



**InstantVFX Plugins for eyeon's
Digital Fusion 4 and Fusion 5
Documentation**
(Version 1.0 Nov.23rd 2005)

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Introduction

Thank you for your interest in my plugins.

As a visual effects artist I often experience occasions, where it is very tedious to create a certain effect, especially if multiple instances of the same element are required.

Thanks to Fusions architecture, plugin programming using C++ allows me the writing of tools that automate the desired effect with minimum user input.

Over the time some of the plugins came very handy and I decided to share them with the community.

I hope they are as useful, intuitive and quickly responsive for you, as they were intended to be when the need arose for me to create them.

Pricing

My plugins are available in the following packs:

Level 1	free
Level 2	200,- EUR
Level 3	300,- EUR

Level 2 plugins DO NOT support floating point image depths and some features are disabled and will trigger demo mode.

Level 3 plugins have FULL functionality and support ALL image depths provided by Fusion.

Multiple Licenses are available for reduced prices:

Level 2	5-20 licenses for 160,- EUR per seat >20 licenses for 100,- EUR per seat
Level 3	5-20 licenses for 240,- EUR per seat >20 licenses for 150,- EUR per seat

Purchase

To purchase the commercial Level plugins please ask your nearest reseller, contact Rüdiger Knoblach (Director of Operations for eyeon Europe) from Business TV GmbH at www.business-tv-gmbh.de or write a mail to order@instantvfx.com

Contact

If you have any questions or suggestions for future plugins you are welcome to visit the homepage www.instantvfx.com or write an e-mail to info@instantvfx.com.

If you have problems with the plugins send a message to help@instantvfx.com and if you found a bug please inform me about that and write to bugs@instantvfx.com.

For those of you, who prefer the “old fashioned” mail contact write to :

Enrico Perei
P.O. Box 3531
24034 Kiel, Germany
or call +49 (0)431 / 6594949

InstantVFXColorReplace, CIRp

Replace a color or color range using softness settings with another color or color range.

Level 2 restrictions:

none

Inputs:

Input the image input

Interface:

Red, Green, Blue, Alpha: activate or deactivate these to perform any action on the corresponding color channels

Colorchannels separate: activate this to use the color channels separately as independent luminance ranges instead of a single color if this is not checked, the colorize will be performed only, if the exact color (or color range) that is specified as original color is found

Original Color: the original that shall be replaced

Destination Color: the destination color

Smoothness Range: smoothness on the selected color (as well as the destination)
a smooth transition is performed



InstantVFXCrowd, Crwd

With this tool you quickly can create a crowd and insert it into footage.
This works even without the need of tracking.

Simply attach your "crowdmember" to certain colormarkings in your image or do a second renderpass with nothing else than small dots at the locations where you want your elements to appear and this tool does the rest....

If you render out the "crowd"-image either from 3D Software or if you create it in Fusion using particles for example, make your background transparent black.
All other colors can be used to represent a "crowdmember" or "folk", as it is called in the tool.

In order to render, this tool needs a "crowd"-image(with the same size like the input!!) connected and at least one "folk" as input in the dropdown-areas.

Level 2 restrictions:

- only the position colors red(1.0, 0.0, 0.0, 1.0), green(0.0, 1.0, 0.0, 1.0), blue(0.0, 0.0, 1.0, 1.0) and yellow(1.0, 1.0, 0.0, 1.0) are supported
- "folks" larger than PAL resolution are not supported

Inputs:

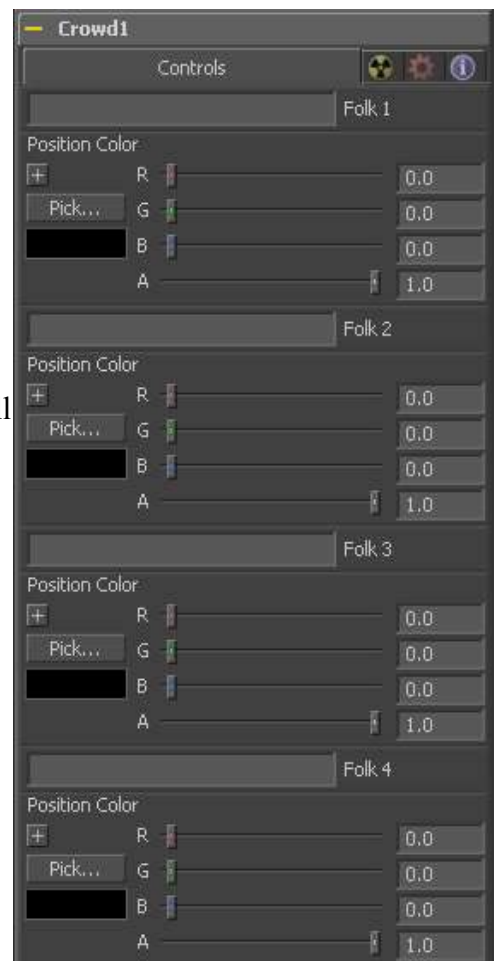
Background: the background footage
Crowd: the color-representations of the crowd

drop down inputs:

Folk1-4: the "crowdmembers" or "folks"

Interface:

Folk1-4: drop here your "crowdmembers", the images that will replace the colors / dots in the crowd input
Color: pick the color from the "crowd"-image that will be replaced by this folk



InstantVFXDisplay, Disp

Quickly creates the appearance of different display systems like TV-sets, monitors, advertisement-displays etc.

Each image pixel is transformed into the "display pixel" of the display system as if that was used to show the image.

You can define the "display pixels" using custom images or the presets

..... independently for each color channel and with multiple color input and colorize options.

The form of the "display pixel" is present in the alpha channel of the output and full color information is present in the other channels.

To make the form "visible" simply merge the output over a black background using subtractive merge.

Level 2 restrictions:

- no custom display pixel can be used
- boundaries restricted to max.output size 3000x3000

Inputs:

Input: the footage you want to display

DisplayPixel: the pixel (form and color) of the display-system you want to imitate

Interface:

Display Type Tab:

Preset: choose fully set-up display presets

- "TV & Monitors"* : simulates TV-sets or Monitors
- "Airport"* : uses "plaquettes" like found in Airport or Public Transportation displays to show the "Input"
- "Diode Marquee"* : simulates diode-displays often used in shops for showing text advertisements (LED dot matrix)

Settings Tab:

Red, Green, Blue : activate or deactivate these to show or hide the corresponding color channels

PixelPreset: choose presets for the display pixel

"Default" : the default pixel (1x2)

"Cross" : a cross shaped pixel (3x3)

"Plaquette" : a pixel looking like a Plaquette (4x4)

"Diode" : a pixel simulating a Diode

Red Color : choose the source of the color that will be used to colorize the "display pixel" of the corresponding color channel

Green Color

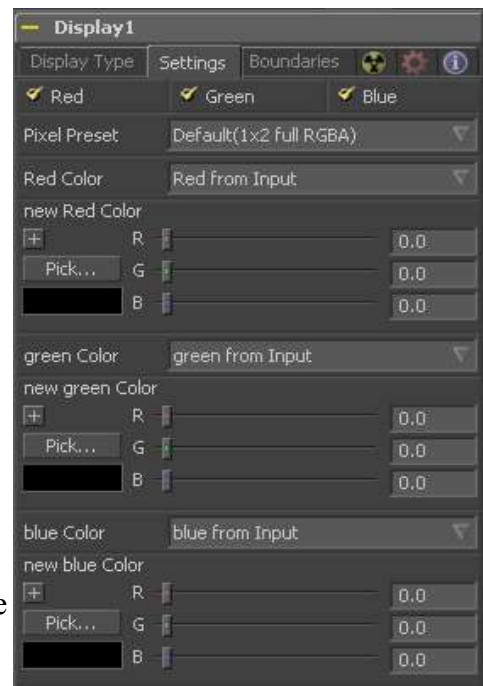
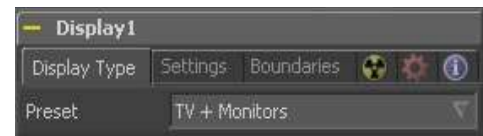
Blue Color

"red from input" : the red/green/blue channel of the input will be used as color for the "display pixel"

"green from input"

"blue from input"

- maintaining the colors separately for each channel



“color from input” : the full color, not only its corresponding channel, of the input is used
“color from pixel” : the full color from the “display pixel” is used
“custom color pick” : the custom color picked / selected is used
 new Red Color : pick/ select here your desired color for the “display pixel”
 new Green Color
 new Blue Color

Boundaries Tab: change the maximum boundaries of the display pixel size and the resulting output image

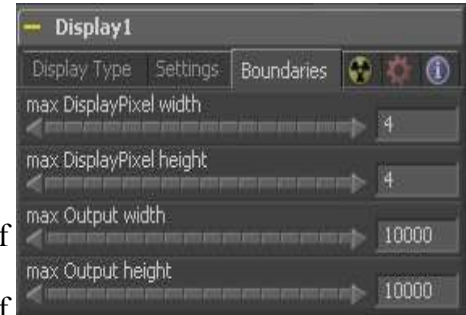
! keep in mind :

(output width = input width x displaypixel width x 3)

(output height = input height x displaypixel height)

max Display Pixel width / height : max width/height of the display pixel

max Output width / height : max width/height of the output image



InstantVFXExpand, Exp

Expand or contract the luminance values of the colorchannels separately....

A user specified luminance range is expanded or contracted to fit the user defined output range.

This should prove very useful for keying, separate luma manipulations (way beyond shadow, mid- and highrange), color corrections etc.

Level 2 restrictions:

none

Inputs:

Input : the input footage

Interface:

Red, Green, Blue, Alpha: activate or deactivate these to show or hide the corresponding color channels

Ranges : set here the boundaries for the “Input Region” and the “Output Region”

Non Input Values: choose what happens with luminances that are out of the input region

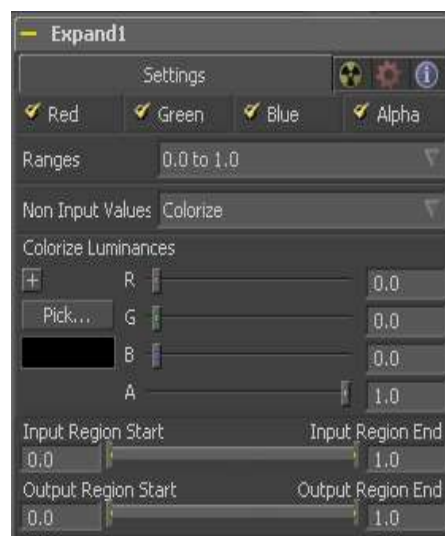
“keep luminance”: keeps the values and copies them into the output

“colorize” : replaces those values with a custom color

Colorize Luminances: hidden unless “colorize” is selected
pick the custom color for the luminances outside the “input region”

Input Region Start/End: begin and end of the input luminances that shall be changed

Output Region Start/End: begin and end of the new luminance-range



InstantVFXLumaFilter, LFlt

For those of us who are used to audio packages like protools™, logic™ cubase™ or sound forge™, this one is familiar:

...it is pretty much a filter tool, cutting or boosting luminance (frequencies) beyond a certain value.
(lowcut, highcut, lowboost, highboost etc.)

In addition a range, instead of a gate frequency, can be specified for even better control.

Level 2 restrictions:

smoothness range above 0.0 is not supported

Inputs:

Input: the input footage

Interface:

Red, Green, Blue, Alpha: activate or deactivate these to show or hide the corresponding color channels

Filter options: select the filter operation to perform on the input footage
“lowcut” cut all frequencies below “Luminance” to black

“highcut” cut all frequencies above “Luminance” to black

“lowboost” boost all frequencies below “Luminance” to white

“highboost” boost all frequencies above “Luminance” to white

“range inside cut” cut all frequencies inside the “Luminance Region” to black

“range inside boost” boost all frequencies inside the “Luminance Region” to white

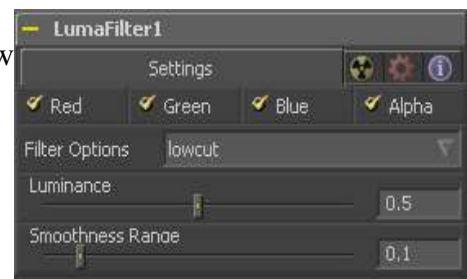
“range outside cut” cut all frequencies outside the “Luminance Region” to black

“range outside boost” boost all frequencies outside the “Luminance Region” to white

Luminance: the “Luminance” or gate frequency for the filter operation
only shown if filteroption “lowcut”, ”highcut”, ”lowboost” or “highboost” are active

Luminance Region Start/End: select here the luminance region for the filter operation
only shown if filteroption “range inside cut”, “range inside boost” , “range outside cut” or “range outside boost” are selected

Smoothness range : the luminance range in wich the frequencies are smoothly transformed to black or white



InstantVFXScanlines, Scan

Introduces scanlines to the image....hence the name....

....with lots of attribute controls like scanline sizes, colour, scanline order, stretch image or keep size etc.

...and that for both, horizontal and vertical scanlines in the same image but with independent settings.

Level 2 restrictions:

scanline sizes restricted to 1 or 2

Inputs:

Input the input footage

Interface:

horizontal scanlines tab
activate scanlines

all settings for horizontal scanlines
use this to activate/deactivate the scanlines

Mode

“keep input size”

keeps the input size -> writes the colored scanlines over the footage

“stretch image”

stretches the image size(height) to “make room” for the new scanlines maintaining all image information of the input

scanline order

works like “field order” on interlaced footage

“show input first”

first line is showing input (from the top)

“show color first”

Scanlines showing input

set here the amount of scanlines showing the input

Scanlines showing color

(sets the height in pixels of those scanlines)

set here the amount of scanlines showing the color

Scanline Color

(sets the height in pixels of those scanlines)
the actual color of the “color scanlines”



vertical scanlines tab
activate scanlines

all settings for vertical scanlines
use this to activate/deactivate the scanlines

Mode

“keep input size”

keeps the input size -> writes the colored scanlines over the footage

“stretch image”

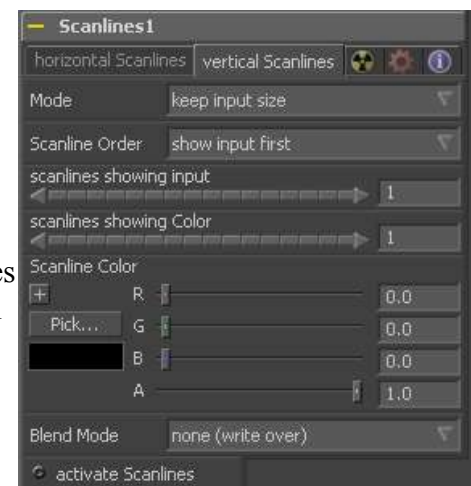
stretches the image size(width) to “make room” for the new scanlines maintaining all image information of the input

scanline order

works like “field order” on interlaced footage

“show input first”

first line is showing input (from left)



“show color first”	first line is showing color.
Scanlines showing input	set here the amount of scanlines showing the input (sets the width in pixels of those scanlines)
Scanlines showing color	set here the amount of scanlines showing the color (sets the width in pixels of those scanlines)
Scanline Color	the actual color of the “color scanlines”
Blend Mode	blending mode if horizontal scanlines are active
“ <i>none(write over)</i> ”	simply writes the vertical scanline over the horizontal scanline when intersecting
“ <i>add</i> ”	adds the color of the vertical scanline to the color of the horizontal scanline
“ <i>subtract</i> ”	subtracts the color of the vertical scanline from the color of the horizontal scanline

InstantVFXScanCrop, SCrp

This was thought as an addition to the InstantVFXScanlines-Tool for being able to cut out certain scanlines.

But it has proven to be very usefull in repairing images with bad scanline rasterizations.

Level 2 restrictions:

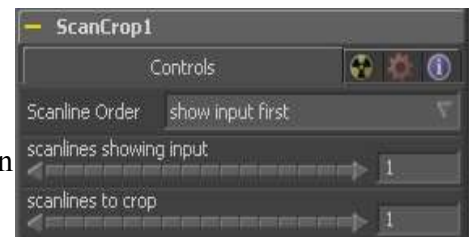
scanline sizes restricted to 1 or 2

Inputs:

Input: the Input footage

Interface:

Scanline Order	set the order of the scanlines (works just like field order on interlaced footage)
“input first”	the topmost scanline will be shown
“crop first”	the topmost scanline will be cropped
Scanlines Showing Input	the amount of scanlines from the input that will be copied to the output (the height of those scanlines)
scanlines to crop	the amount of scanlines from the input that will be left out(cropped)



InstantVFXStarfield, Strf

Initially created for quick background starfields.

But you can use this wherever a random distribution of image elements is required.

The first “Star” is required for this tool to render.

Level 2 restrictions:

stars larger than 100x100 pixels not supported

Inputs:

Input the input footage

drop down inputs:

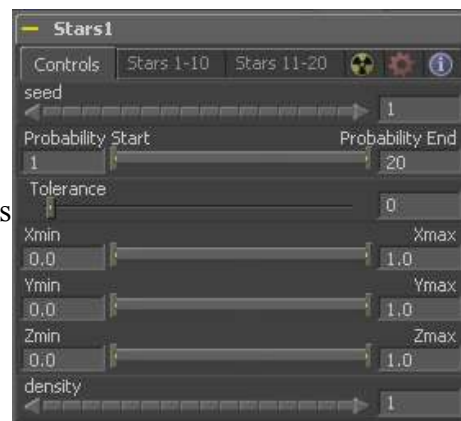
Stars 1-20 the stars that will be used to distributed throughout the image to create the output

Interface:

Controls Tab:

Seed	seed value for the random generator
Probability Start/End	the probability between stars 1 and 20. use this to set the range of the stars (their actual numbers) that will be included in the random distribution
tolerance	set the amount of stars that can be “spread” over the probability range
xmin,xmax	this is the x-range of the positions of the stars
ymin,ymax	the y-range for the star positions
zmin,zmax	the z-range for the star position effectively the z-range defines the scale of the stars where 1.0 is the original size of the star
density	this is the overall amount of stars that will be generated
stars 1-10 tab	drop here your stars
stars 10-20 tab	drop here your stars

(not all need to be filled and not in incrementing order – use this in addition with probability and tolerance to vary the tile distribution even more)



InstantVFXTiles, TIs

A very powerful and fast tool for creating large scale tile textures like brick walls using a small amount of single tiles.

The look of the randomly created image can be customized using advanced settings like probability, tolerance, seed and offset.

I wrote this tool to have quickly seamless wall textures for 3D renders....

...but way more textures and images can be created with this, than just walls....

The first tile is required for this tool to render.

All other tiles will be resized to the dimension of the first tile.

Level 2 restrictions:

xoffsets are fixed to 0.0 for A and 0.5 for B

tiles larger than 50x50 pixels not supported

Inputs:

Input the input footage

drop down inputs:

Tiles 1-20 the tiles that will be used to distributed throughout the image to create the output

Interface:

Controls Tab:

Seed seed value for the random generator

Probability Start/End the probability between tiles 1 and 20.
use this to set the range of the tiles (their actual numbers) that will be included in the random distribution

tolerance set the amount of tiles that can be “spread” over the probability range

x offset line A x-offset of the upper lines (like interlaced footage)
(this value represents a multiplier for the width of a single tile)

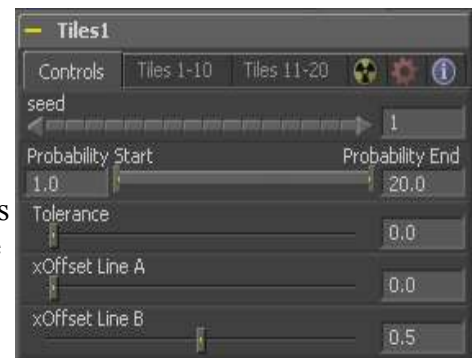
x offset line B x-offset of the lower lines
(this value represents a multiplier for the width of a single tile)

(these offsets are useful if a brick wall shall be created)

tiles 1-10 tab drop here your tiles

tiles 10-20 tab drop here your tiles

(not all need to be filled and not in incrementing order – use this in addition with probability and tolerance to vary the tile distribution even more)



InstantVFXWaveAnalyzer, WAnI

From the broadcast equipment well known Waveform Analyzer.

Featuring Luminance, Chrominance, Composite, RGBA fullscreen and parade, with separate settings for each colour channel adjusting offset, stretch and region selection from a single line to full image.

Level 2 restrictions:

none

Inputs:

Input the input footage

Interface:

Red, Green, Blue, : activate or deactivate these to show or hide the corresponding colorchannels

Alpha

Type set the type of the display

“Luminance” show the luminance values

“Chrominance” show the chrominance

“Composite” show the composite

“RGBA(fullscreen)” the rgba luminances are displayed on top of each other (except for the alpha channel, wich is displayed in the alpha channel)

“RGBA(parade)” the rgb luminances are displayed separately, the alpha channel is displayed in the alpha channel

“static Red(fastest)” the according color channel is displayed

“static Green(fastest)” full screen and stretch/positioning is

“static Blue(fastest)” disabled

“static Alpha(fastest)”

Roundness if roundness is 0.0 each image pixel will be displayed as a dot on the corresponding position

if roundness is larger, then a wireframe will be displayed where the luminances are interconnected rounding up between the pixel-values.

Y Stretch Red the Y-Size of the diplay for the corresponding channel

Y Stretch Green

Y Stretch Blue

Y Stretch Alpha

Center Red the x and y position of the display of the corresponding channel

Center Green

Center Blue

Center Alpha

Input Image Top this is the region that will be displayed in the analyzer

Input Image Bottom (this selection makes it possible to isolate a certain line or a range of lines)



Known Issues

Please visit the plugin-homepage www.instantvfx.com for an up to date list of any known issues and bugs.