace Color](#)

parameters

Reset wipe - There's a preview control you can drag around by picking up the center. This allows to wipe between the original image, the result and an optional reference image. It's pretty slow for the moment as it requires to re-render the resulting image every time. This button resets the “gismo” in its original position, showing only the result.

Number of colors - Select between a one-, two- or three-color matching system. *Single color* will shift the channels to make them match.

Shadows & Highlights will adjust *brightness*, *levels* and *contrast*.

Shadows, Midtones & Highlights will further also correct the *gamma* to complete the match.

Shadow, Midtones, Highlights match - You can force to match the particular match completely (*Full Color*), go for *Tint only* or only match *Luminance* at the particular level

What it is, What it should be - Again pretty self-explanatory. Pick the source color in the original and pick the destination color in your reference.

krokodove common parameters

See section in the beginning of this manual.

hint

It's not unlikely this tool will “freak out” if you try impossible matches. Currently it only does what one can do with a *brightness*, *levels*, *contrast*, *gain* and *gamma* slider for each individual color channel (red, green, blue).

This means you must keep the individual red, green and blue value of the darkest color under those of the midtones, and those of the midtones under the highlights

... also knowns as fast beams.

parameters

Center - The center.

Blend Original - The amount of the original image you wish to show through.

Brightness - The overall brightness of the beams.

Full...Edges - Choose here between only the edges casting beams, or the full image.

Length - ... of the beams

Shape - *Square*, *Round* or *Axial* density of the beams.

mask

You can preselect which parts of the image are to cast beams by adding a *Microwaves Mask*. Right-Click on the preview image and find all the optional masks under the regular *Effect Masks*.

krokodove common parameters

See section in the beginning of this manual.

related tools

Beams, *Flur*

Mirrors the image. (Given the quantity of Krokodove tools these days, we like to keep the names pretty self-explanatory).

parameters

Mirror all - Select wheter you wish to mirror the whole image or only the part “under” the image (this could as well be “above” or “at the left/righthand side”, depending on the position of the mirror points).

Mirror Left, Right - Those 2 points define the position of the mirror.

krokodove common parameters

See section in the beginning of this manual.

related tools

Microwaves

Before explaining the details of this tool, let's give a quick overview of what **morphing** is about. A general description could be “**deforming one image while fading it into another**”. Usually, the deformation is defined as such that important features of the first image seem to correspond to the second.

The deformation of **one image only** is called **warping**, and, obviously, can also be done with this very tool.

It's beyond the scope of this manual to explain how to create a **good** warp or morph. This text will stick to just the technical side of setting up a morph, and where to look when certain problems surface.

preview controls

Image inputs

hint

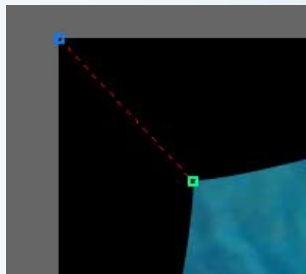
To get yourself acquainted with the **Morph** tool, you best start out with a warp, and connect **only one** (the main) image input.

When you first add a **Morph** tool to your flow, you need to connect the main input to any image. The second image input is **optional** and only required if you wish to create a **morph between 2 images** (contrary to a **warp of 1 image**).

Source and destination

If the morph tool is selected in the flow and your image inputs are properly connected, the preview will show 4 **green** dots in each corner of the image.

Moving one of them, by dragging it around, will reveal another **blue** dot, that sticks where it was, and a **red**



dotted line connected to the point you moved.

A simple setup like this tells the Morph tool to move the blue point (**source**) to the green position (**destination**).

You can also move the source point around. Therefore you need the **toolbar** you can find to the right-hand side of the preview window.

The four topmost buttons select whether;

A, you wish to move source and not see the destination. **B**, you wish to move the source but still keep a look on your destination setup. **C**, set the destination and see the source. Or finally, **D**, control the destination while hiding the source.

Play around a bit, move the source points as well as the destination. Try also **moving around multiple points at once** by holding the [**Ctrl**] button or first **dragging a rectangle** around the points you wish to move.

While playing around, see what's happening to your image, and make sure you understand. This is only a start.

Adding and removing points

Obviously, a morph or warp, rarely needs exactly four points, and sometimes, you need more complex shapes, like **lines** or **curves**, to define exactly how you want your image to deform.

If you hold the [**Insert**] button while clicking somewhere in the preview, a point will be added to the **closest selected end point** of any curve. Every highlighted word is important here. First, for now, points can only be added to the **end** of a curve. Next, make sure the point is **selected**, before you try adding more points. Finally, make sure **no**



hint

The curve you insert points to (source or destination) depends entirely on which of both you are modifying. Choose this first (as mentioned above) before you start adding points.

other points nearby are selected if you don't want your new points to be connected to it. If no points are selected, a new solitary point is created.

hint

Though the "plus" toolbar button is available, it's advised to learn to use the [Insert] key on your keyboard.

As an alternative to the [Insert] key, you can select the "plus" toolbar button. It acts as if you'd keep the [Insert] button pressed permanently though and therefore might get confusing to use... especially if you forget to switch it

of again.

Next you might also want to delete points. This can easily be achieved by selecting the points and clicking the "delete" toolbar button. No keyboard short-cut is available (yet).



Curve or linear

Points can be connected by linear lines or a smooth curve. (It's one of both, no mixing is possible.) To set what you want, just select at least one of the points, and click the appropriate button in the toolbar. The previewcontrol will update accordingly.



More toolbar buttons

To finish the preview roundup there are a few more buttons which might come in handy.

First off, you might often want to set up the source and create the destination from there, or vice versa.

The "little arrow" toolbar buttons allow you to

copy source and destination to each other easily. It only applies for the selected points.

Finally you might sometimes find the preview interface rather cluttered due to the red dotted lines connecting source and destination. The last toolbar button hides (and shows again) these lines.

parameters

setup

Morph/warp setup - The whole setup of your points is animated by default. This means you can move controls over time and a key will automatically be created on every point in time you do so. (Similar to Fusion's polygons.) You can have a look in your spline view to see where keys are, edit and delete, set to ease-in or ease-out, etc.

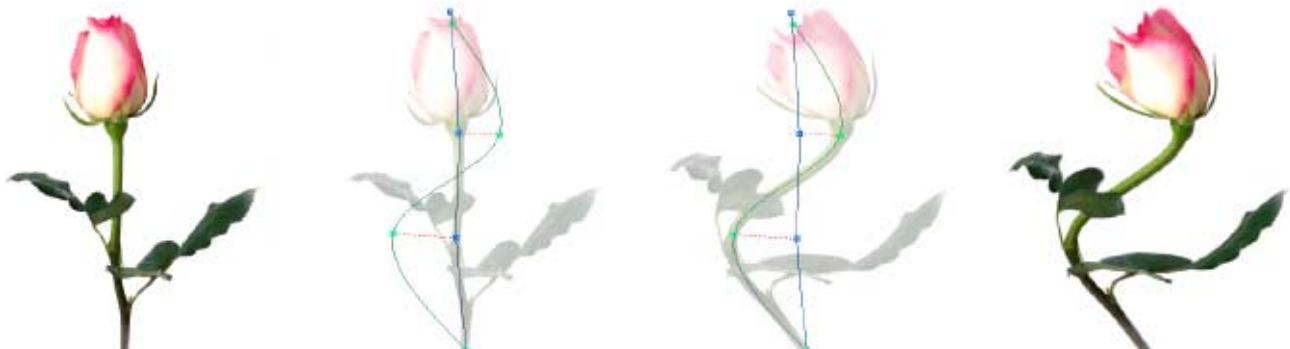
Curve subdivisions - Specifies how detailed and smooth curves are.

Lock warp and fade, Warp, Fade - As mentioned in the introduction, a morph subsist of deforming (warping) the image while fading to a second one. These sliders control both processes, independently or not. Obviously, in case of a simple warp where there's no second image connected, the fade slider serves no purpose.

Warp type - Currently no choice but...

hint

To make it somewhat easier to keep track of which frames are key-framed, a white border is shown around the images which are. If there's only one key-frame, this somewhat fails... and the white frame is shown always.



Adherence - Specifies how freely pixels move around the controls. Increase if you want the deformation to be more fluently or loosely.

Locality - On setting up large deformations you might find yourself tearing the image a part. If you want the pixels to better stick to the controls, increase locality. If you have a complex morph with many control, you might want to lower it as different controls contradict each other too much or make the different parts around the controls too rigid.

Length influence - You can specify here in how far the length of a control influences the strength of it.

krokodove common parameters

This is the perfect time to remind you of the **Warp Masks**, common to all warp/deformation tools. If you wish to keep part of the image intact, or un-morphed, add a warp mask and give it some **soft edge**. This way the morph will nicely degrade toward that mask.

For more details, look at the **common parameters** section in the beginning of this manual.

number probe

Your wish come true. This tool allows you to control any numeric parameter by the pixel color or luminosity at a certain position or rectangular region of an image.

parameters

hint

Number Probe is not a regular tool, in that it *can not be found* in the *Fusion Tools* list.

You can access it however by right-clicking on any *number input* in the control area of any tool. Select *Modify With* and go for *Probe*.

image

Image - Drop here the image to be probed, similar to setting the image of a bitmap effect mask.

Probe channel - Of the above image you can choose the channel to be used.

Position - The (center) position of the pixel(s) defining your output value.

Probe rectangle - If you don't want to get the value of a single pixel but of a rectangular selection of pixels, check here.

Probe width and **height** (*Probe rectangle*) - Size of the rectangle.

Evaluation (*Probe rectangle*) - Select here whether you want to use the Maximum, Average or Minimum channel value of the selected pixels.

value

Minimum and **Maximum value** - By default the probe outputs values between 0.0 (black) and 1.0 (white) to the input you've set the probe on. You can change it here. E.g. Suppose the probe controls the size of an image and you want the size to be 0.6 if the probe moves over a black spot and 0.25 when over a white spot. Set Minimum value to 0.6 and Maximum value to 0.25.

Out of image value - If the probe moves out of the frame this value is send to the connected input. If you probe a rectangle,

this value isn't used unless the rectangle is completely out of the image.

krokodove common parameters

See section in the beginning of this manual.

number random

hint

Number Random is not a regular tool, in that it *can not be found* in the *Fusion Tools* list.

You can access it however by right-clicking on any *number input* in the control area of any tool. Select *Modify With* and go for *Random*.

parameters

Minimum, *Maximum value* - The values in between which the result will vary.

Seed - A selection of millions of random patterns.

New value for every field/frame - When checked the result will change on every step. If not checked...

New value every ... frames - ... the value only changes on regular intervals.

Interpolation - The way it changes can be selected: *Step*, *Linear*, *Ease-in/Ease-Out*

krokodove common parameters

See section in the beginning of this manual.

hint

To see how the resulting values change over time, drag the header of this control to the spline view.

Fusion will plot out the value for you.

The primary image's pixels are moved horizontally and vertically according to color or light intensity of a secondary image. Once you understand the principle, this tool allows very complex and controlled image warping.

parameters

offset

Scale - Global scale of the deformation.

Horizontal source - Source channel of the secondary image input controlling the horizontal deformation.

Horizontal Offset Black and *White* - Black offset defines how much the black pixels in the offset image move the primary image. White offset sets the offset generated by white pixels. Intermediate values are interpolated between these two.

Vertical source, *Vertical Offset Black* and *White* - Similar to horizontal offsetting.

krokodove common parameters

See section in the beginning of this manual.

Giving you that instant “Van Gogh-look”, you always wanted. Use wisely, before making yourself ridiculous.

parameters

Luminance steps - The number of luminance steps the image pixels gets subdivided in.

Mode - The way of how different color “dots” need to be combined .

Type - The shape of the dots.

Radius, Aspect - The size and aspect of the dots.

krokodove common parameters

See section in the beginning of this manual.

related tools

Microwaves

planes

A tool combining multiple 3D DVE's in one and allowing them to be manipulated simultaneously.

parameters

scene

Center, *Center Z* - The central position of all planes.

Rotation Order, *Angle X*, *Angle Y*, *Angle Z* - The angle of the complete planes setup.

Perspective - Sets the focal distance of the scene.

planes

Plane - The image to be mapped on the plane.

Plane position, *Angle*, *Size X/Y* - The position in space of the respective plane.

Plane blend - The (inverse) transparency of the plane.

krokodove common parameters

See section in the beginning of this manual.

plastic

An experimental variation on the Bevel tool led to this “plastic wrap”-like filter. Try at your own risk. (But take a deep breath first.)

parameters

plastic

Quality - The Plastic filter is based on a blur algorithm. So the type implies the quality.

Bump channel - Select the channels the relief is based upon.

Lock X/Y, **Blur Size** - Again, controls to set the basic blur.

Height - The height of the plastic bump.

Color - The color of the specular, giving the actual “plastic” look.

Combine - Defines how these speculars are merged over the original image.

shape & light

Check out the Bevel tool for more details about these.



krokodove common parameters

See section in the beginning of this manual.

related tools

Bevel

positioner

Similar but slightly more powerful than Fusions native Corner Positioner. For those cases where the four points you want to position are not necessarily the corners of the image. For those cases where you want true perspective deformation.

hint

When placing the sources, first drag the map to your preview.

It might get very confusing to place the source positions while looking at the result of the positioner.

An additional advantage is the fact the map doesn't need to have the size of the image you're "mapping on".

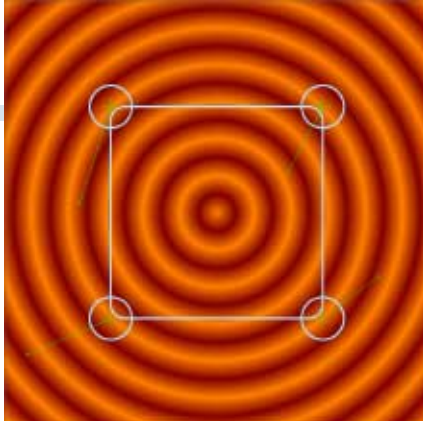
parameters

Type - Select how many points should determine the new position.

Source 1, Destination 1, Source 2, ... - Where it comes from, and where it goes to...

krokodove common parameters

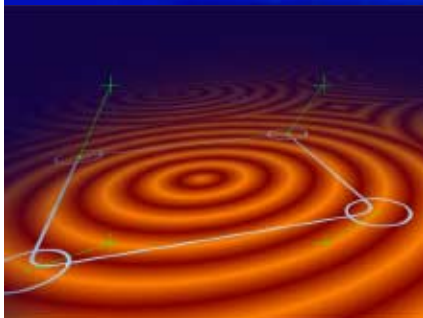
See section in the beginning of this manual.



map with sources in place



bluekey with tracked destinations



map transformed using positioner



final composite

rasterize

The rasterize plug-in does again what it says. Beside the classic circle and square shaped raster dot you can use any external image source as a 'dot'. Varying the size, angle and aspect based on the background image and the way the 'dots' overlap, allows for some pretty 'graphic' effects.

parameters

raster

Channel - The channel the raster dot sizes will be based upon.

Center, **Size**, **Angle** and **Aspect** - Raster transformations.

shape

Type - You can choose from different basic shapes such as Circle, Box and Diamond as well as creating your own

Image, you then should connect to the shape image input of the tool.

Size black and **white** - Basically a rasterize specifies the source channel intensity at a dots position and varies the dot size based on that intensity. Typically on a black spot, the size of the dot is 0.0, on a white spot it's 1.0, or 1.415 if you have round (Circle) shaped dots and want full coverage.

Keep shape horizontal, **Lock black/white angle**, **Angle black and white** - But you can also play around with the angle...

Lock black/white aspect, **Aspect black and white** - ... and finally also the aspect of the dot can depend on the source channel intensity, similar to size and angle.

color

Shape color - The color applied to the different dots can be a Solid color, or come

from the source Image or External shape image, connected to the tools secondary shape image input.

Overlap - When two dots overlap, they can be combined in different ways; the Maximum of both can be chosen, they can be Added together, Multiplied or inverse multiplied (Screened).

krokodove common parameters

See section in the beginning of this manual.

note

Very small raster sizes give exponentially high rendering times.

replace color

Easy and advanced color correcting and replacing on a random selection or selection “around” a color. Selection of the source and target color, can set the required correction. The tool operates in any color space, in which the selection range and softness can be controlled for every color channel separately.

parameters

correction

Color space, **Channel check boxes** - Color corrections/selections can be applied in different color spaces and on selected channels only (See also **Krokodove Common Parameters**).

Match source to destination - This button sets the corrections (above) by measuring the difference between Source and Destination color. A typical workflow is provided in the tutorial.

Source and **Destination color** - Colors used when pushing the match button. The source color is also used when the first selection type is used on the tab below.

selection

Type - You can either set your selection **Around the source color**, selected on the first tab, or select them freely independent from that source color (**Free range**).

Lock range, **Range** (**Around source color**) - Set here the range around the source color, making up your fully selected pixels. Can be set for all color channels independently.

Lock softness, **Softness** - The softness with which the selection fades out.

Invert selection - Does what it says.

Alpha output - While finetuning your

Selection it might be handy to keep an eye on it. When rendering you might however want the Processed alpha to be sent to the output.

Set selection to full range - Sets the range to include all pixels.

Channels low/high (**Free range**) - Control the selection ranges manually and freely here.

Set selection around source color (**Free range**) - To start with you might want to set you ranges around the selected source color...

Selection width (**Free range**) - ... the range width to start with can be specified here.

krokodove common parameters

See section in the beginning of this manual.

related tools

Match Color

Along the same line as Lines, there's now this Shapes tool. Wild circle and square patterns for more graphic effects.

parameters

image

Process Mode, *Width*, *Height* and *Pixel Aspect* - Fusion's image creation parameters can be set as usual.

options

Number of line sets - You can create one or more line sets. The first and last set of lines can completely be defined (see below). If you choose three or more here, the intermediate sets are *interpolated*.

Overlap - You can specify here how colors need to be *combined* when two or more lines overlap.

first shape | last shape

Center, *Angle*, *Spacing*, *Thickness* - The *basic setup* of your first line set. Slide and see.

Thickness increase - Makes lines become wider (or thinner) depending on their *distance to the center*.

Softness, *Softness increase* - Each line can have a *soft edge* and this again can be set to change with the distance to the center.

Dot spacing - Distance between line *dots*.

Dot length, *Dot length increase* - The length of the dots (0.5 and higher being a continuous line).

Dot softness, *Dot softness increase* - Softness of the end of the dots.

Color - The primary color of the lines.

krokodove common parameters

See section in the beginning of this manual.

related tools

[Blobs](#), [Lines](#)

smart field strobe

Most people don't like fields and in their pursuit of a "film look", fields are usually the first to go. On stripping one of the two fields you lose however half of the vertical resolution; this is highly undesirable. If part of the image is static, there is a solution now: smart field strobe. It attempts to detect motion and only when found the field is stripped.

The latest version now includes time speed and time stretcher options. This allows for better slow-motions and speed-ups of your fielded video source... and even further improvement is in development.

Make sure your loader is set to full frames to properly use the Smart Field Strobe on it.

Special thanks go to Jan Goossen of Piranha, who was kind enough to provide the idea, prototype and sample footage.

parameters

field strobe

Select - Select here which field is to be removed (if there's motion).

Output pixel selection to alpha - While fine-tuning the tool, it might be interesting to have some visual feedback on which pixels the field strobe is actually applied. Check here and keep an eye on your alpha channel.

Blur, Contract/Expand, Gamma and Low/High - As said the tool generates an alpha of where to strip the field. This alpha can be modified with the usual matte controls.

time

To circumvent limitations of Fusion's time adjustment tools, a modified version is now part of the tool itself.

Adjust - Time adjustments can be specified similar to Fusion's native Time Speed and Time Stretcher.

Speed (Time Speed) - The resulting speed factor applied to the original clip of the image input.

Source time (Time Stretch) - The source time of the original clip attached to the image input.



For best results, you let the tool decide for you which field is to be stripped: set Based on time (and which field is dominant for you, depending on whether you're using PAL, NTSC, ...)

example

When shooting on video you're often left with fielded images.

Though it gives you smooth motion, people mostly experience fields as ugly and un-film-like. Therefore stripping one of the fields is often part of creating the film-look everyone is after. Drawback: in simply throwing away and interpolating one of the fields you lose half of the vertical resolution and create jaggies as you can clearly see in the image below.

In case of a static camera shot this can be avoided by detecting motion and only stripping fields on moving parts of the image.

This is what the Smart Field Strobe does. The image bellow has stripped one field but also keeps the round arcs nicely antialiased.

krokodove common parameters

See section in the beginning of this manual.



original



regular stripping of fields



smart field strobe

Some call it wind, some call it blast, we call it smear. Beside directionally blurring the image (horizontal or vertical), you can create plenty of other smearing effects by shaping your own smearcurve. All this being sub-pixel accurate and resolution independent.

parameters

smear

Direction - The direction of the smear can be Horizontal or Vertical.

Length - Length of the smear, relative to the image width.

Normalize - A value of 1.0 will maintain the overall lightness of the image. You can in- or decrease this lightness if required.

shape

Shape - The smear doesn't need to fade out linear, but can be shaped here. The right-hand side of the curve represents the pixel closest to the original, the leftmost the point furthest away..

krokodove common parameters

See section in the beginning of this manual.

Spherize deforms the image as if it were put on a globe, cylinder or other curved object. Different algorithms and a user-defined number of iterations create plenty of variations on the same theme.

parameters

Type - Horizontal, Vertical, Sphere or Square

Algorithm - Different algorithms give slightly different results. Especially the edge and center behavior might make a difference.

Iterations - Number of times the algorithm gets applied (Don't mind too much... try and see).

Center - Center point of the circle.

Size - Does matter.

Lock horizontal/vertical, Deformation - The amount of deformation, optionally controlled independently horizontally and vertically. (As you can see)

krokodove common parameters

See section in the beginning of this manual.

related tools

Bend, Morph

text formula

This tool outputs numeric values as text, or combines multiple text fields. Slider values, point positions, time code, any parameter can now easily be integrated in your image after being combined into one text.

hint

This tool is made to *easily assemble* different texts and parameter values into one text and compose in the image. Obviously, in Fusion these parameters can have several different sources: animated splines, paths or even values created by other tools such as *expressions* or the *Number Probe*.

hint

Text Formula is not a regular tool, in that it *can not be found* in the Fusion *Tools* list.

You can access it however by right-clicking on any *text input* in the control area of any tool. Select *Modify With* and go for *Formula*.

parameters

Base text - In this text n1, n2, ... p1x, p1y, p2x, ... and t1, t2, ... are replaced by the values set in the Number In, Point In and Text In tabs.

Precision number values - Precision of number values (n1, n2, ...) or digits after the dot.

Minimum number value digits before dot - If you always want a fixed number of digits before the dot these can be filled with spaces (e.g. " 17.24") ...

Leading zero's for number values - ... or with zeros (e.g. "000017.24").

Precision point values, Minimum point value digits before dot, Leading zero's for point values - Similar to number values but for point values (p1x, p1y, p2x, ...)

crokrodove common parameters

See section in the beginning of this manual.

text from file

Extracts a single line of text out of a file.
Timing is based on the position in the file or
the frame numbers preceding the text.

hint

Text From File is not a regular tool, in that it *can not be found* in the *Fusion Tools* list.

You can access it however by right-clicking on any *text input* in the control area of any tool. Select *Modify With* and go for *From File*.

parameters

Filename - The file of which text is to be retrieved.

Format - The file can have different formats. “*Each line a frame*” looks like this:

```
text for time 0
on frame 1 we have this line
we can go on like this (frame 2)
```

```
the previous frame (3) had no text
frame five\nconsists of two lines
and we can go on like this forever
```

And for “*Startframe and text*” your file should look like:

```
0 text for frame zero to 19
20 new text as of frame twenty
25
30 no text between 25 and 30
50 frame fifty!
55 blabla
```

The text file can also contain “*tab*” symbols and a line break can be achieved with the “*\n*” combination.

krokodove common parameters

See section in the beginning of this manual.

text juggle

Juggles your characters, words, or lines by swapping them around.

hint

Text Juggle is not a regular tool, in that it *can not be found* in the Fusion *Tools* list.

You can access it however by right-clicking on any *text input* in the control area of any tool. Select *Modify With* and go for *Juggle*.

parameters

Text - Base text to be juggled around.

Juggle characters - Amount a juggling to be applied on individual characters.

Keep spaces in place - When checked, spaces won't be juggled with.

krokodove common parameters

See section in the beginning of this manual.

text write

Tired of animating masks for revealing a sentence, letter by letter? And you really hate it when afterwards you need to set up the blinking cursor that follows those letters? Komkom Doorn to the rescue, for another easy but time-saving tool.

hint

Text Write is not a regular tool, in that it *can not be found* in the Fusion *Tools* list.

You can access it however by right-clicking on any *text input* in the control area of any tool. Select *Modify With* and go for *Write*.

parameters

Main text - Base text to be “written”.

Write - Fraction of text send to the output of this tool. E.g. 0.75 means 75% of the text is shown.

Cursor text - This text is appended to the one above and generally serves as cursor.

Cursor show - Use a animated and looped spline on this checkbox to get a blinking cursor.

krokodove common parameters

See section in the beginning of this manual.

use

Easily write a text, followed by a curs_

threshold

It started out as a simple “threshold” tool: clipping all colors above a certain luminance to white and below to black. Now it allows a variety of color shifting and palette rotations. Welcome to the seventies.

parameters

Channel - Select here the source to base color clipping on. Red, Green, Blue, Alpha or Luminance for all channels or every channel its own.

Invert - Inverts the result.

Lock threshold, Threshold (Red, Green, Blue, Alpha) - Set here the value above which colors must be clipped to white and below which colors are clipped to black.

If required, it can be set for all color channels independently.

Lock softness, Softness (Red, Green, Blue, Alpha) - Instead of clipping the hard way, you can set

a certain softness or gradual transition between your white and black level. Again they can be set for each color independently.

Lock repeat, Repeat (Red, Green, Blue, Alpha) - The gradual transition can be repeated a few times...

Ping-pong (Red, Green, Blue, Alpha) - ... and go up and down (and up and down and...) between your black and white level. If your repeat count is not a round integer

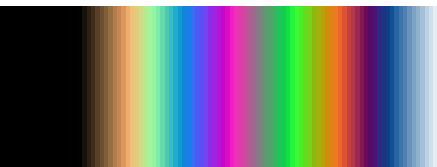
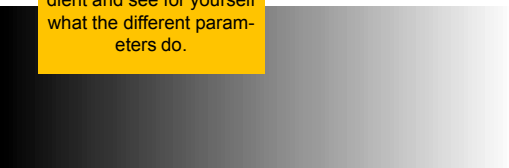
value your white level might not be white but any gray level your gradient ends with. E.g. A ping-ponged repeat of 2.75 goes from black (0.00) to white (1.00) to black (2.00) to 75% gray (2.75).

krokodove common parameters

See section in the beginning of this manual.

hint

To fully learn the capabilities of this tool you are best to start out with a simple black to white gradient and see for yourself what the different parameters do.



The main sequence gets delayed, according to a second image, called the **time map**. How much it gets delayed can be set using the **time offset** sliders for the 2 extremes: black and white. Suppose you choose time offset of 0 for black and 8 for white, the final image will be composed of 9 images. Where the time map is black you get no delay, where it is white you get 8 frames ahead.

hint

The main sequence fed into the Time Mapper is rendered 9 times if your time offset for black is 0 and 8 for white.

$$(8 - 0) + 1 = 9$$

Therefore first pre-render or cache the files to disk to save time.

parameters

Main Time - Set whether the main time should follow the main flow time or can be animated by you independent of that.

Time offset black, white - Sets how much the black parts are set off in time.

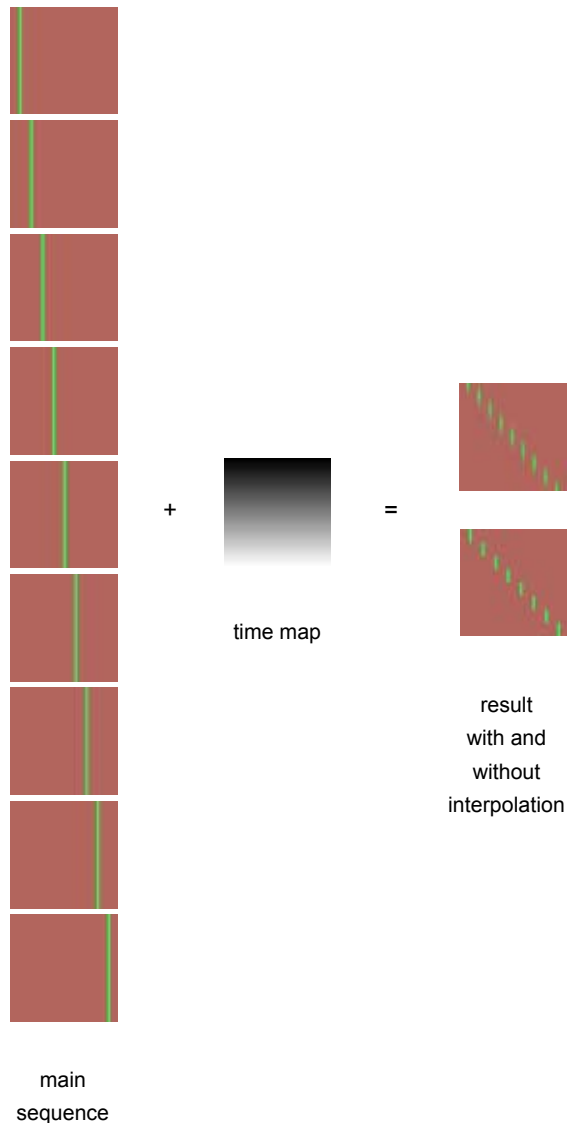
Interpolate between frames - As the time map usually has many more grayscales (up to 65535) as images are used (9 in our example above),

intermediate grayscales can be treated in 2 ways: or they get rounded to the nearest time (**no interpolation**), or they get a weighted mix of the nearest time frames (**interpolation**)

Channel - Select which channel of the **time map** is to be used.

krokodove common parameters

See section in the beginning of this manual.



vector blur

Directional blur which can be controlled in several ways: you can set the angle and length manually or use the velocity channel exported from your 3D software.

parameters

vector field

Angle type - The vector angle can have a constant value (**Constant**), start from a center point (**Radial**) or be controlled by the bitmap itself or an external secondary **bitmap** (if connected).

Angle - The angle (**Linear**) or additional angle (**Radial**).

Center (**Radial**) - The point towards which all vectors are oriented.

Angle channel (**Bitmap**) - If available you can use the **Velocity** channel (supported by RPF, RLA or IFF formats) or any other channel otherwise.

Angle black, white (**Bitmap**) - If not controlled by the velocity, you can angle is mapped according to the brightness of the chosen channel.

Length type, Length (**Constant, Radial**), **Length black, white** (**Bitmap**) - Similar to the angle.

Quality (**Constant**) - To speed up calculation of constant length vector fields a look-up table is used. You can set the resolution of the table [here](#).

Length multiplier (**Bitmap - Velocity**) - Scale factor for the length of vectors in the velocity channel.

effect

Apply - Finally you probably want the Vector blur. While looking at the vector field you might prefer to see the Original or a Black

image though.

Normalize values - To maintain the overall brightness of an image you usually might want to normalize the values. If you have non-smooth vector fields (like those from a velocity channel) you might prefer not to normalize the result.

krokodove common parameters

See section in the beginning of this manual.

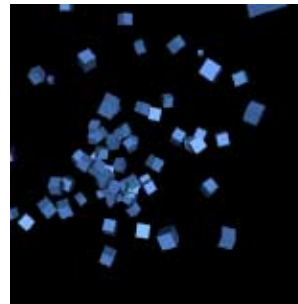
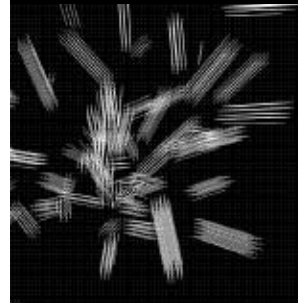


image with
embedded vector field



visualisation of
vector field

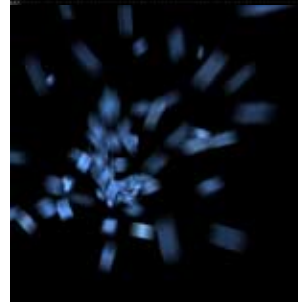


image with vector
blur applied

vector visualization

For your convenience, you can visualize the vector field, before or after applying a vector tool (such as [Vector Blur](#)).

parameters

Color - The color and transparency of the vector field.

Density - The grid size.

Length Multiplier - The factor you want the vectors to be enlarged with (for better visualisation).

krokodove common parameters

See section in the beginning of this manual.

related tools

[Vector Blur](#)