

DWANGO OpenToonz Plugins

How to use prebuilt plugins

1. Copy .plugin files, which you want, to `${path-to-opentoonz-stuff}/plugins/`.
 - `${path-to-opentoonz-stuff}` is
/Applications/OpenToonz/OpenToonz_1.0_stuff/plugins/ (OSX) or C:\OpenToonz 1.0_stuff\plugins (Windows) by default.
1. Install OpenCV3.
2. Restart OpenToonz.

How to install OpenCV3

OSX

You can install OpenCV3 by homebrew.

```
brew install opencv3  
brew ln opencv3 --force
```

Windows

1. Download [OpenCV for Windows VERSION 3.1 \(http://opencv.org/\)](http://opencv.org/).
2. Set PATH to `${path-to-opencv3}\build\x64\vc12\bin\`,
 - Or copy `${path-to-opencv3}\build\x64\vc12\bin\opencv_world310.dll` to
C:\Program Files\OpenToonz 1.0.

Sample Plugins Manual

ComposeAdd

This effect adds colors in linear color space.

input ports

port name

layer[0-9] input images

parameters

None

ComposeMul

This effect multiplies colors in linear color space.

input ports

**port
name**

layer[0-9] input images. layer0 is the back-most layer, and layer9 is the front-most layer.
layer0 is required.

parameters

None

ComposeOptical

This effect composes colors based on the Kubelka-Munk equation.

input ports

**port
name**

layer[0-9] input images. layer0 is the back-most layer, and layer9 is the front-most layer.
layer0 is required.

parameters

param name default value min value max value

gamma	2.2	0.100	5.0	display gamma
exposure	1.0	0.125	8.0	exposure to calculate light power

BlurChromaticAberration

This effect blurs an input image for each color channels.

input ports

port name

Input input image

parameters

param name default value min value max value

gamma	2.20	0.100	5.0	display gamma
exposure	1.00	0.125	8.0	exposure to calculate light power
radius_r	0.01	1.000	1.0	blur radius for red channel
radius_g	0.01	1.000	1.0	blur radius for green channel
radius_b	0.01	1.000	1.0	blur radius for blue channel
margin	100.00	0.000	1024.0	margin width for blur

BlurConvolution

This effect blurs an input image by specified figures.

input ports

port name

Input	input image
A	blur figure
B	blur figure
C	blur figure

parameters

param name default value min value max value

intensity_a	1	0	8	intensity scaling factor for A
intensity_b	1	0	8	intensity scaling factor for B
intensity_c	1	0	8	intensity scaling factor for C
scale_a	1	0	8	size scaling factor for A
scale_b	1	0	8	size scaling factor for B
scale_c	1	0	8	size scaling factor for C
margin	100	0	1024	margin width for blur

BlurMaskedC

This is a circular blur effect which is specified blur intensity by a mask image.

input ports

port name

Input	input image
Mask	mask image

parameters

param name default value min value max value

radius_r	1	0	16	blur radius for red channel
radius_g	1	0	16	blur radius for green channel
radius_b	1	0	16	blur radius for blue channel
radius_a	1	0	16	blur radius for alpha channel

BlurMaskedD

This is a directional blur effect which is specified blur intensity by a mask image.

input ports

port name

Input	input image
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Mask mask image

parameters

param name default value min value max value

radius_r	0.1	0	1 blur radius for red channel
radius_g	0.1	0	1 blur radius for green channel
radius_b	0.1	0	1 blur radius for blue channel
radius_a	0.1	0	1 blur radius for alpha channel
angle	0.0	0	360 blur angle in degree

BlurMaskedR

This is a radial blur effect which is specified blur intensity by a mask image.

input ports

port name

Input input image

Mask mask image

parameters

param name default value min value max value

radius_r	0.1	0	1 blur radius for red channel
radius_g	0.1	0	1 blur radius for green channel
radius_b	0.1	0	1 blur radius for blue channel
radius_a	0.1	0	1 blur radius for alpha channel
x	0.0	0	1 x coordinate of center position
y	0.0	0	1 y coordinate of center position

BlurCurlNoise

This is a LIC (line integral convolution) effect which is specified directions by [curl-noise \(PDF\)](https://www.cs.ubc.ca/~rbridson/docs/bridson-siggraph2007-curlnoise.pdf) (<https://www.cs.ubc.ca/~rbridson/docs/bridson-siggraph2007-curlnoise.pdf>) generated from a mask image.

input ports

port name

Input input image

Noise output buffer of CoherentNoise (required)

Mask boundary condition of curl-noise

parameters

param name default value min value max value

gain	16.0	0.1	16.0 blur intensity
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attenuation	0.9	0.0	1.0 attenuation rate for LIC
debug	0.0	0.0	1.0 nois visualization flag for debugging

LightBloom

This effect generates light bloom by edge preservation blur.

input ports

port name

Input input image

parameters

param name default value min value max value

gamma	2.2	0.100	5 display gamma
exposure	1.0	0.125	8 exposure to calculate light power
gain	2.0	0.100	10 bloom intensity
radius	5.0	1.000	32 blur radius
level	8.0	0.000	10 blur level
margin	100.0	0.000	1024 margin width for blur

LightGlare

This effect generates light glare by discrete radial blur.

input ports

port name

Input input image

parameters

param name default value min value max value

gamma	2.2	0.100	5.000 display gamma
exposure	1.0	0.125	8.000 exposure to calculate light power
gain	2.0	0.100	10.000 glare intensity
radius	0.1	0.010	1.000 glare radius
attenuation	0.9	0.001	0.999 glare attenuation
number	6.0	2.000	10.000 the number of glare
angle	15.0	0.000	180.000 glare angle in degree
margin	100.0	0.000	1024.000 margin width for blur

LightIncident

This effect generates analog incident lights.

input ports

port name

Input	input image
Noise	incident light intensity (required)
Mask	mask image

parameters

time

param name	default value	min value	max value	
time	1.000	1	1500	time of noise; a frame number is used as the time when time is 0
time_limit	8.000	2	250	loop point of the time. time is looped in [1,time_limit]
beta	10.000	0	30	time-dependent range of incident light direction
gamma	0.001	0	1	time-dependent sharpness of incident light direction

geometry

param name	default value	min value	max value	
distance	2.00	0.00	5	distance from a center of the frame
theta	40.00	-180.00	180	light angle
phi	30.00	0.00	90	light direction range
alpha	0.00	-45.00	45	light related angle
width	0.10	0.00	30	light width
length	2.00	0.01	10	light length
scraggly	0.20	0.01	2	light length variability
roughness	0.02	0.01	1	oval length
distinctness	0.50	0.01	2	oval width
number	40.00	1.00	100	the number of incident lights

color

param name	default value	min value	max value	
r	1	0.00	1	incident light color (red)
g	1	0.00	1	incident light color (green)
b	1	0.00	1	incident light color (blue)
intensity	2	0.01	100	incident light intensity

figure

param name	default value	min value	max value	
blur	0.01	0	0.5	softness of light figure

falloff

param name	default value	min value	max value
falloff	0.8	0.00	1.0 attenuation distance
sensitivity	0.1	0.01	2.0 attenuation shape

dispersion

param name	default value	min value	max value
d_rate	7.0	0	8 color rate
d_bias	0.5	0	8 color bias
d_gain	0.3	0	1 color intensity

bloom

param name	default value	min value	max value
level	6.0	0	32 bloom intensity
gain	1.0	0	8 brightness intensity
bias	0.0	0	8 brightness bias

system

param name	default value	min value	max value
seed_intensity	0.99	0	1 random seed of random number generator for incident light intensity
seed_direction	0.98	0	1 random seed of random number generator for incident light direction
seed_width	0.97	0	1 random seed of random number generator for incident light width
seed_length	0.96	0	1 random seed of random number generator for incident light length
seed_gamma	0.95	0	1 random seed of random number generator for incident light time
seed_phase	0.94	0	1 random seed of random number generator for incident light position

CoherentNoise

This effect generates [Perlin Noise \(PDF\) \(http://mrl.nyu.edu/~perlin/paper445.pdf\)](http://mrl.nyu.edu/~perlin/paper445.pdf) for Noise of BlurCurlNoise, LightIncident, and WaveGlass effects.

input ports

port name
Input

same Input as BlurCurlNoise, LightIncident and WaveGlass effects

parameters

param name	default value	min value	max value	
time	1.00	1	1500	time of noise; a frame number is used as the time when time is 0
time_limit	8.00	2	250	loop point of the time. time is looped in [1,time_limit]
alpha	0.80	0	1	smoothness of time coherence
gain	1.00	0	1	noise gain
bias	0.50	0	1	noise bias
amp0	1.00	0	1	low-frequency intensity
amp1	0.80	0	1	double amp0 frequency intensity
amp2	0.60	0	1	double amp1 frequency intensity
amp3	0.40	0	1	double amp2 frequency intensity
amp4	0.20	0	1	double amp3 frequency intensity
seed	0.50	0	1	random seed of random number generator

Drip

This effect extracts bright portions by a threshold.

input ports

port name

Input input image

parameters

param name default value min value max value

threshold	0.9	0	1	threshold of brightness
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Paraffin

This effect places a paraffin.

input ports

port name

Input input image

parameters

param name default value min value max value

distance	-1.0	-1.5	1.5	related distance from a center of the frame
theta	40.0	-180.0	180.0	paraffin angle
radius	0.1	0.0	1.0	blur radius
red	0.0	0.0	1.0	paraffin color (red)
green	0.0	0.0	1.0	paraffin color (green)

green	0.0	0.0	1.0 paraffin color (green)
blue	0.0	0.0	1.0 paraffin color (blue)

PencilHatching

This effect applied LIC (line integral convolution) to an input image.

input ports

port name

Input input image

parameters

param name default value min value max value

angle	0.00	0	360 hatching angle in degree
length	0.01	0	1 hatching length
attenuation	0.90	0	1 attenuation rate for LIC
seed	0.25	0	1 random seed for random number generator

WaveGlass

This effect simulates light propagation through a glass.

input ports

port name

Input input image
Noise displacement of a glass which is an output buffer of CoherentNoise (required)
Mask displacement intensity

parameters

param name default value min value max value

gain	1	0	32.00 displacement intensity
eta	2	1	2.50 index of refraction
height	1	0	32.00 distance between a level and a glass
depth	1	0	2.00 glass thickness
red	0	0	0.50 absorption coefficient (red) of glass
green	0	0	0.50 absorption coefficient (green) of glass
blue	0	0	0.50 absorption coefficient (blue) of glass
blur	8	0	0.01 intensity of low-pass filter

Kaleidoscope

This effect generates a kaleidoscope view.

input ports

port name

Input input image

parameters

param name	default value	min value	max value	
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number	3.0	3.00	10.00	the number of mirrors
angle	0.0	0.00	360.00	mirror angle in degree
x	0.5	0.00	1.00	x coordinate of center position
y	0.5	0.00	1.00	y coordinate of center position
radius	0.5	0.00	1.00	radius of kaleidoscope
albedo	0.7	0.01	0.99	reflectance rate of mirrors
depth	10.0	0.00	100.00	max number of reflections

Tiling

This is a tiling effect.

input ports

port name

Input input image

parameters

param name	default value	min value	max value	
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mirroring	0	0	1	flag of mirroring
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ImageQuilting

This effect applies border optimization of [image quilting \(PDF\)](http://www.eecs.berkeley.edu/Research/Projects/CS/vision/papers/efros-siggraph01.pdf) (<http://www.eecs.berkeley.edu/Research/Projects/CS/vision/papers/efros-siggraph01.pdf>) to two input images.

input ports

port name

background background image

foreground foreground image

parameters

param name	default value	min value	max value	
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border	0	0.2	0 1	border width
debug	0	0.0	0 1	show borders for debugging