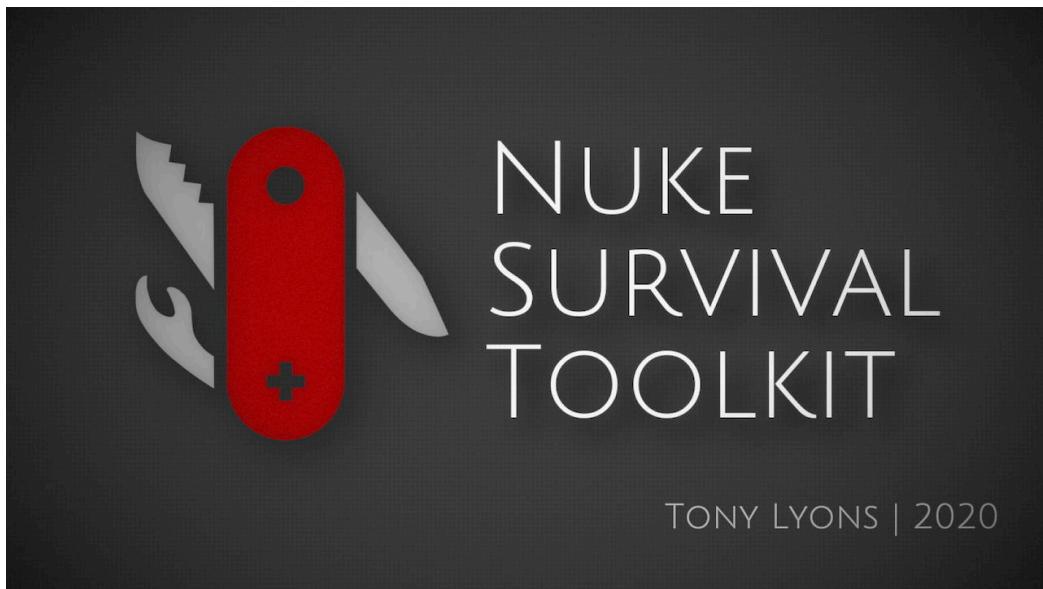


Nuke Survival Toolkit Documentation

Release v2.1.0 — PDF export

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Release v2.1.0

The Nuke Survival Toolkit is a portable tool menu for the Foundry's Nuke with a hand-picked selection of **175+ nuke gizmos** collected from all over the web, organized into 1 easy-to-install toolbar.

Tool Categories

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Category	Description	Tools
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Color	Color correction and grading tools	15
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Keyer	Despill and keying enhancement tools	8
Merge	Advanced merge and compositing tools	5
Transform	Transform, warp, and projection tools	28
3D	3D geometry and camera tools	15
Particles	Particle effects and generators	5
Deep	Deep compositing tools	26
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Curves	Animation and curve tools	10
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Templates	Workflow templates and setups	4

Getting Started

- Installation Guide - How to install the toolkit
- Tech Specs - Technical specifications and requirements
- Menu Overview - Understanding the toolkit menu structure
- About - Credits and acknowledgments

About the Toolkit

The Nuke Survival Toolkit is a portable tool menu for the Foundry's Nuke with a hand-picked selection of nuke gizmos collected from all over the web, organized into 1 easy-to-install toolbar.

For more information about the authors and contributors, see the [About page](#).

Installation

Here's how to install and use the Nuke Survival Toolkit:

1. Download the .zip folder from the Nuke Survival Toolkit github website.

https://github.com/CreativeLyons/NukeSurvivalToolkit_publicRelease/releases/latest

This github will have all of the up to date changes, bug fixes, tweaks, additions, etc. So feel free to watch or star the github, and check back regularly if you'd like to stay up to date.

2. Copy or move the `NukeSurvivalToolkit` Folder either in your `User/.nuke/` folder for personal use, or for use in a pipeline or to share with multiple artists, place the folder in any shared and accessible network folder.
3. Open your `init.py` file in your `/.nuke/` folder into any text editor (or create a new `init.py` in your `User/.nuke/` directory if one doesn't already exist).
4. Copy the following code into your `init.py` file:

```
nuke.pluginAddPath("Your/NukeSurvivalToolkit/FolderPath/Here")
```

5. Copy the filepath location of where you placed your `NukeSurvivalToolkit`. Replace the `Your/NukeSurvivalToolkit/FolderPath/Here` text with the `NukeSurvivalToolkit` filepath location, making sure to keep quotation marks around the filepath.
6. Save your `init.py` file, and restart your Nuke session.
7. That's it! Congrats, you will now see a little red multi-tool in your nuke toolbar.



Technical Details

There are a few things about this menu that try and make it both easy and safe to use.

1. In the main folder there is a `menu.py` file that is used to add 5 relative plugin paths. These are the following folders:

- a. `./gizmos` - for all NST gizmo files
- b. `./nk_files` - for all NST .nk scripts
- c. `./python` - 1 helper file, and a handful of tool-specific python files
- d. `./icons` - for all tool icons
- e. `./images` - for all image files required for some tools/examples

IMPORTANT: This has changed from the v1.1.1 version of the NST to be relative paths. There were some network startup slowdowns happening from nuke recursively adding many pluginPaths in the previous `init.py`. Removing all the folders and narrowing it down to just 5 seemed to speed up start up time while keeping the menu looking the same. Also adding the plugin paths in the menu instead of the init made sure that there was not unnecessary load time happening for renderfarms or command-line nuke sessions where the GUI and menu is not needed.

2. The `menu.py` in the main folder is primarily building almost the entire toolkit menu. You will find it organized into sections: `Draw`, `Time`, `Color`, `Filter`, etc. The tools will show up in the order that you designate them in this menu.
3. Nuke does not like to load multiple gizmo files with the same name. Because the Nuke Survival Toolkit may be added into company pipelines that already have many gizmo's being loaded in, I have given all `.gizmo` files their own prefix `"NST_"`. This means all files should have a unique name to any file that would be already installed. For example, if there was an `iBlur.gizmo` installed, the one in Nuke Survival Toolkit is named `NST_iBlur.gizmo`, so there should be no conflicts. In the main `menu.py` at the top, there is a variable that you can replace if you choose to find/replace the `"NST_"` prefix to a custom one for all the gizmos. You could do this with a renaming software or via the terminal for all gizmos with the `"NST_"` prefix. If you change `"NST_"` to `"WOW_"` for example, just enter `"WOW_"` in this variable. This might help if two different Nuke Survival Toolkits are being loaded at once, to keep them unique.
4. All gizmo's are stored as `.gizmo` files on the folder system, but are all actually loaded into nuke as Groups, with no link back to the gizmo filepath. This is a strange bug / feature / work around that sort of tricks nuke into thinking you have

loaded a gizmo, but actually have loaded a group. There are a few advantages to this method:

- a. Nuke will automatically open the properties panel of the tool, unlike if you `nuke.nodePaste()` a .nk file
- b. Nuke actually stores the defaults of the gizmo in memory, during that specific nuke session. This means you will be able to `ctrl + right click` on knobs and reset them to their intended default settings. This unfortunately goes away once you close and re-open the script, as nuke will just consider the nodes a normal group and will not know what the defaults are.
- c. Groups are generally easier to debug and enter inside to see what is going on.
- d. This will help with render farms or other users opening scripts that would normally be sourcing the gizmos from wherever you have placed the Nuke Survival Toolkit. Sometimes render farms or other users cannot access your local directories, which might cause errors when other artists or render farms are trying to open the script, since they may not be loading the NukeSurvivalToolkit. Making sure the tools are Groups will mean the tools exist in your nuke script and will never be unlinked/unsourced when someone else is opening the nuke script.

If you prefer to use gizmos instead of groups, you simply have to open the gizmo in a text editor and change where it says "Group" at the top of each .gizmo file, and replace it with "Gizmo". It is case sensitive, so make sure you capitalize `Gizmo` or `Group`.

5. Removed all x and y node graph positions from the gizmos, (xpos and ypos). If you leave these in; when you have a node selected and create a gizmo, instead of spawning under the node, it can fly to the part of the node graph where the x and y positions were stored at.
6. Removed all Nuke Version lines from the gizmos to avoid annoying errors about different versions. Most of these tools were tested using Nuke 11.3v4, but that does not mean they require that version. Some gizmos were created for different versions, so please use the links provided to see what versions the tools are compatible with if something is not working.
7. Tried consolidating the types of channels the gizmos might be bringing into your scripts by making sure they are using the same types of channel names. For example, all Position World pass channels will come in as `P.red`, `P.green`, `P.blue`, `P.alpha`, and all Normals World pass channels will come in as `N.red`, `N.green`, `N.blue`, `N.alpha`. There are a few exceptions where some tools are using unique channel names, but for the most part they are always using `.red`, `.green`, `.blue`, `.alpha`, `.u`, or `.v` at the end of the channels. Most channel/layer names are kept as the original tool had them. For example `apChroma`, `hag_pos`, `despill`, etc.

8. Added an Author Tag to the end of all Gizmos in the menu. NKPD just stands for Nukepedia, where I did not make a custom tag if there weren't many tools from this author. These might help in 2 ways:

- a. To filter for certain tools if you want to search by all of Adrian Pueyo's AP tools or Mark Joey Tang's MJT tools using nuke's tab search. Will also help you identify who made what, and make it easier to find in the Tool Documentation
- b. To help identify that this gizmo is from the Nuke Survival Toolkit, in case there are duplicate tools in the pipeline loaded with the same name.

9. Dealing with Hard Coded filepaths on Gizmo Creation

- a. There is a function, `filepathCreateNode()`, stored in the `NST_helper.py` file, that first detects if the Group/Gizmo being created has a `Read`, `DeepRead`, `ReadGeo`, `Camera`, `Axis`. Then, if the file knob in the node contains the string `<<<replace>>>` in the filepath, this will be replaced by the location where the NukeSurvivalToolkit is stored.
- b. This means for templates, example scripts, and occasional gizmos that require image files, They will be created with hardcoded links pointing to images in the Nuke Survival Toolkit.
- c. This was necessary because if I manually hardcoded the filepath, it will error because it does not know where your NST image is. If you use a live variable, similar to `[root.name]` to try and point to the NST, it will work for you and anyone with the same NST installed, but not if you try and render on a renderfarm without the NST installed or pass the script to the artist without the NST installed, as nuke won't find the variable and won't know where to point to. Replacing the variable and hard coding the filepath on creation is the best way to make sure the tool to work with anyone opening the script, as long as the Nuke Survival Toolkit does not move locations, or the image file is not moved, deleted, renamed, etc

Menus

The tool menu's categorisation is laid out in a bit of a mix between Nuke's original toolbar organisation, and Nukepedia's gizmo categories. This should be helpful and intuitive when browsing for certain types of tools, or to quickly find the tool you are looking for if you forget the name. Some of these menus have sub-menus such as `Filter/Glows/` for further groupings to reduce the overall list size of each menu.

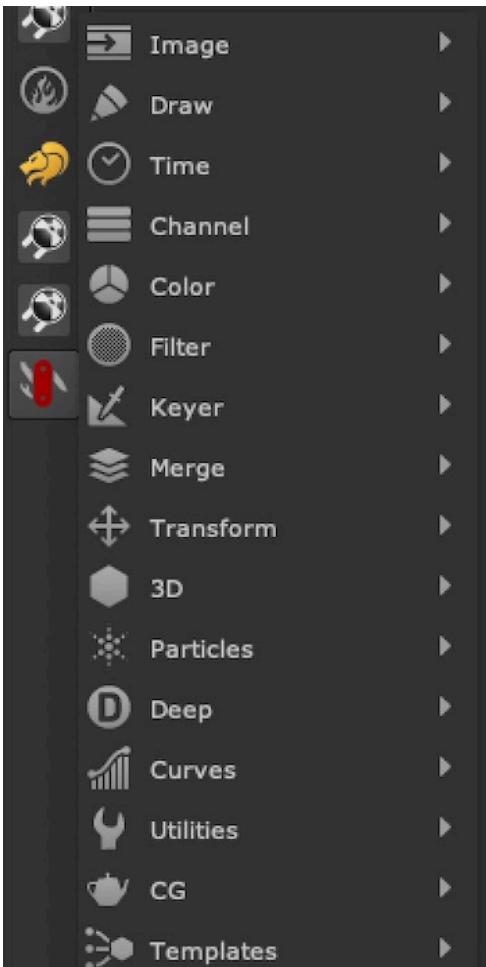
Nuke Survival Toolkit Menu Bar:	Nukepedia Menu Bar
	<p>Main Repository Page</p> <h2>Gizmos  RSS</h2> <p>Share useful gizmos with the Nuke community.</p> <ul style="list-style-type: none"> Deep (0/15) Image (0/74) Particles (0/8) Draw (0/84) Time (0/18) Channel (0/45) Colo(u)r (0/63) Filter (0/161) Keyer (0/67) Merge (0/22) Transform (0/86) 3D (0/81) Stereo (0/16) MetaData (0/2) Other (0/133)

Image Tools

The Image category contains tools for working with image file information and metadata display.

Tools

Tool	Author	Description
LabelFromRead	TL	Displays filepath of topmost read node over the image

LabelFromRead TL

Author: Tony Lyons - <http://www.CompositingMentor.com>

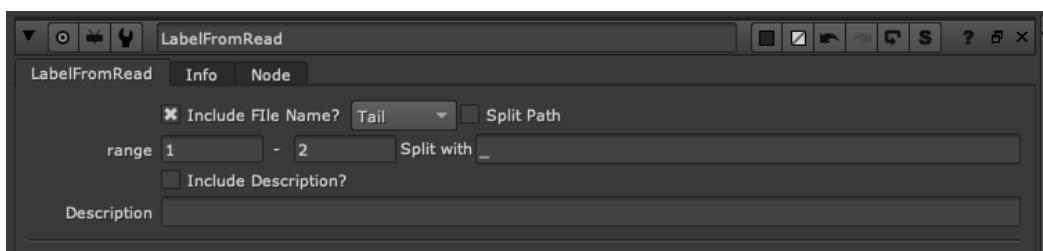


- <http://www.nukepedia.com/gizmos/image/labelfromread>

Displays Filepath of topmost read node over the image. Useful when viewing sequence contact sheets / matching shots.

Includes some split path variables to help grab the section of the filepath that you need. Check split path, choose the character you'd like to split with (_ , . - / etc) and the range you'd like to grab, 0-1 will grab first 2 items for example.

Can also choose to split the full path or just the tail (The part after the last / in the filepath) Should allow quick and useful file splitting that you can change on the fly without needing to remember the split tcl code.



Draw Tools

The Draw category contains tools for creating procedural elements, gradients, noise patterns, grain, lens flares, and other drawn effects in Nuke.

Submenus

- Expression Nodes AG - Expression-based tools by Andrea Geremia
- Hagbarth Tools - Creative processing tools by Mads Hagbarth Damsbo

Tools

Tool	Author	Description
GradMagic	TL	Live sampling 4 point gradient tool with ability to bake colors
NoiseAdvanced	TL	Noise with user friendly animation sliders and overscan
RadialAdvanced	TL	Radial tool that creates a circle and ramped falloff "ring" effect
WaterLens	MJT	Create water droplet on lens
VoronoiGradient	NKPD	2D Gradients using Natural Neighbor Interpolation
CellNoise	NKPD	6 cellular noise types with standard nuke noise controls
LineTool	NKPD	Line drawing gizmo for drawing lines on input
PlotScanline	NKPD	Slice and plot scanlines in Nuke
SliceTool	FR	Analyze an arbitrary slice of an image

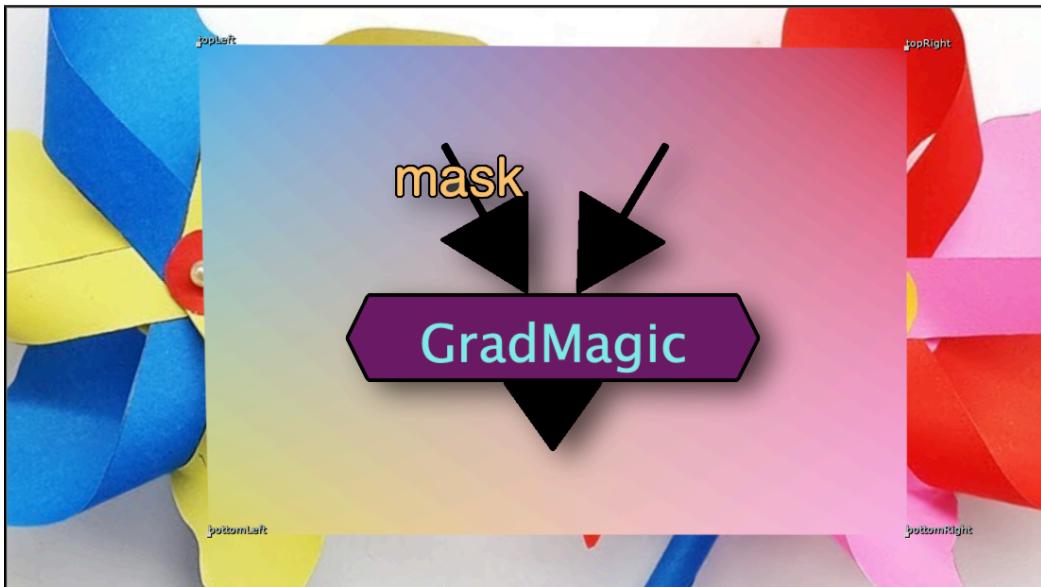
Tool	Author	Description
PerspectiveGuide	NKPD	Simple perspective guide for setting horizon and perspective lines
DasGrain	FH	Semiautomatic regraining tool
LumaGrain	NKPD	Added functionality to Nuke's default grain node
GrainAdvanced	SPIN	Adds synthetic grain resembling HD Alexa plate grain
X_Tesla	XM	Create lightning and electricity effects
FlareSuperStar	NKPD	Create star flares with separate controls over rays, glare and glow
AutoFlare	NKPD	Automatic lens flare filter based on image content

GradMagic TL

Author: Tony Lyons - <http://www.CompositingMentor.com>

- <http://www.nukepedia.com/gizmos/draw/gradmagic>

A live sampling 4 point gradient tool with ability to bake colors.

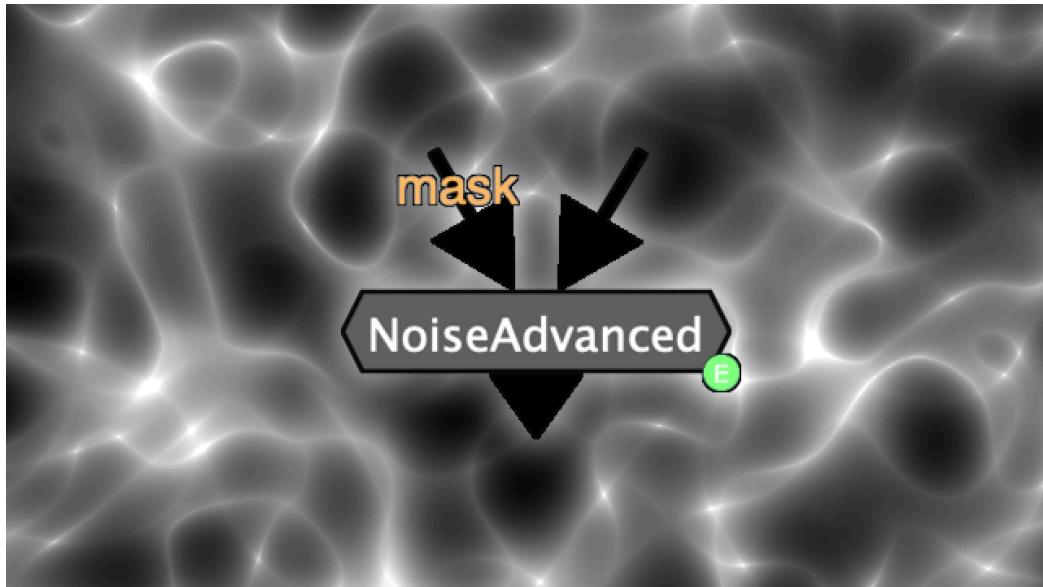


NoiseAdvanced TL

Author: Tony Lyons - <http://www.CompositingMentor.com>

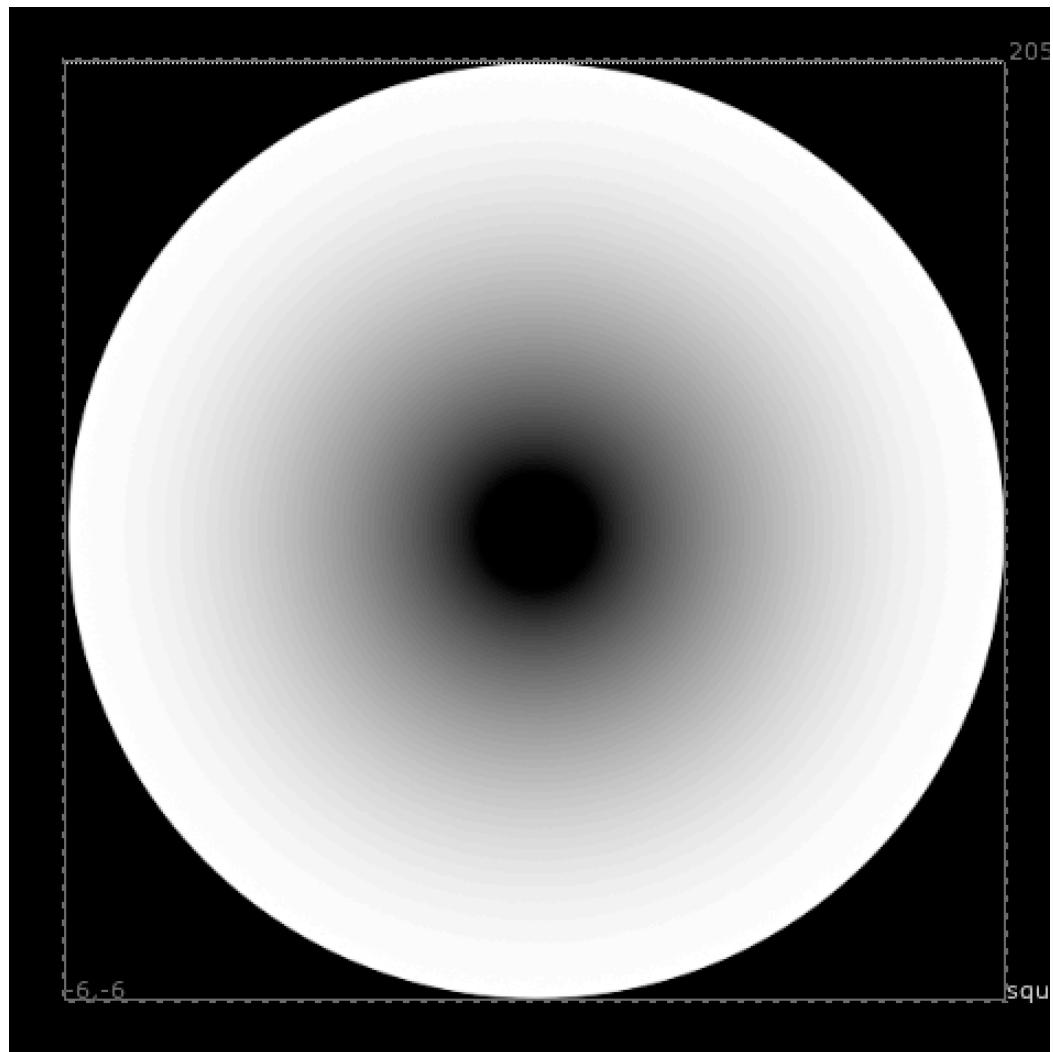
- <http://www.nukepedia.com/gizmos/draw/noiseadvanced>

Noise with user friendly animation sliders and overscan.



RadialAdvanced TL

Author: Tony Lyons - <http://www.CompositingMentor.com>



A radial tool that creates a circle and ramped falloff to create a "ring" effect. Easy animation settings. Useful for shockwaves or other lookDev tasks.

WaterLens MJT

Author: Mark Joey Tang - <http://www.facebook.com/MJTLab>

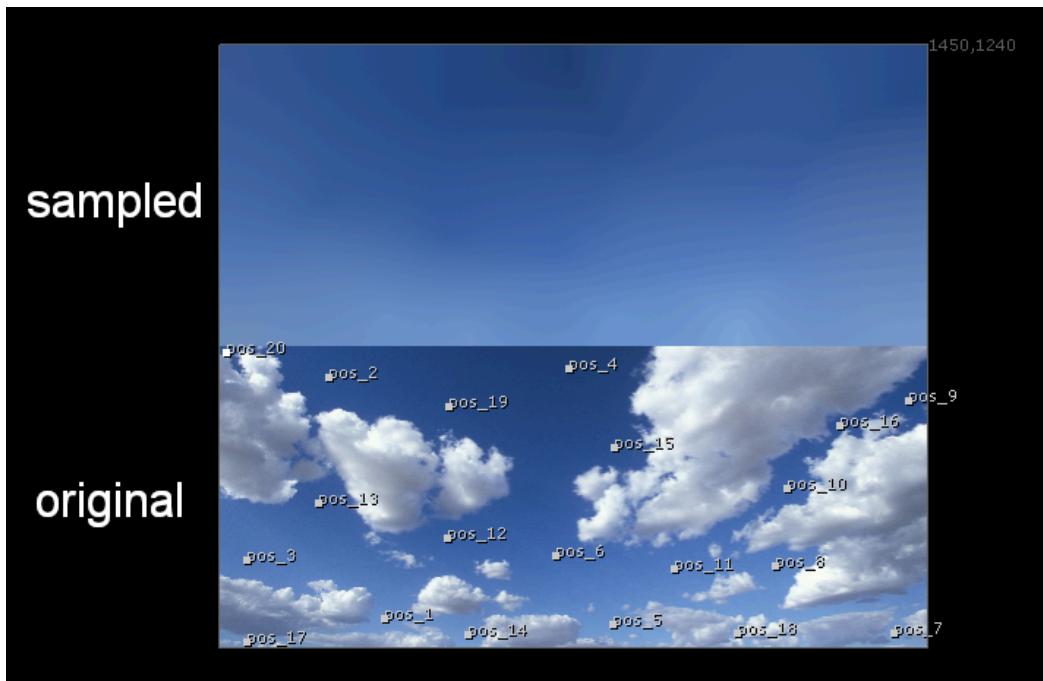


- http://www.nukepedia.com/gizmos/draw/waterlens_11

Create water droplet on lens.

VoronoiGradient NKPD

Author: Nikolai Wüstemann - <http://www.wuestemann.net>



- <http://www.nukepedia.com/gizmos/colour/voronoi-gradient/>

Nuke implementation for 2D Gradients. Create an arbitrary number of color-samples in 2D and produce a smooth, natural interpolation over the entire image.

The Gizmo uses Natural Neighbor Interpolation to calculate the pixels inbetween samples, using Blinkscripts.

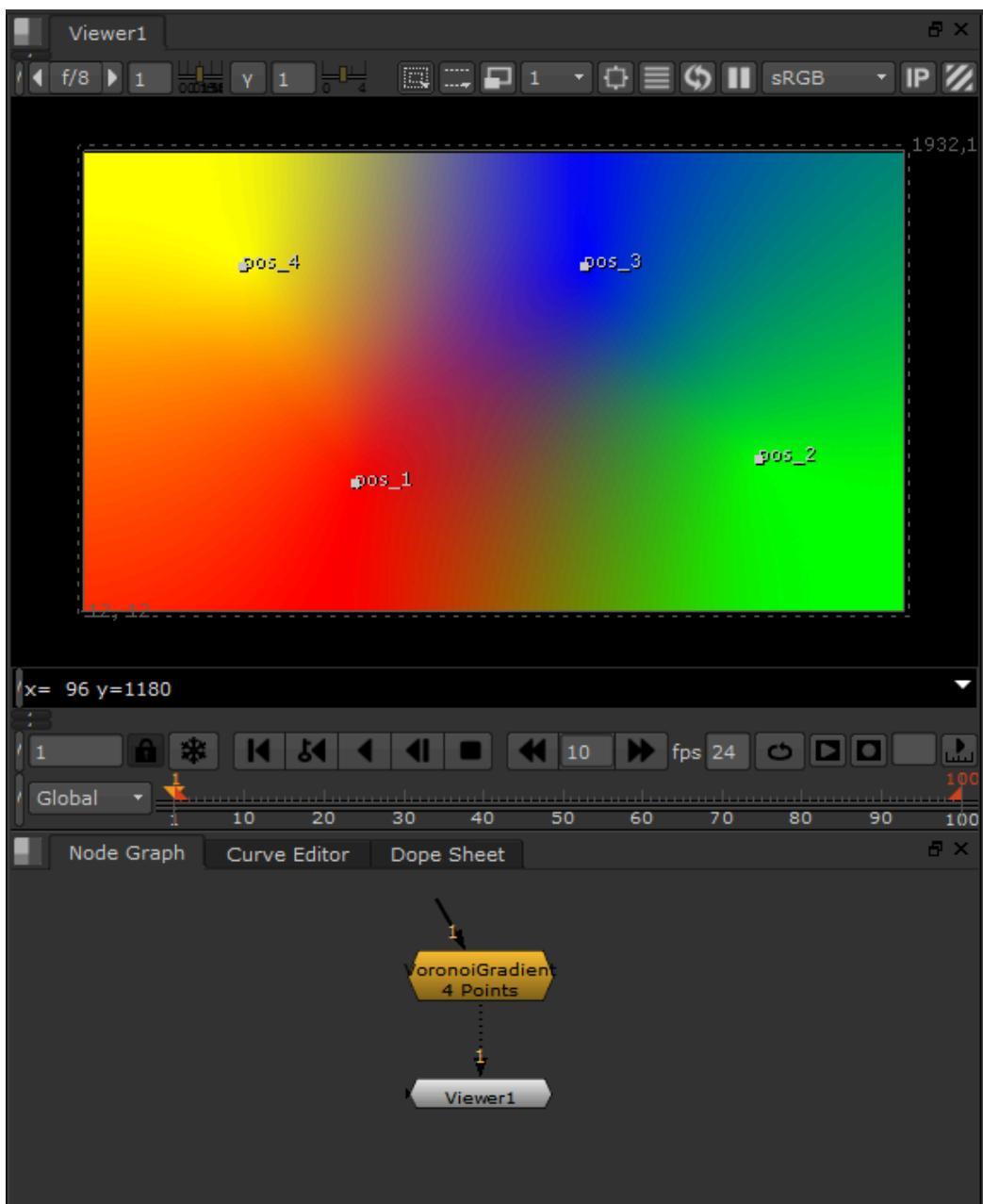
You can also output the underlying Voronoi Diagram or play with the smoothness value to control the amount of the softening (0 = Voronoi Diagram, 1 = Accurate Natural Neighbor Interpolation).

Another important function is the ability to sample input colors, instead of defining them yourself. Setting the Type to 'Sample' uses all created points to sample the input colors at given positions. Furthermore you can use the 'Fill' Type to interpolate missing information in any image. A premultiplied input is required for this.

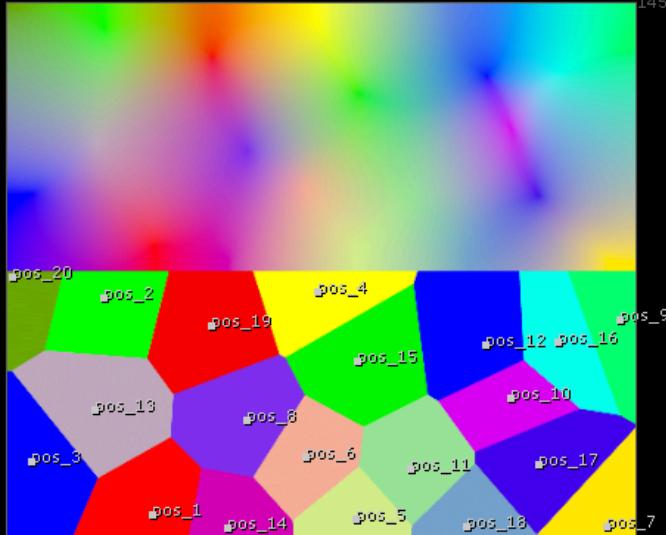
Changing the Colorspace will change the color falloff. This can be used to achieve the best artistic result. Setting the Colorspace to HSV for example, will interpolate the colors over the spectrum.

There are several tricks and hacks used in this Gizmo to make it work, so please report any bugs you find, I am sure there still are some.

The user knobs and the inside of the gizmo are well documented to help with understanding the concept. (The algorithm implemented is not the elegant geometric process, but a simple brute-force method, which was easy to implement. This however makes the tool super slow and you might wanna use the speed optimization control to make it a little bit faster at the cost of some quality. That's why I would still consider the whole thing a proof of concept. Although, with my update to v2.7 I'd say we are production ready now :)



Natural Neighbor Interpolation



Voronoi Diagram

original

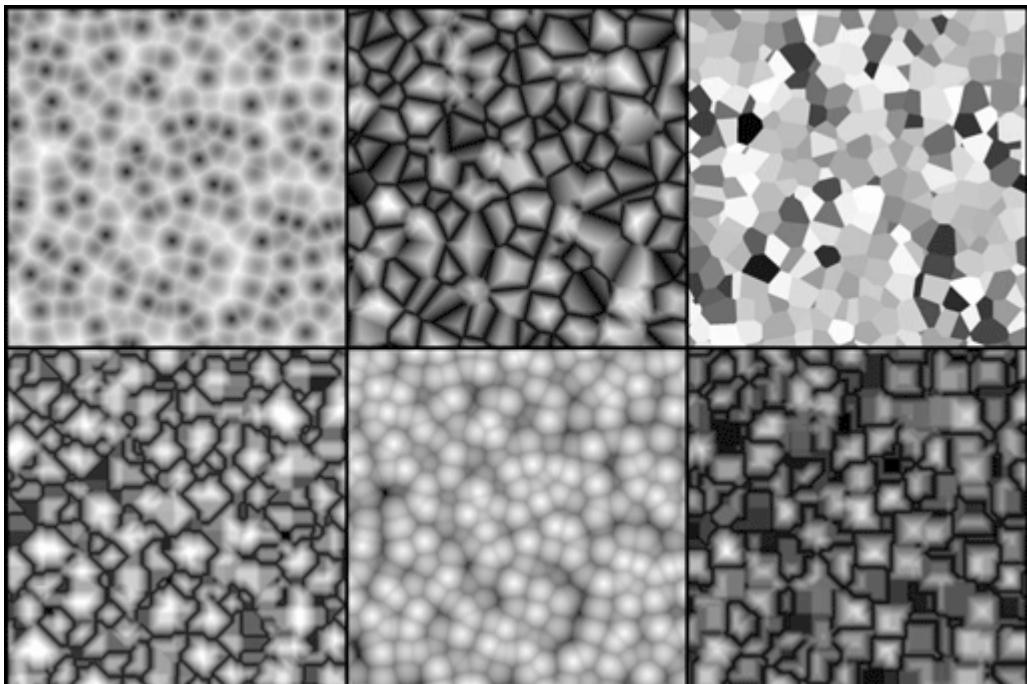


keyed out
blue parts

result

CellNoise NKPD

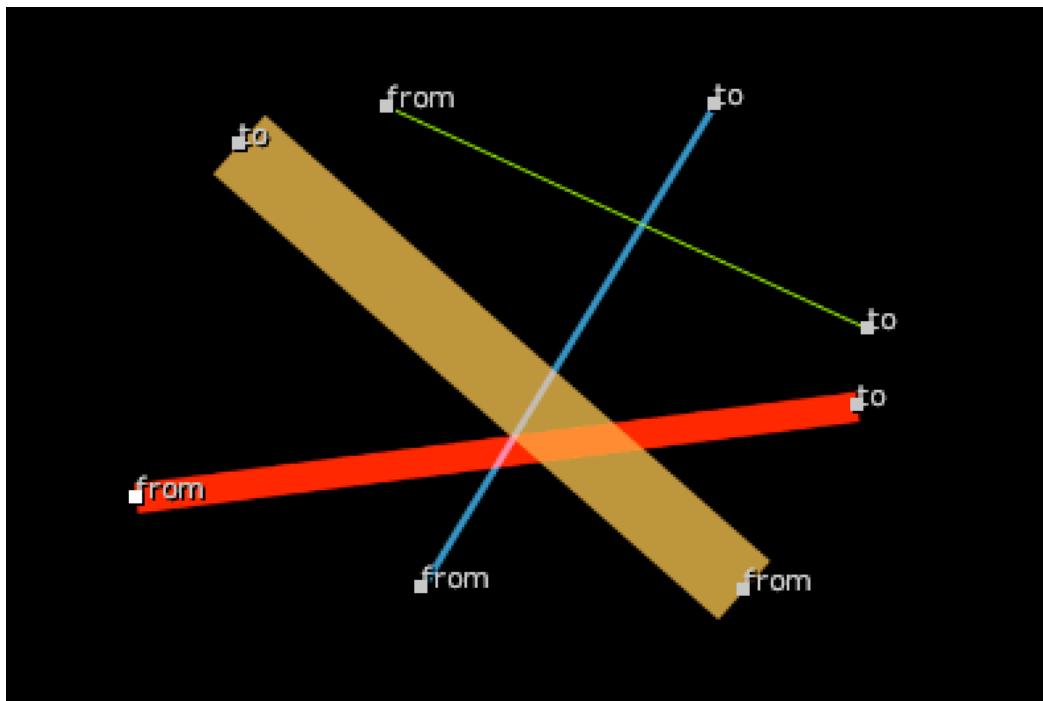
Author: Matthew Shaw - <http://www.gizmosandgames.com>



- <http://www.nukepedia.com/blink/image/cell-noise>
6 cellular noise types: - Worley - Voronoi - Manhattan - Chebyshev - Euclidian -
Worley Inverse Uses the same transformation controls as standard nuke noise.

LineTool NKPD

Author: Fredrik Brännbacka

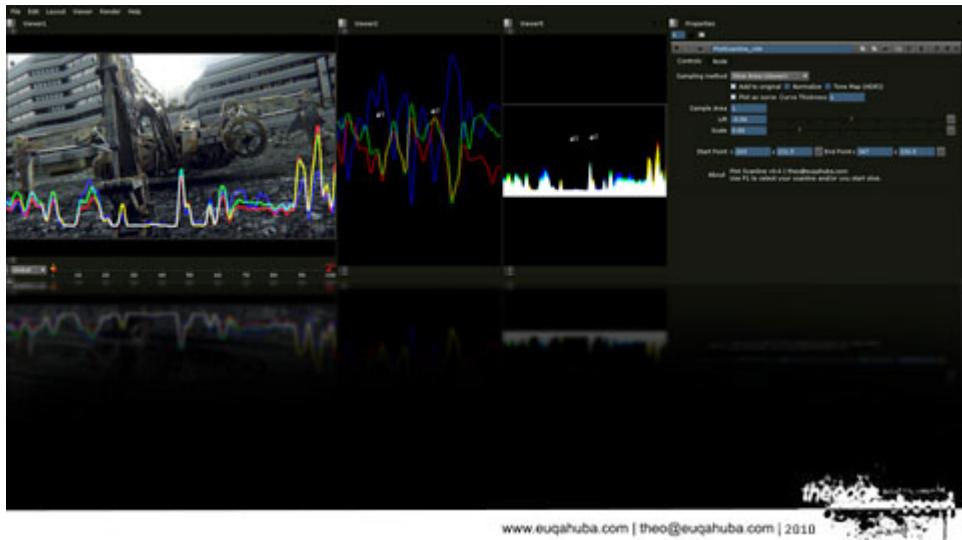


- <http://www.nukepedia.com/gizmos/draw/mcp-line>

Line drawing gizmo. Use it to draw lines on an input or use it as an input draw node. Subsample or don't if you are drawing vertical or horizontal lines.

PlotScanline NKPD

Author: Theodore Groembroome - <https://euqahuba.com/blog/?p=121>

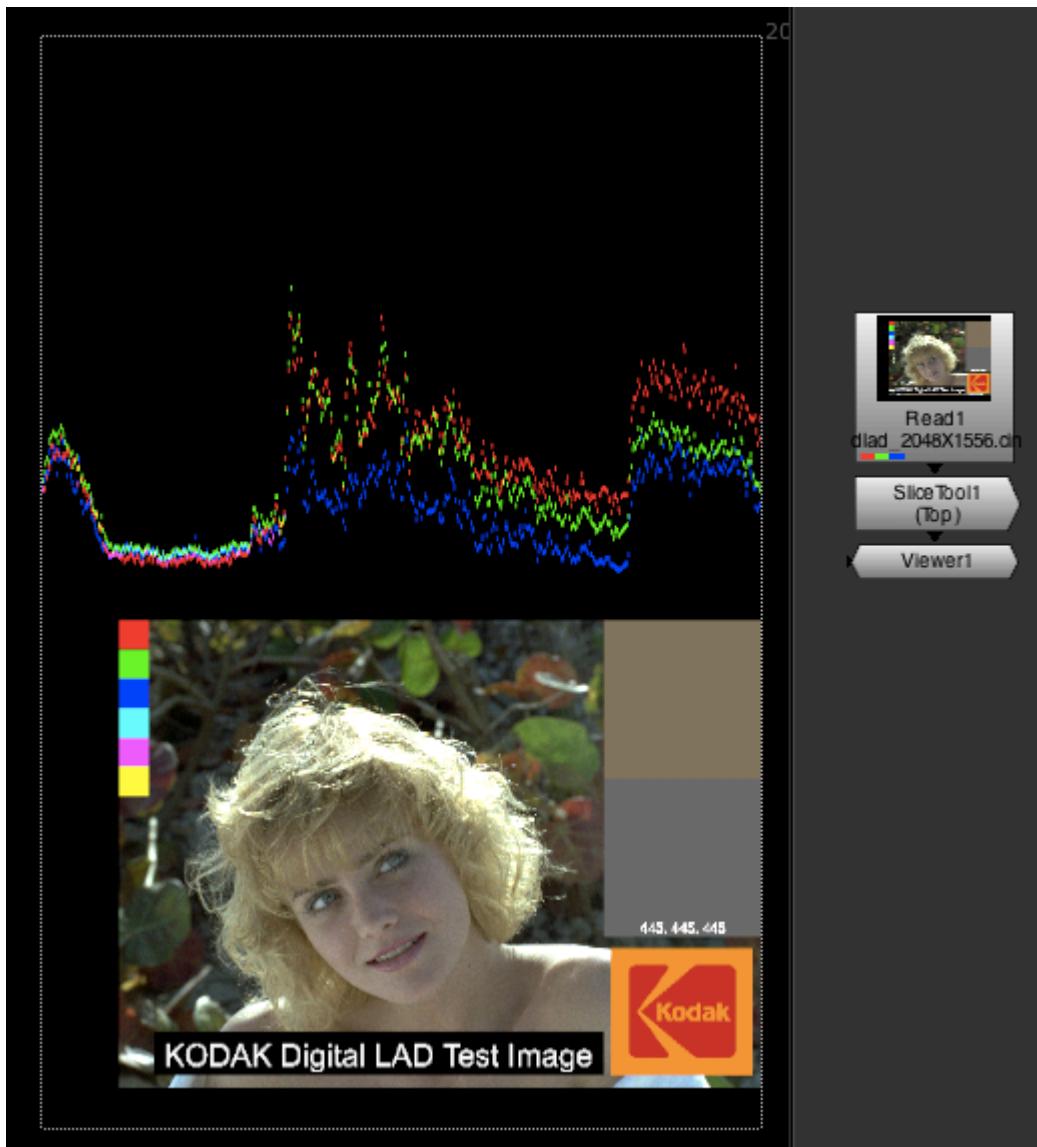


Slice and plot scanlines in Nuke!

Set up point 1 and point 2 and calculate alone whole line from edge of frame to edge of frame or calculate only the area between the 2 points.

SliceTool FR

Author: Frank Rueter - <http://www.ohufx.com>

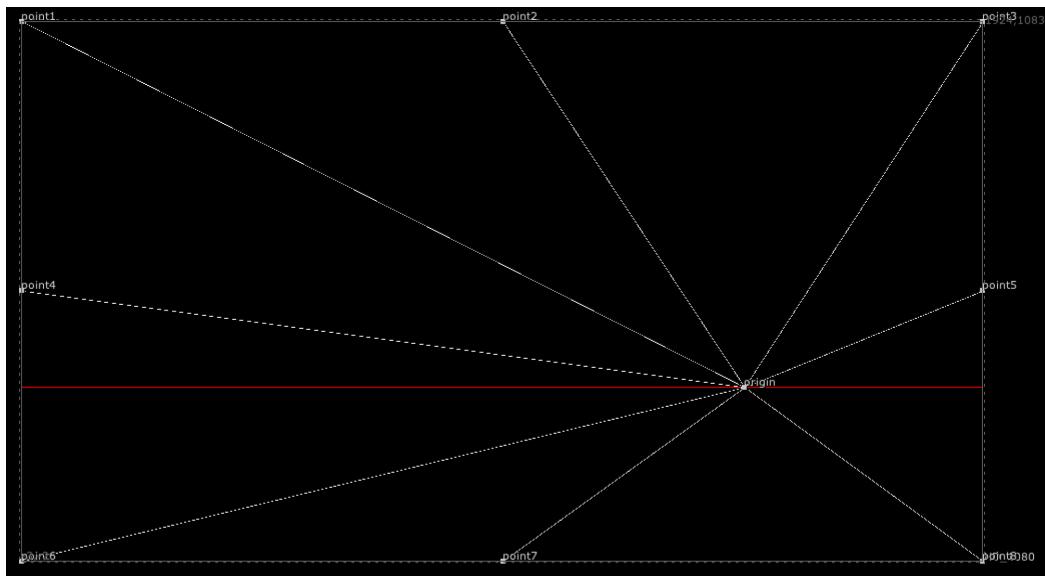


Analyze an arbitrary slice of an image. Place start and end position on the incoming image to plot a scan line to represent an arbitrary slice.

Thanks to Ben Pierre for a little magic under the hood.

PerspectiveGuide NKPD

Author: Peter Farkas - Baseblack (London) Ltd.



- <http://www.nukepedia.com/gizmos/other/perspective-guide-110>

Simple perspective guide. Move around origin to set horizon line, and move around points to set perspective lines. Can duplicate node and set up 2 or 3 point perspectives.

DasGrain FH

Author: Fabian Holtz

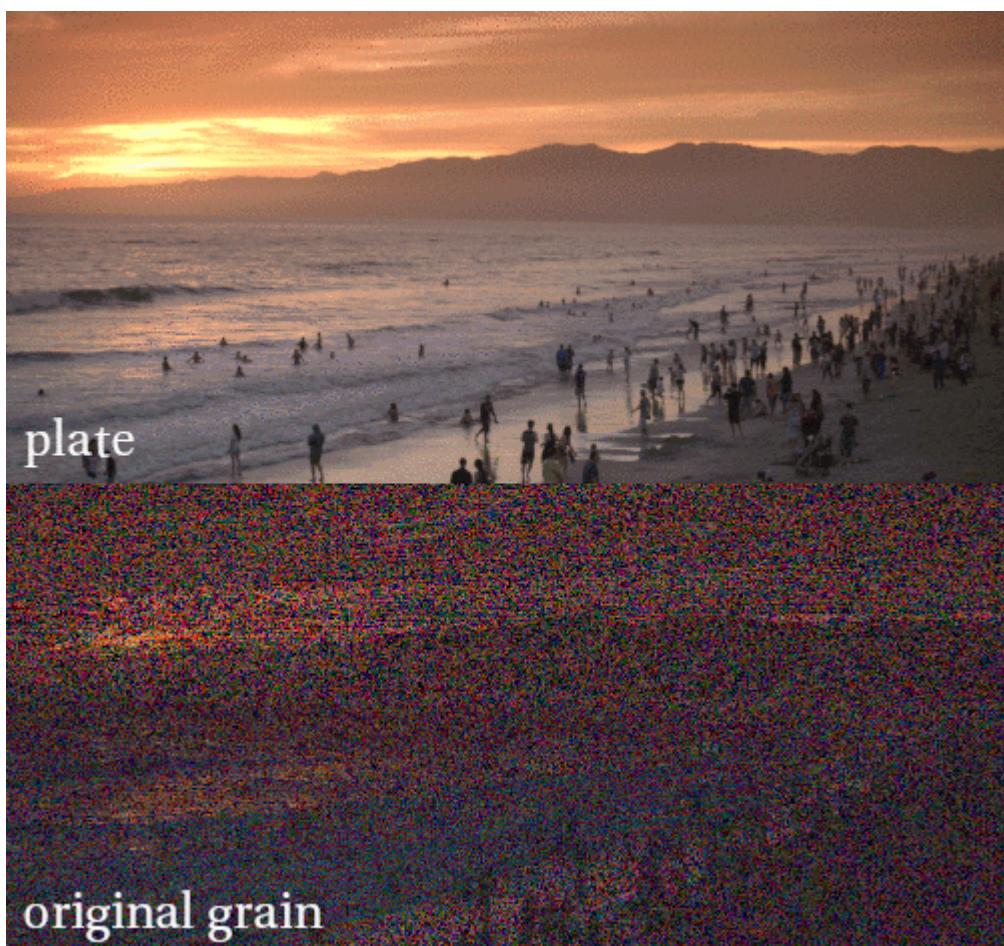
- <http://www.nukepedia.com/gizmos/other/dasgrain>

Semiautomatic regraining tool.

DasGrain takes the pain out of the re-graining process by automatically adapting the plate grain to your comp.

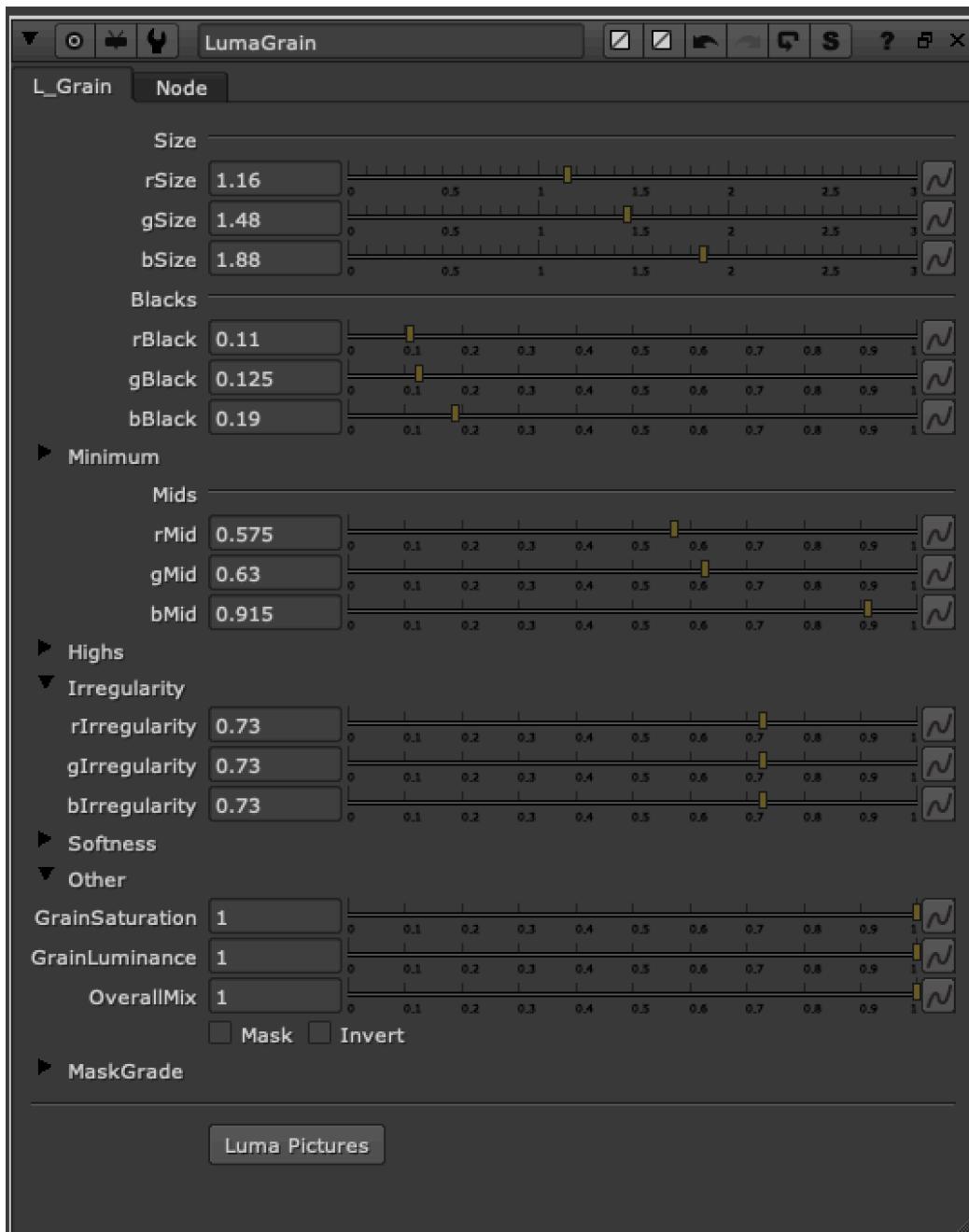
For areas where the original grain doesn't work, you can generate a new grain that is based on the original grain.

Having a good degrain is crucial for this tool!



LumaGrain NKPD

Author: Luma Pictures

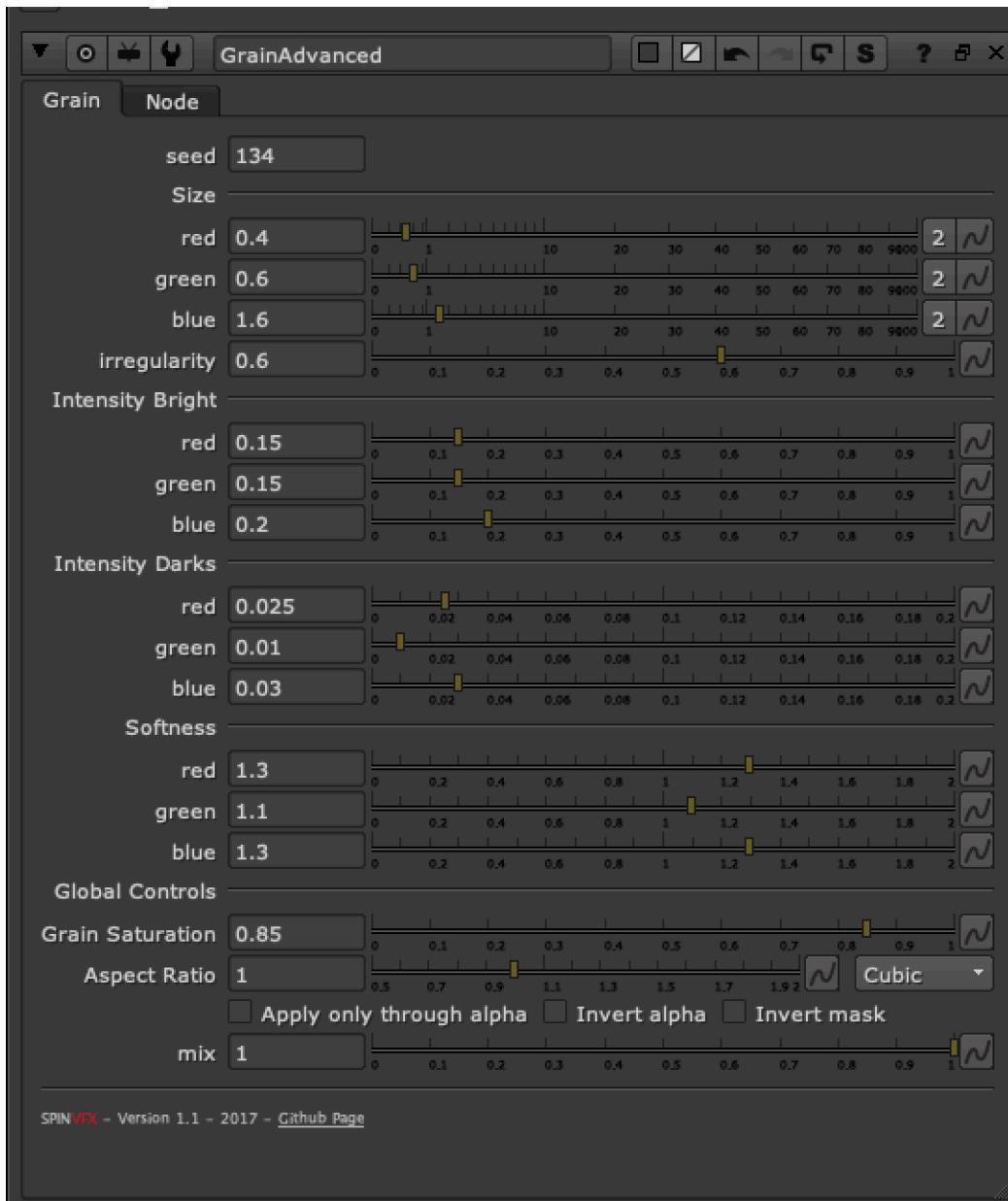


- http://www.nukepedia.com/gizmos/draw/l_grain

Added functionality to Nuke's default grain node.

GrainAdvanced SPIN

Author: Spin FX



- http://www.nukepedia.com/gizmos/other/spin_nuke_gizmos-1
- https://github.com/SpinVFX/spin_nuke_gizmos

Adds synthetic grain. The defaults are setup to resemble an HD Alexa plate's grain. You can adjust the sliders to match a sample grain.

X_Tesla XM

Author: Xavier Martin - <http://www.xaviermartinvfx.com/articles/>



- http://www.nukepedia.com/gizmos/draw/x_tesla
- http://www.xaviermartinvfx.com/x_tesla/

With this Gizmo you will be able to create lightning and electricity effects.
Animated electric arcs will be procedurally created between two points.

The gizmo includes some realistic render option such as the temperature based chromatic aberration and glow, an advanced soften filter, an easy to use 2 colour system. Or you can just disable everything with a simple check box, that's also OK.

FlareSuperStar NKPD

Author: Lukas Fabian



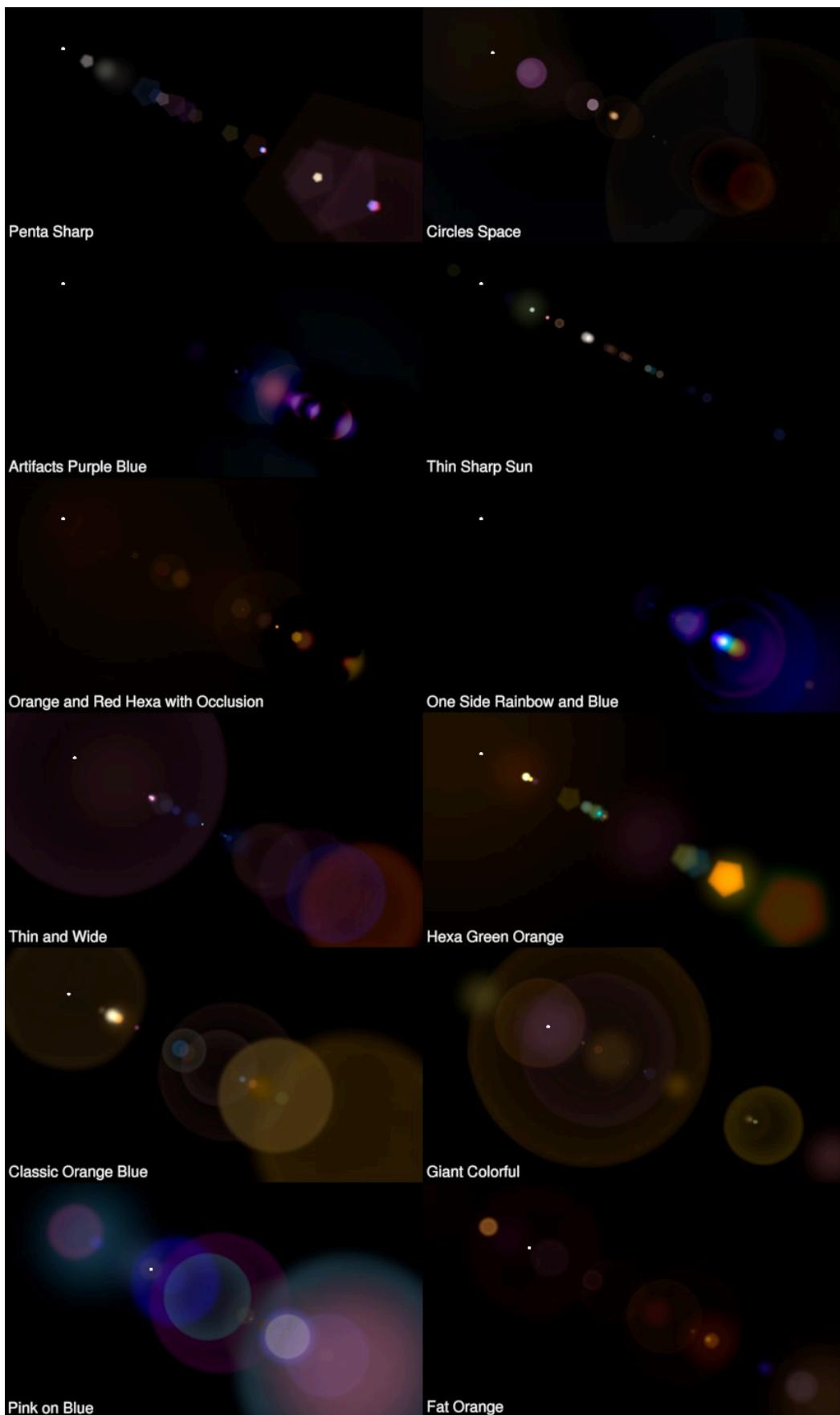
- <http://www.nukepedia.com/gizmos/draw/flaresuperstar>

Main features:

- Easily create star flares with separate controls over rays, glare and glow
- Automatic animation on the glare either by shimmer (over time) and/or by changing the position of the flare
- Rays are very customizable and have controls for adjusting thickness and angle + spread (or shrink) from a specific distance
- Position the flare either manual or let it spawn automatically from the highlights of an input image with convolve mode

AutoFlare NKPD

Author: Vincent Wauters - <http://www.vincentwauters.com>

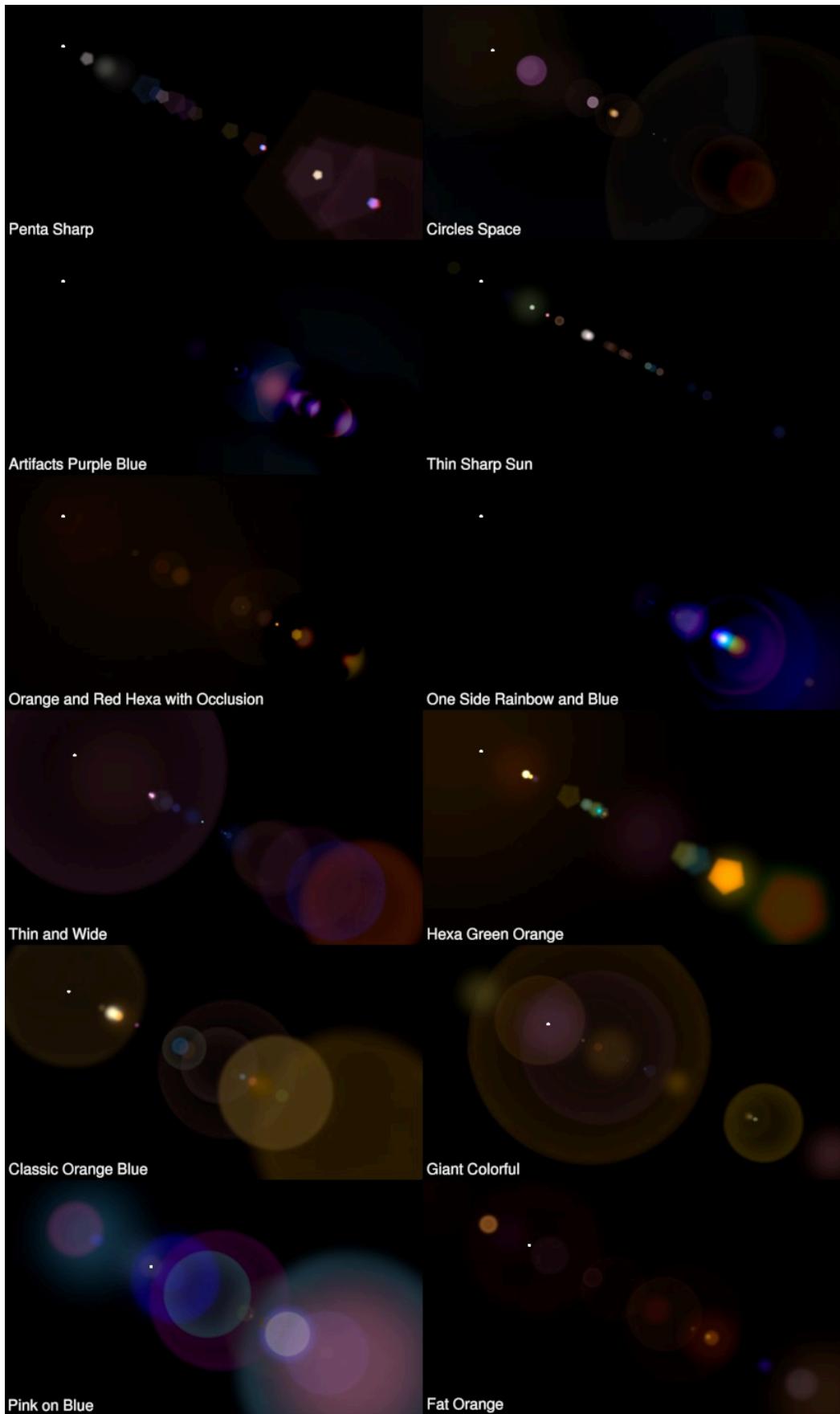


- <http://www.nukepedia.com/gizmos/filter/autoflare>

- <http://vincentwauters.com/programming/autoflare20-for-nuke>

This is an automatic lens flare filter based on image content and values.

It is using simple expressions and convolution filters to create lens flares. Since it is based on image content, there are no position parameters, and therefore no need to track the hotspots in the image.



Expression Nodes AG

Author: Andrea Geremia

Website: <http://www.andreageremia.it/tutorial.html>

Links

- http://www.andreageremia.it/tutorial_expression_node.html
- <http://www.nukepedia.com/gizmos/other/expression-node-collection-for-nuke>

Description

Various premade expressions. Separated into 6 categories. Please go to the first link above for full details on Andrea Geremia's main website.

1. CREATIONS
2. ALPHA
3. PIXEL
4. KEYING and DESPILL
5. TRANSFORM
6. 3D and DEEP

Demo

Tools

Tool	Author	Description
UV_Map	AG	Creates a standard UV map with overscan percent options

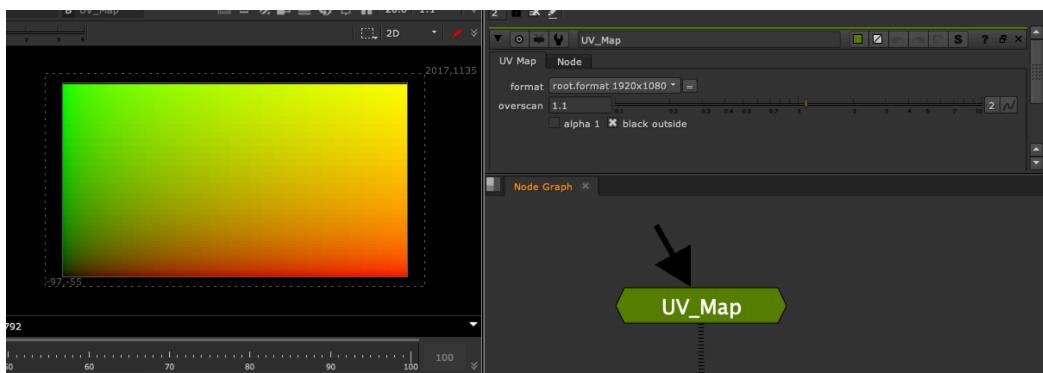
UV_Map AG

Author: Andrea Geremia - <http://www.andreageremia.it/tutorial.html>

- http://www.andreageremia.it/tutorial_expression_node.html
- <http://www.nukepedia.com/gizmos/other/expression-node-collection-for-nuke>

From Expression AG menu.

Creates a standard UV map with overscan percent options.



Hagbarth Tools

Author: Mads Hagbarth Damsbo

Website: <https://hagbarth.net/blog/>

Description

Creative processing tools and procedural generators by Mads Hagbarth Damsbo. This collection includes advanced gradient editors, procedural flare generators, and creative 2D processing effects.

Tools

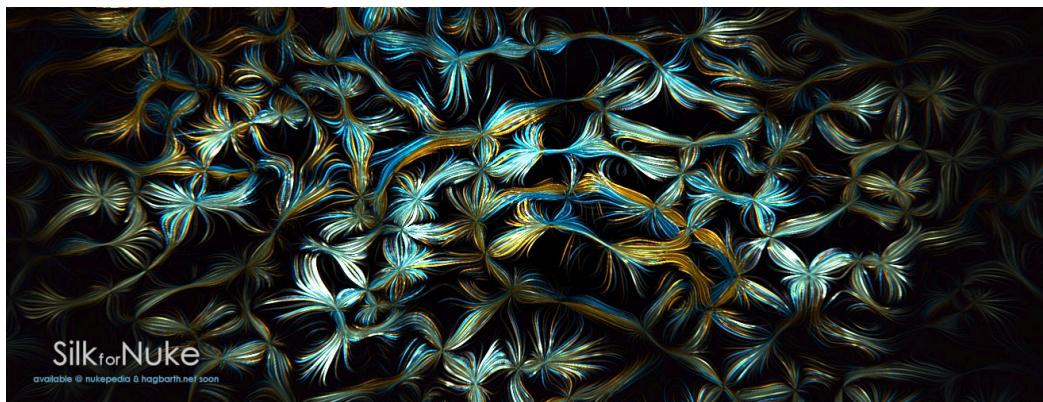
Tool	Author	Description
Silk	MHD	Creative 2D processing effect that turns footage into laser spaghetti
Gradient Editor	MHD	Simple visual gradient editor for Nuke
SpotFlare	MHD	Procedural flare generator with realistic inverse square falloff

Silk MHD

Author: Mads Hagbarth Damsbo - <https://hagbarth.net/blog/>

- <https://hagbarth.net/project/silk/>
- <https://www.nukepedia.com/gizmos/filter/silk>

Silk is a creative 2d processing effect that takes your footage and turns it into laser spaghetti.

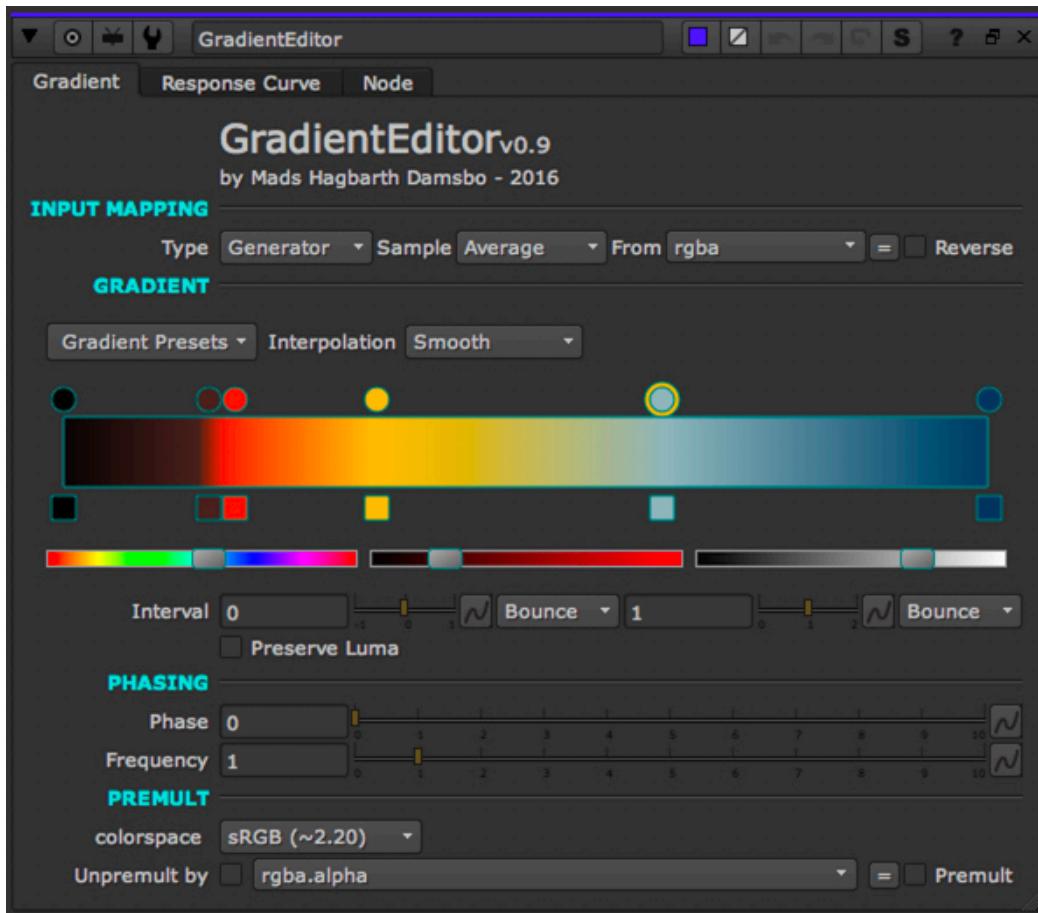


Gradient Editor MHD

Author: Mads Hagbarth Damsbo - <https://hagbarth.net/blog/>

- <http://www.nukepedia.com/gizmos/draw/gradient-editor>

This is a simple little visual gradient editor for Nuke.



SpotFlare MHD

Author: Mads Hagbarth Damsbo - <https://hagbarth.net/blog/>

- <https://hagbarth.net/project/spotflare/>
- <http://www.nukepedia.com/gizmos/draw/spot-flare>

Spotflare is a procedural flare generator, that generates a general radial light but also allow for light shimmer and "cone" masking.

At the core of spotflare is a radial light, that is generated from the inverse square of the distance to the center. Unlike a linear falloff, a inverse square falloff gives a very realistic light look.

If you look at the difference between a gaussian and a gamma adjusted inverse square profile you can clearly see the effect.



Time Tools

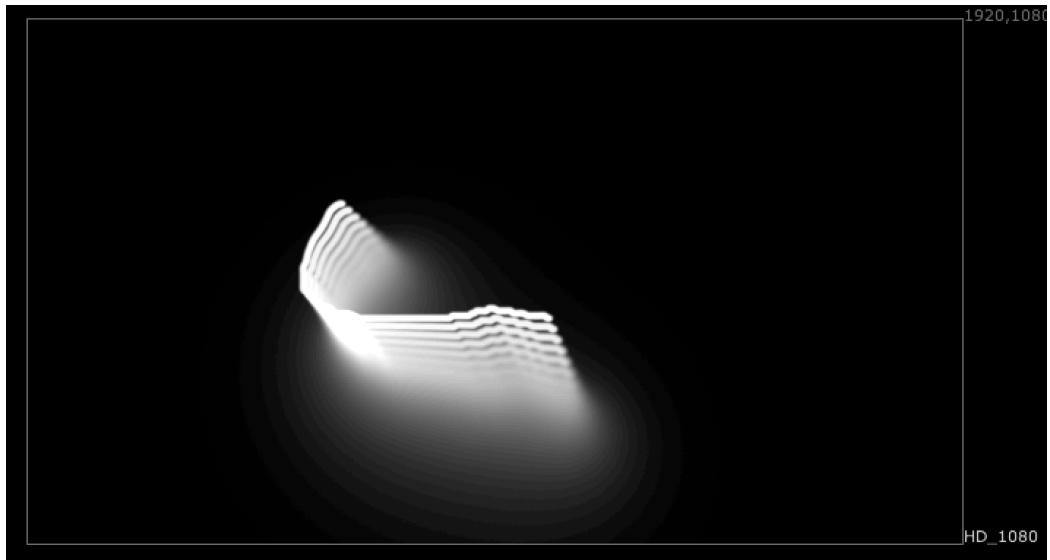
Time-based tools for looping, retiming, frame manipulation, and temporal effects.

Tools in This Category

Tool	Author	Description
apLoop	Adrian Pueyo	Quick tool to simulate loop effects with gain, blur, and transformations
Looper	Damian Binder	Create seamless loops of playing clips
FrameMedian	Mads Hagbarth Damsbo	Temporal median toolset for cleanplate generation
TimeMachine	Ivan Busquets	Per-pixel time offset based on mask input
FrameFiller	Mark Joey Tang	Frame interpolation to fill missing frames

apLoop AP

Author: Adrian Pueyo - <http://www.adrianpueyo.com/>



Quick tool to simulate a loop effect while affecting the gain, blur and transformations on each "iteration".

Feel free to play with it and see its applications. Some of them: create an exponential (or normal) glow in seconds, an expo blur, a grid or mosaic (adding this gizmo twice), godrays, directional blurs, etc.

Looper NKPD

Author: Damian Binder



- <http://www.nukepedia.com/gizmos/time/looper>

Looper is a tool that allows you to create seamless loops of playing clips.

Looping is not only a useful way to lengthen clips that are too short to be used in a comp but it is also a great way to save rendering times since only a specific frame range needs to be rendered.

Looper has two looping methods: Dissolve and Morph **Dissolve:** Uses a simple Dissolve node to dissolve the input clip between an offset version of the same clip. The offset amount is determined by the number of frames looped. Works great when looping clips with constant/similar movement like rain or snow stock footage.

Morph: Similar to the Dissolve method but instead uses a Kronos node to calculate motion vectors to then generate a morphed loop. Best used with clips containing complex but well defined movement.

Other Features:

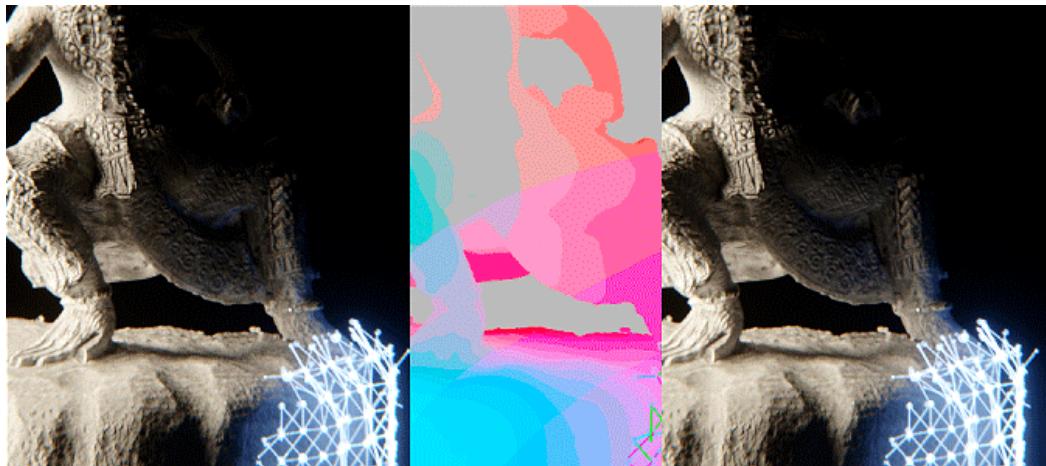
- **FgMatte input:** An optional matte of the foreground can be used which may improve Kronos's motion estimation. (Highly recommended)
- Vector generator settings like Vector Detail and Strength are accessible.

- **Avoid Clip End knob:** Negatively offsets the input clip to avoid looping unexisting frames before first frame.
- A dynamic text visually indicates the total number of frames being looped.



FrameMedian MHD

Author: Mads Hagbarth Damsbo - <https://hagbarth.net/blog/>



- <http://www.nukepedia.com/blink/time/framedmedian>
- <https://hagbarth.net/1054/>

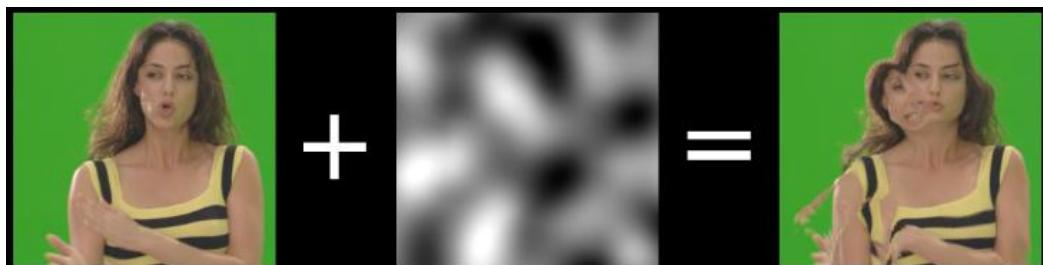
FrameMedian is a temporal median toolset that calculates a median from a range of frames. Unlike the TemporalMedian tool that samples 3 frames, the FrameMedian can sample up to 20 frames.

What is it for?

The tool is generally used for creating cleanplates from super very busy shots.

TimeMachine NKPD

Author: Ivan Busquets

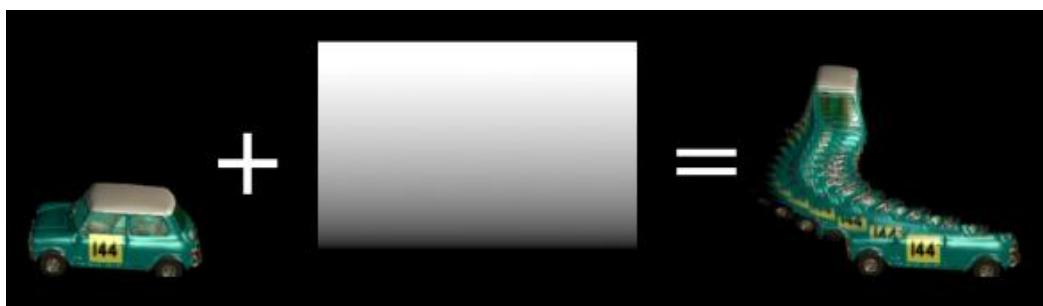


- <http://www.nukepedia.com/gizmos/time/timemachine>

Does a per-pixel time offset on the image, based on a secondary mask input.

This is sort of a copy of Houdini's Time Machine. Takes an image sequence plus a mask, then offsets the image in time based on the input mask as follows: - Pixels with a mask value of 1 will be offset by the number of frames set in the "frames" knob. - Mask values of 0 return the image at the current frame. - Values between 0-1 will return an interpolated offset. - Mask gets clamped to 0-1, so values <0 and >1 are not accounted for.

Very simple as it stands, but could be a good example of rebuilding a gizmo's internals using callbacks.



FrameFiller MJT

Author: Mark Joey Tang - <https://www.facebook.com/MJTLab>

- <https://www.nukepedia.com/gizmos/time/framefiller>
- https://github.com/xmjtx/MJTLab/tree/main/gizmo_library/Time/FrameFiller_v10

Using frame interpolation to fill up missing frames. Support multiple frames at once, support Regularized motion estimation, no NukeX Required. Motion blur, sub-frames bias adjustable.



Channel Tools

Tools for channel manipulation, creation, combination, and management.

Tools in This Category

Tool	Author	Description
BinaryAlpha	Tony Lyons	Convert any non-zero pixels to binary (0 or 1) alpha
ChannelCombiner	Tony Lyons	Quickly combine 4 channels with operations
ChannelControl	Tony Lyons	Mix ratio of R, G, B, A channels with merge operations
ChannelCreator	Tony Lyons	Create new channel names from RGBA layer
InjectMatteChannel	Tony Lyons	Inject matte into stream as new channel
StreamCart	Mark Joey Tang	Select and shuffle channels or geo quickly
RenameChannels	Andrea Geremia	Rename channels and layers through Copy and Remove nodes

BinaryAlpha TL

Author: Tony Lyons - <https://www.CompositingMentor.com>

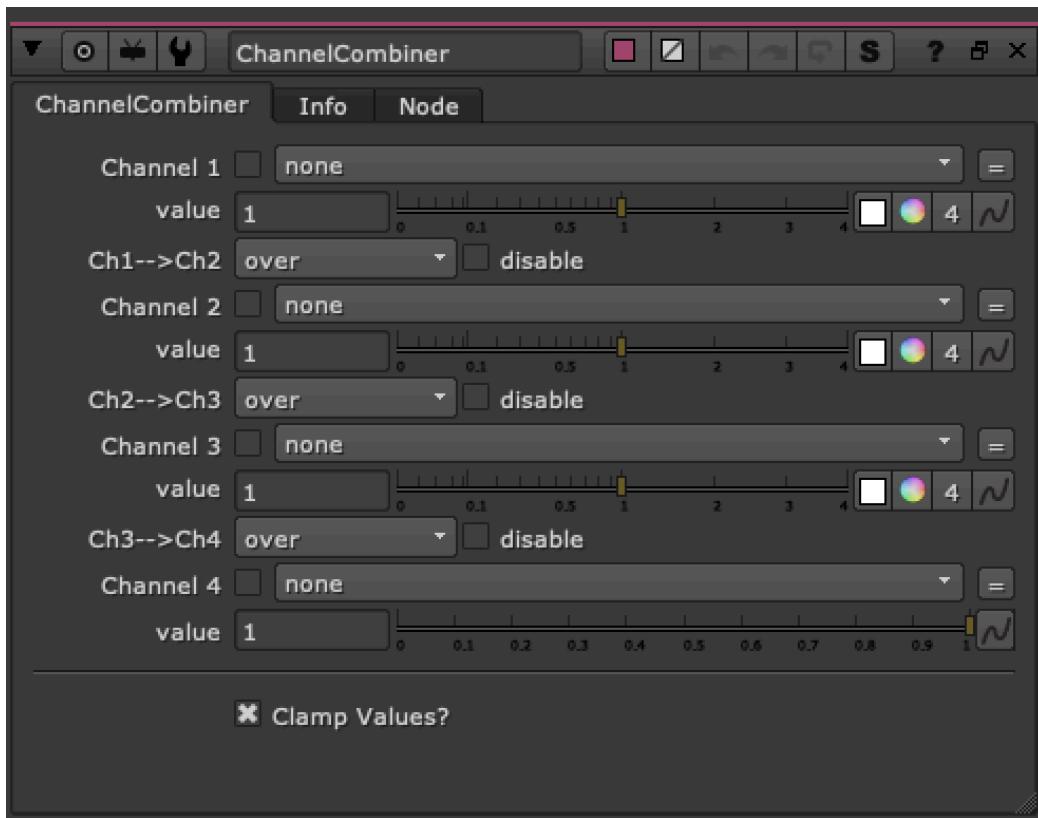
- <http://www.nukepedia.com/gizmos/channel/binaryalpha>

Analyzes a choice of the RGB, RGBA, or Alpha input and outputs an Alpha Channel (or RGBA) that is Binary, 0 or 1. Any Pixels that are not 0 will be turned into 1 (negative numbers also), and 0 will remain 0. This is perfect for those blur + unpremult tricks or if you need a quick matte for finding any rgb color above or below 0, in a CG render passes for example. **Tcl expression:**

```
r!=0 || g!=0 || b!=0 || a! = 0 ? 1 : 0
```

ChannelCombiner TL

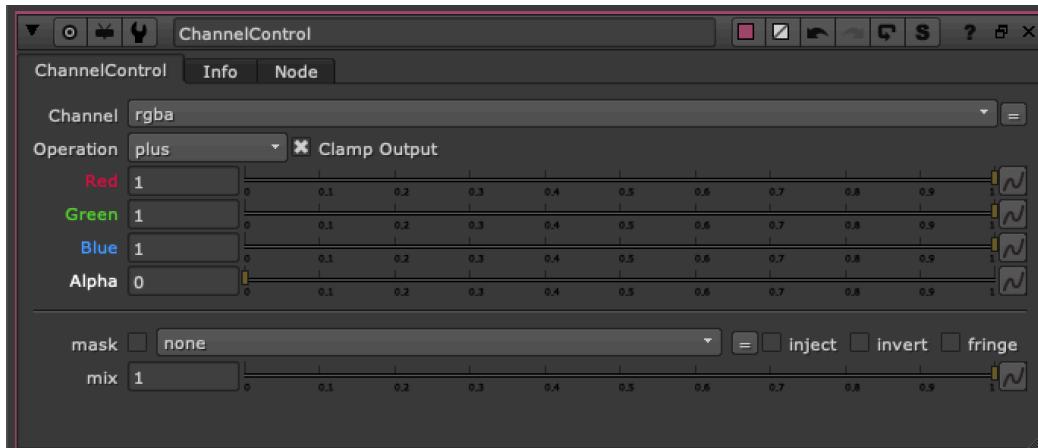
Author: Tony Lyons - <https://www.CompositingMentor.com>



Quickly combine 4 channels with an operation between each of them. Works best with ID mattes or roto's that are injected into a single stream. The channels dropdown lists every channel in the stream, so the best workflow would be to have a "mattes Stream" or "ID stream" with all the matte/roto/ID channels copied into an empty stream (no other channels) Then you can use this node to make quick combinations: Helmet.red plus Visor.red minus Antenna.red, for example

ChannelControl TL

Author: Tony Lyons - <https://www.CompositingMentor.com>

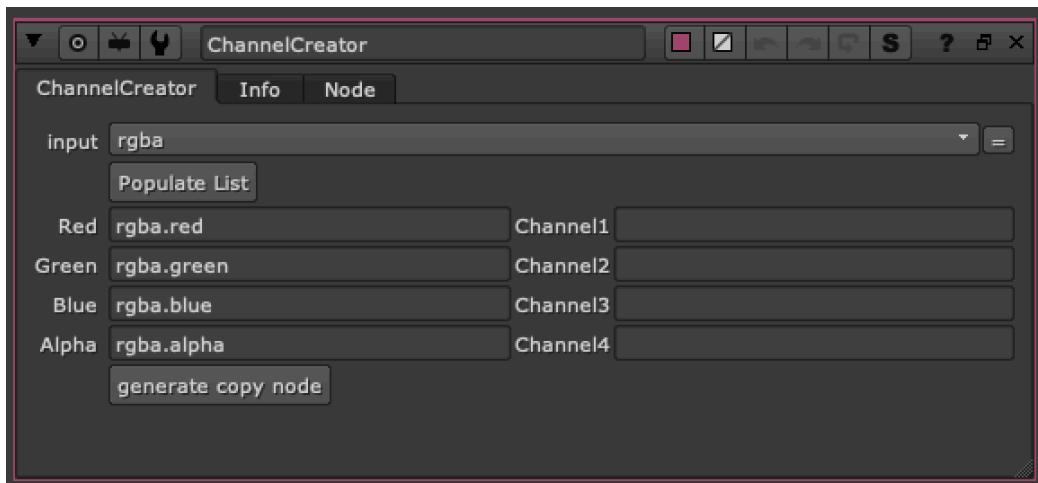


Mix the ratio of Red, Green, Blue, Alpha Channels and choose a Merge operation.

Result is a black and white matte output into RGBA. Mask and mix options available.

ChannelCreator TL

Author: Tony Lyons - <https://www.CompositingMentor.com>



This tool is meant to be used with ID's or mattes that are in the RGBA layer. Create new names for the channel you wish to copy over and this node will create a copy node that converts rgba.red rgba.green, rgba.blue, and rgba.alpha over to new channels. Just enter a name in the right side column and the suffix will be .red Use this to quickly transfer and rename channels into a new "channel" stream in nuke that are uniquely named and can be identified and pulled out later to be used when compositing. Good for roto shapes or ID's when CG compositing.

Example:

```
rgba.red    --> hat        =    hat.red
rgba.green  --> glasses    =    glasses.red
rgba.blue   --> shoes      =    shoes.red
rgba.alpha  --> jacket     =    jacket.red
```

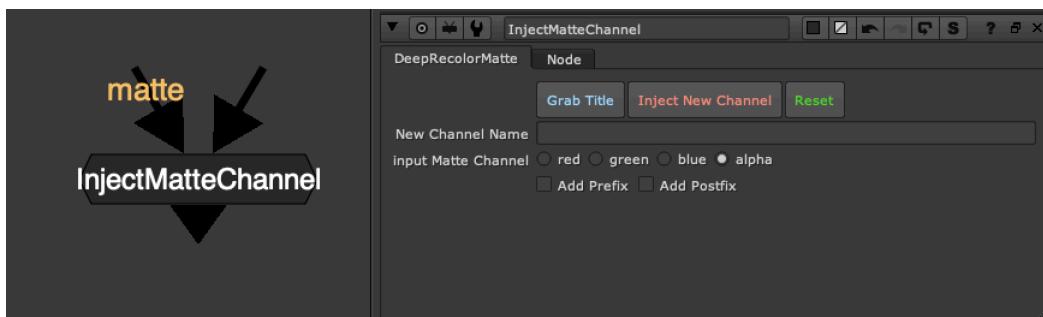
Generate copy node will generate a copy node as follows:

```
rgba.red    --> hat.red
rgba.green  --> glasses.red
rgba.blue   --> shoes.red
rgba.alpha  --> jacket.red
```

Any fields left blank will not copy over in the generated copy node.

InjectMatteChannel TL

Author: Tony Lyons - <https://www.CompositingMentor.com>



Takes a matte input and injects it into the stream as a new channel, using the "New Channel Name text input" and adding '.red' to the end, creating a new .red channel.

A couple of buttons for ease of use, but 'grab title' requires adrian pueyo's stamps installed to work properly because it is running a function from his code.

Features:

Grab Title: Will try and grab either the nearest stamp name, from the matte stream, or else a read node name if it finds a read node. Hopefully if you are using a pipeline, and stamps, and have configured stamps to default to part of the name of a read node to use as the name (you can adjust this in the stamps_config.py file) then it will run the same function to find the 'right' name to use and fill in the "New Channel Name" text input. **Inject New Channel:** This will generate a new channel based off the new channel name input text and the add prefix, add post fix text inputs. It will copy the selected channel from 'Input Matte Channel' into the stream **Reset:** Set node to default (does not remove the channel from the script) **New Channel Name:** Manually enter the new channel name, or try the Grab Title to autofill **Input Matte Channel:** Choose which channel from the matte input will be copied as new channel **Add Prefix, Add Postfix:** Click to reveal additional input text fields, where you can add a prefix, which will appear before the new channel name, with an underscore. ie. "ID_" or a postfix, which will add text after your new channel name, with an underscore. ie. "_DImatte"

Workflow Example

Above is an example of InjectMatteChannel 'Grab Title' grabbing the name of the incoming stamp. This can speed up your workflow quite a bit if you are used to

using stamps to move around AOVs and mattes, and parts of your script with an alpha that you might want to use as a matte.

To the Right is a small example of how you might use a channel workflow. I have roto'ed the eyes and mouth of Marcie, and used InjectMatteChannel to copy the alpha into a new channel 'EyesMouth".

This channel now exists in the stream as another 'layer' you can see it in your viewer channels, and later on you can shuffle out the channel and use it for masks, grain matte, DI mattes, etc

StreamCart MJT

Author: Mark Joey Tang - <https://www.facebook.com/MJTlab>

- <https://www.nukepedia.com/gizmos/channel/streamcart>
- <http://bit.ly/menupy>

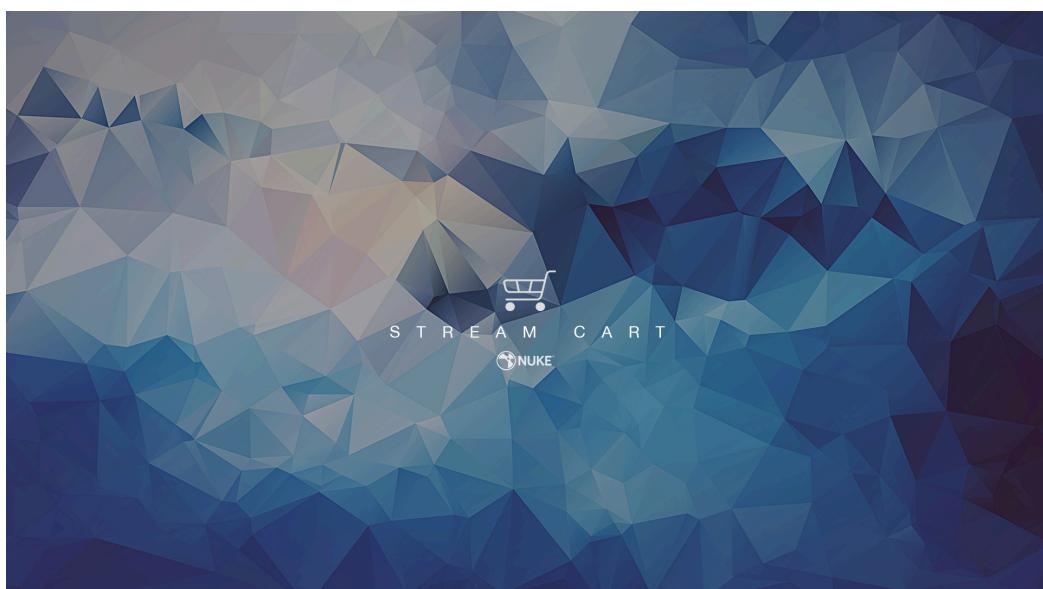
Select channel or geo and quickly shuffle it.

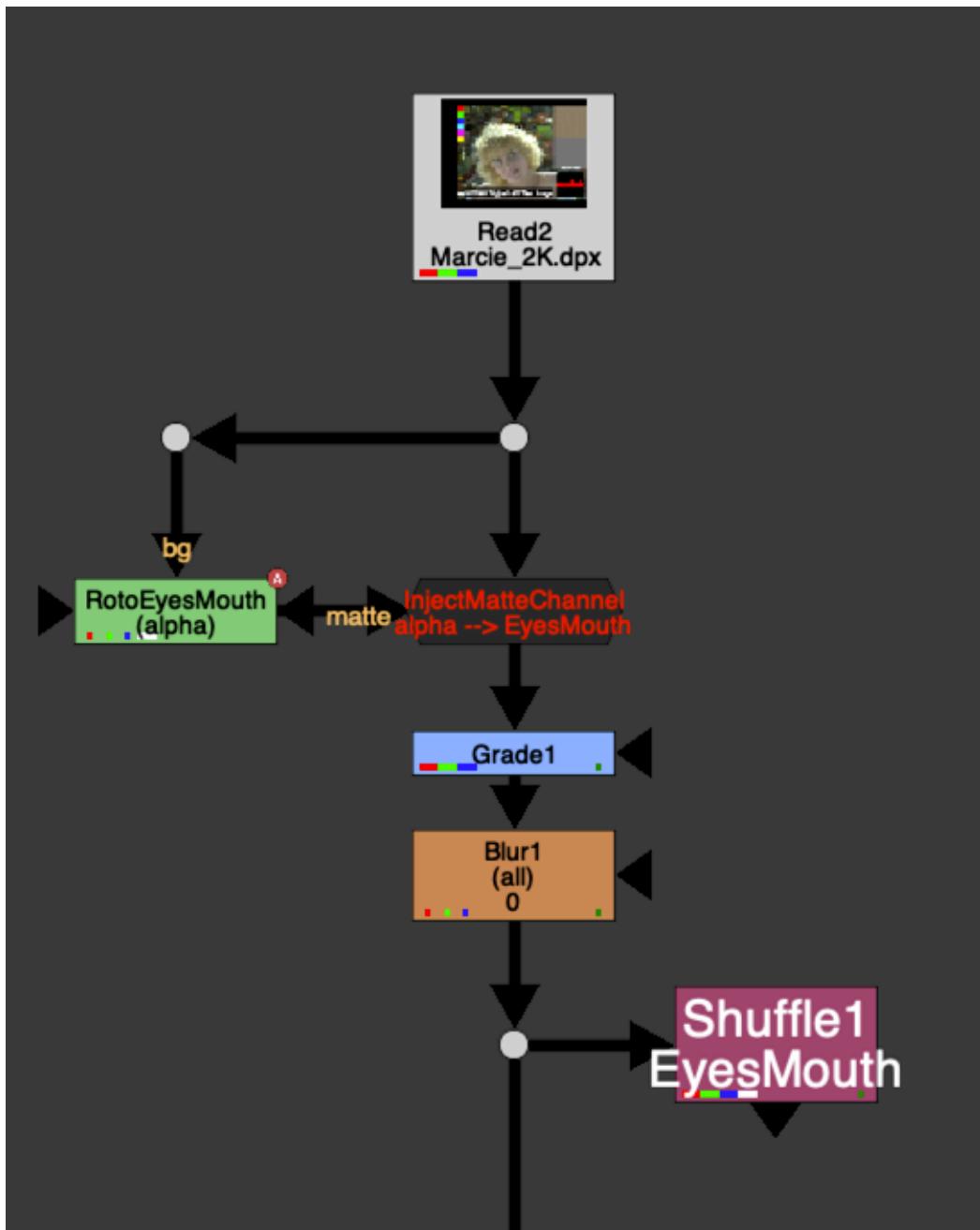
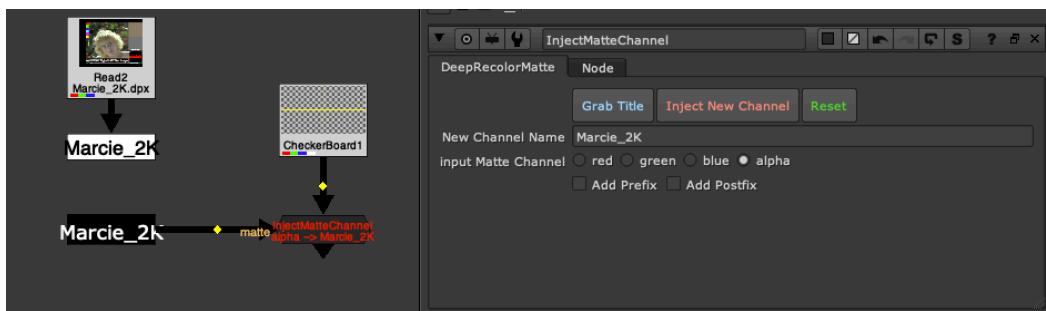
How to use (channel shuffle):

- Connect streamCart node to anywhere of the tree.
- Click 'get channels / geo'. It will scan through available channels from upstream
- Click the channels to create shuffle node

How to use (Geo select):

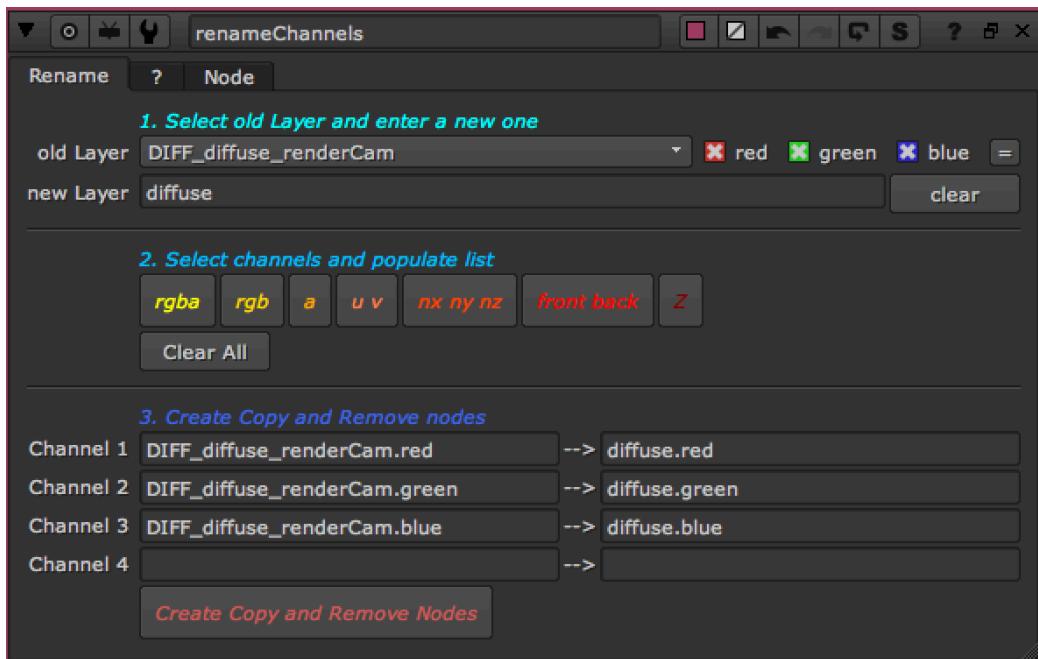
- Connect streamCart node directly to 'ReadGeo'
- Click 'get channels / geo'. It will scan through available geo mesh from upstream 'scene_view'
- Select all the individual objects
- Click 'ReadGeo Checkout' to create a new ReadGeo with the selection.





RenameChannels AG

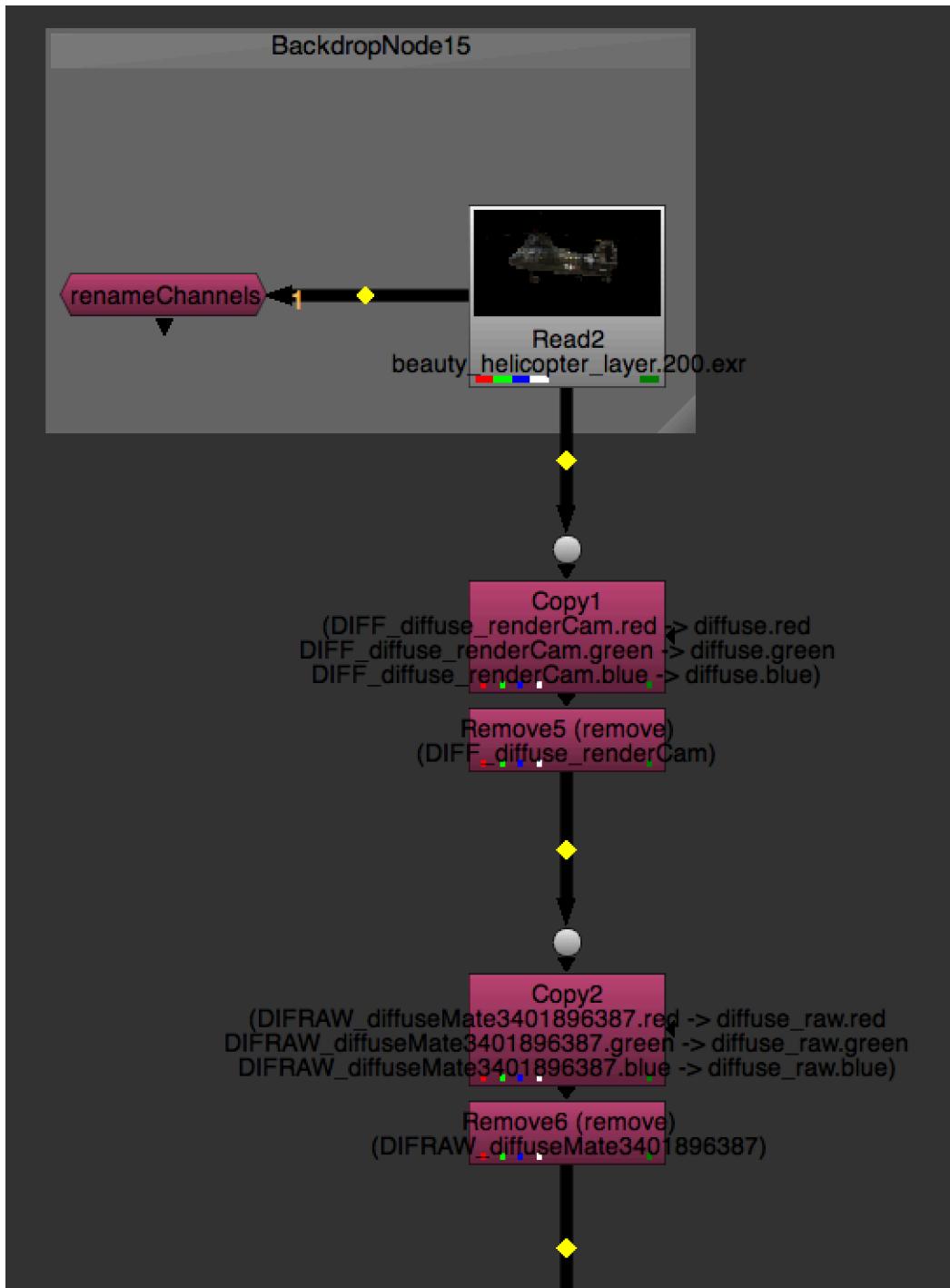
Author: Andrea Geremia - <http://www.andreageremia.it/tutorial.html>



With this Gizmo you can rename Channels and Layers through Copy and Remove Nodes. In this way you have more control with the possibility to cancel the operation.

Instructions:

1. Connect renameChannels node to your script.
2. Select the oldLayer and insert the name of the newLayer. Basically you want to rename the old name with the new one.
3. Select the Channels you want to create. They depend from the oldLayer
4. Click on button "Create Copy and Remove Nodes"
5. Connect the nodes created to your script.



Color

The Color category contains tools for color correction, grading, and color manipulation in your compositing workflow.

Tools

Tool	Author	Description
BlacksMatch	Tony Lyons	Toe operation with external image black point
ColorCopy	Tony Lyons	Mix hue, saturation, and luminance between images
Contrast	Tony Lyons	Simple contrast with pivot point control
GradeLayerPass	Tony Lyons	Grade CG AOVs with common adjustments
HighlightSuppress	Tony Lyons	Suppress highlights above 1 with aesthetic falloff
ShadowMult	Tony Lyons	Apply shadowMatte pass correctly per channel
WhiteSoftClip	Tony Lyons	Better approach to softClip preserving highlight color
WhiteBalance	Tony Lyons	White balance preserving overall luminance
apColorSampler	Adrian Pueyo	Calculate average color with Blinkscript power
apVignette	Adrian Pueyo	Simple vignetting gizmo

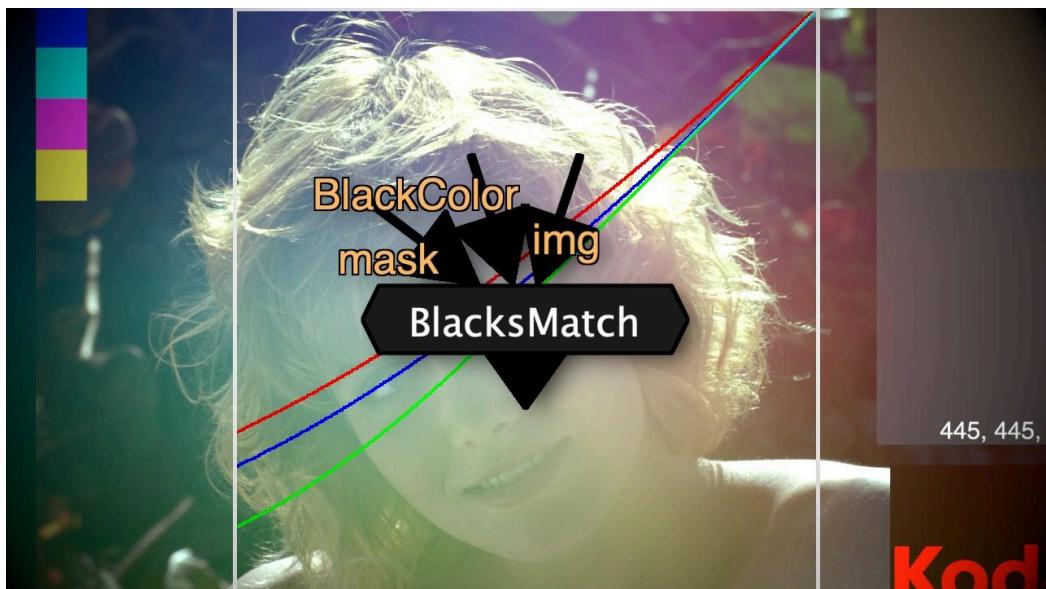
Tool	Author	Description
GammaPlus	Mark Joey Tang	More options on Gamma math for color integration
MonochromePlus	Chris Fryer	Enhanced monochrome workflows
Suppress_RGBCMY	Spin VFX	Suppress or boost specific colors
BiasedSaturation	Paul Raeburn	Change saturation toward a picked colour
HSL_Tool	Den Gheiko	Hue Vs Hue, Sat, Lum color correction

BlacksMatch TL

Author: Tony Lyons - <https://compositingmentor.com>

- http://www.nukepedia.com/gizmos/colour/blacksmatch_20
- <https://compositingmentor.com/2019/06/30/blacksmatch/>

This tool recreates a toe operation that's able to input an external image as it's black point and has controls for the multiply (the amount above the blackpoint that the operation stops affecting the midtones and highlights), and a control for the Gamma, or falloff, which is the bottom part of the curve and how it's blending with the blackpoint. You can toggle a preview overlay of a plotscanline and see how your blackpoint is affecting the rest of your image.



ColorCopy TL

Author: Tony Lyons - <https://compositingmentor.com>

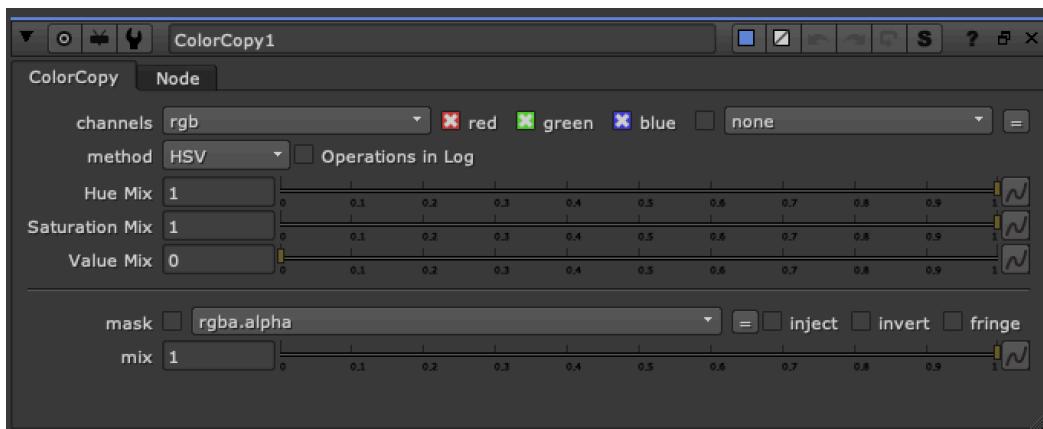


ColorCopy converts A and B images into HSV or HSL colorspace and mixes hue, saturation, and luminance (value) from image A to image B.

The other modes are a way of separating color and luminance from the image by dividing the original image by a desaturated version. The other methods are the methods found in the saturation node: rec709, average, maximum, etc.

When you are on HSV or HSL you have control over hue and saturation separately, and in the rest of the methods have just a single 'color mix' control (along with the luminance mix).

Can toggle Operations to be done in Log space.



Contrast TL

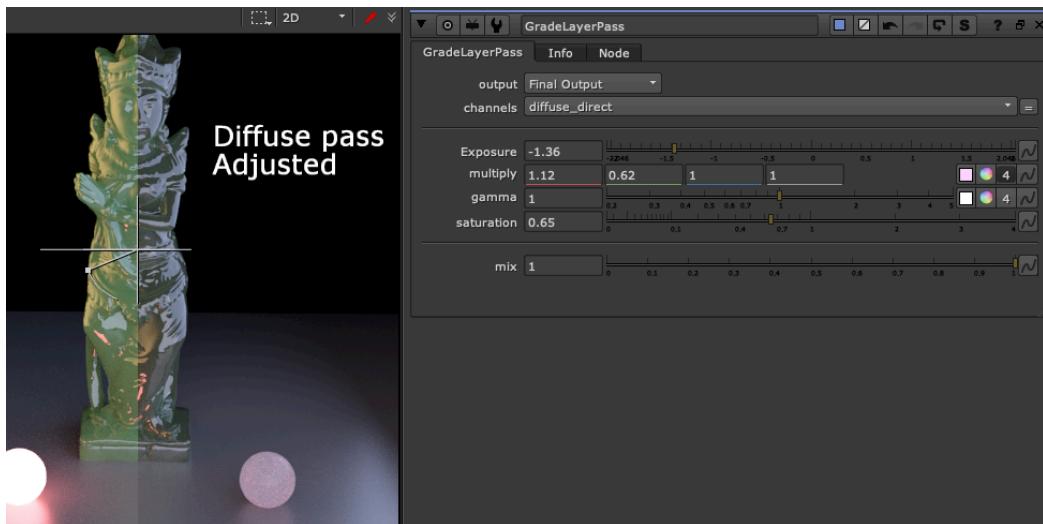
Author: Tony Lyons - <https://compositingmentor.com>



Simple contrast tool with a pivot point controlling areas about and below the pivot separately.

GradeLayerPass TL

Author: Tony Lyons - <https://compositingmentor.com>



Useful for grading CG AOVs. Choose AOV from the channels dropdown that you wish to grade. I've chosen the most common grade adjustments (also useful from a lighting artist point of view that translates well back to lighting application).

Exposure - for luminance, Multiply - for color, Gamma - midtones, Saturation.

This tool will minus the AOV layer from the beauty, makes adjustments to the AOV layer, and plus the changed layer back. It also injects the changed AOV layer back into the stream so if you shuffle it out afterwards it will reflect the changes made to the AOV layer.

HighlightSuppress TL

Author: liro Harra (Originally Lazy_Tonemap) - <https://compositingmentor.com>



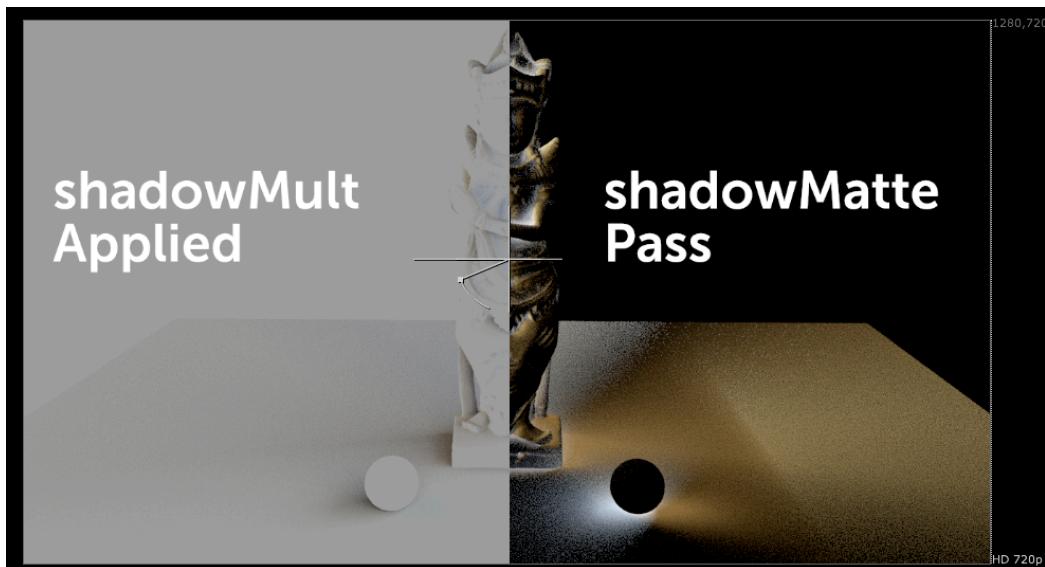
- http://www.nukpedia.com/gizmos/colour/lazy_tonemap

Uses expression to try and suppress highlights above 1 to a more aesthetic fall off, retaining color information. When the whitepoint is set to 1, the image will be the same as the original, higher the whitepoint, the stronger the effect. Gain and gamma can be used to compensate for the slight decontrasting that occurs on the image.

Limit Affected Area is a Luminance key on the original image. Setting to 1 will gradually ramp up the effect towards (and above) a value of 1 and helps preserve lows and midtones.

ShadowMult TL

Author: Tony Lyons - <https://compositingmentor.com>

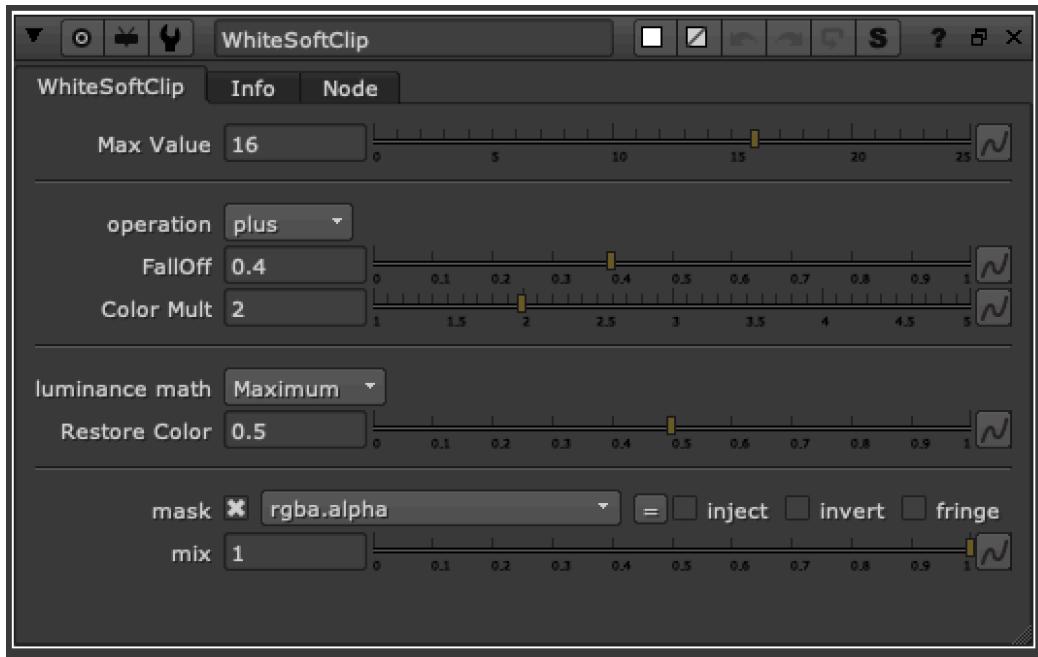


Arnold rendering and other renderers enable you to output a layer called "shadowMatte". This can be a bit of a mysterious pass to figure out. Most artists just desaturate the image, shuffle to alpha and use it as a mask to multiply the plate or CG down to 0.

There is in fact color information in the shadowMatte pass. Each channel, red, green, blue, needs to be used as a mask to multiply the corresponding channel. - shadowMatte.red - used as mask to multiply red to 0 - shadowMatte.green - used as mask to multiply green to 0 - shadowMatte.blue - used as mask to multiply blue to 0 I made this tool to automatically apply this method quickly and effortlessly. Simple additional controls for multiply (in case you want to change color) and gamma.

WhiteSoftClip TL

Author: Tony Lyons - <https://compositingmentor.com>



This tool's aim is to better approach the softClip tool. There are many times where you want to set a max value amount for the shot, 16, 25, 50, whichever.

Unfortunately, the softClip tool in nuke tends to clamp all channels at the top amount equally, which seems to break the ratio between the channels and lose the color of the highlights.

Set the max value you'd like to max your highlights out at.

Adjust the FallOff and Color Mult to adjust where the whiteclipping begins in the highlights.

The Restore Color slider restores more of the color by pushing the ratio between the colors a bit farther apart and maintaining the original colors. Default is set to .5





WhiteBalance TL

Author: Tony Lyons - <https://compositingmentor.com>



Sample the 'white' or neutral area of the plate you wish to white balance. This tool preserves the overall luminance of the image. There is also a reverse option. Can be used to balance plates before greenscreen/bluescreen keying, and then reverse back after the keying/despill process to preserve original colors.

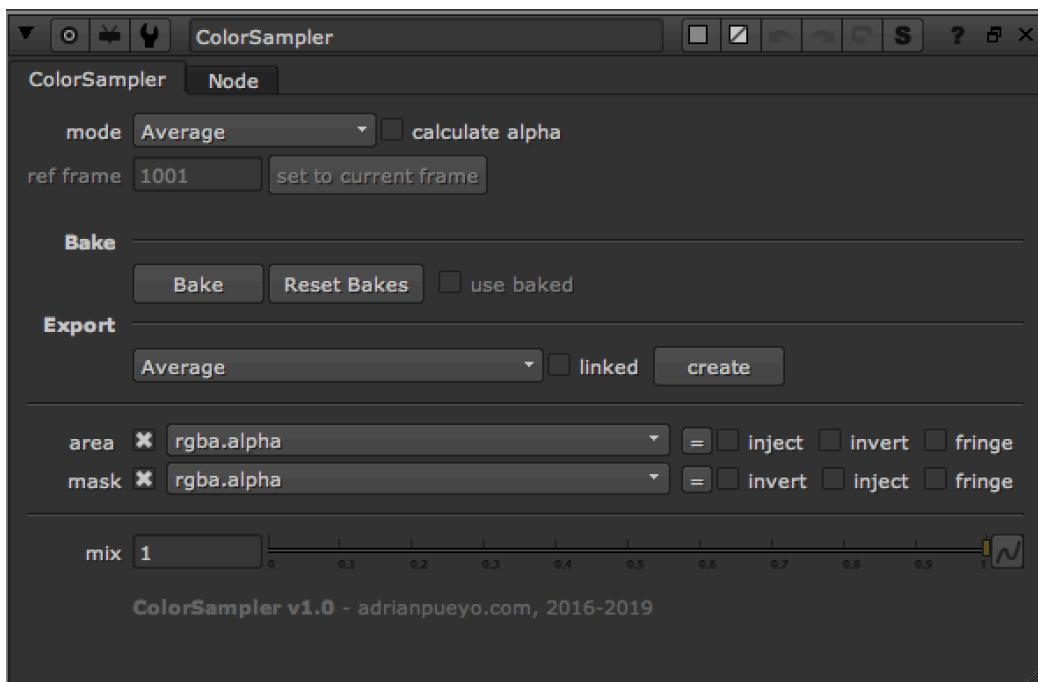
apColorSampler AP

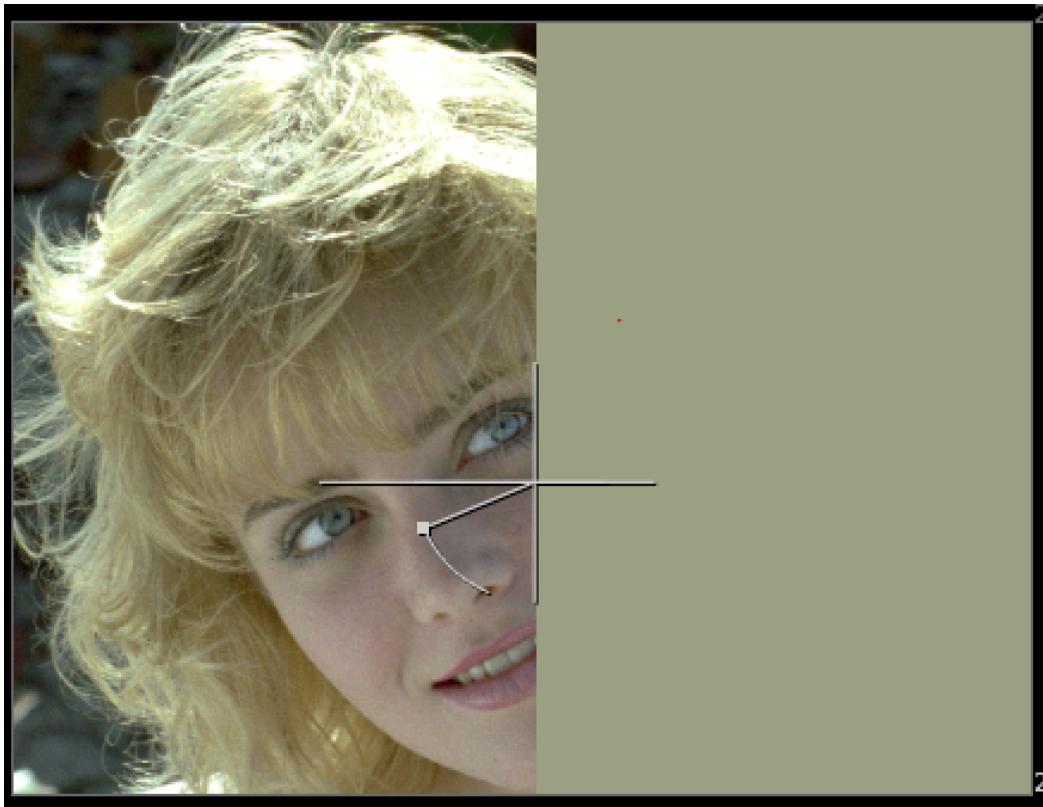
Author: Adrian Pueyo - <http://www.adrianpueyo.com/>

- <http://www.nukepedia.com/blink/colour/colorsampler>

apColorSampler is a tool that calculates the average color of a target input (or the src image if there's no target input), weighted through the area input (or the whole frame if there's no area input). It can also calculate the maximum or minimum value over the area. Additionally, you can directly remove color flickering to an image, or apply it from a target.

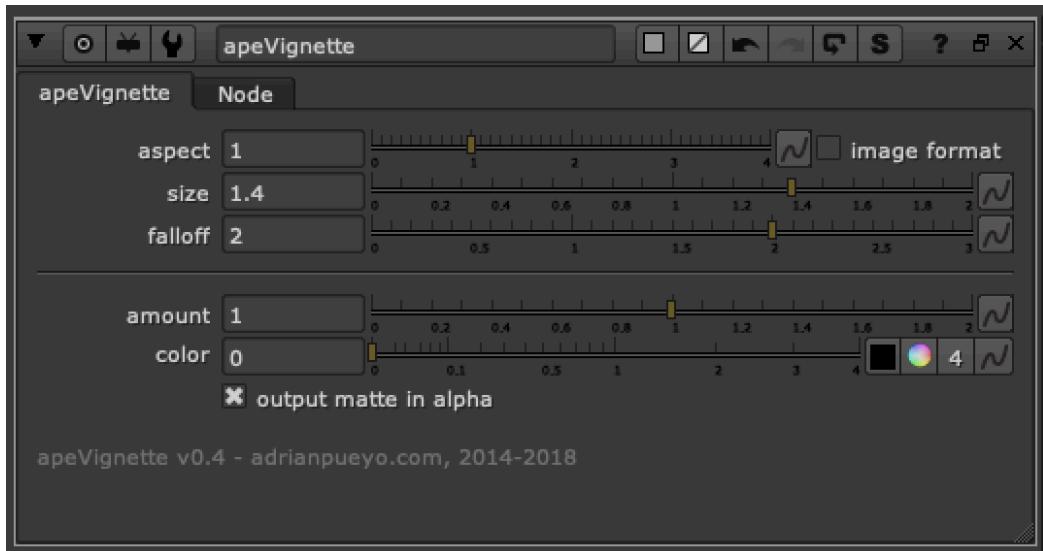
You can think of ColorSampler as a live version of CurveTool with some additional features using the power of Blinkscrip, where instead of being limited to a rectangle you can plug a roto to use for the sampling area... or a key... :) Bake options available for framerange.





apVignette AP

Author: Adrian Pueyo - <http://www.adrianpueyo.com/>



Simple and lightweight vignetting gizmo with controls for size, falloff, color. Option for outputting matte in the alpha channel.



GammaPlus MJT

Author: Mark Joey Tang - <https://www.facebook.com/MJTlab>

- <http://www.nukepedia.com/gizmos/colour/gammaplus>

Provide more options on Gamma math. Make contrast more easier in color integration. Break the boundary of default Gamma method.

Algorithm of Color Integration in Nuke: - [Nuke Math] Color Grade:

<https://www.facebook.com/media/set/?vanity=MJTlab&set=a.665976340650857> -

[Nuke Math] ColorCorrect - contrast: <https://www.facebook.com/media/set/?vanity=MJTlab&set=a.678965762685248> - [Nuke Math] Keyer - Luminance &

Saturation: <https://www.facebook.com/media/set/?vanity=MJTlab&set=a.684167245498433> - [Nuke Math] HSV & sRGB:

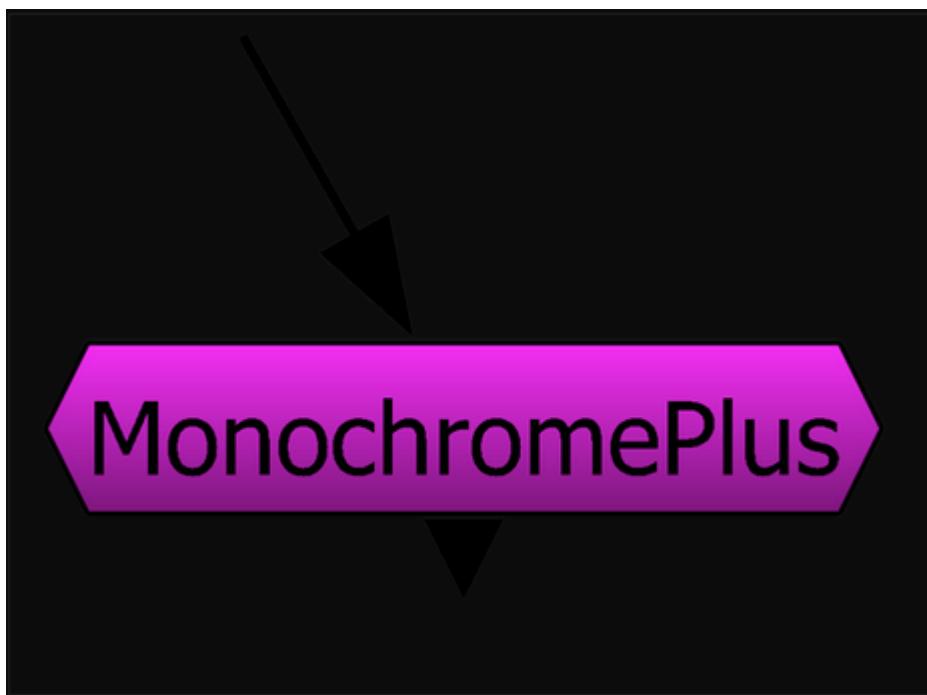
<https://www.facebook.com/media/set/?vanity=MJTlab&set=a.690958631485961> -

[Nuke Math] Saturation in Nuke: <https://www.facebook.com/media/set/?vanity=MJTlab&set=a.709545469627277>



MonochromePlus CF

Author: Chris Fryer - <https://www.chrisfryer.co.uk/blog>



- <https://www.chrisfryer.co.uk/post/monochrome-plus>

Monochrome workflows are a great standard for doing channel difference based operations (e.g. removing tracking markers) Monochrome Plus provides a couple of extra features to make the workflow faster.

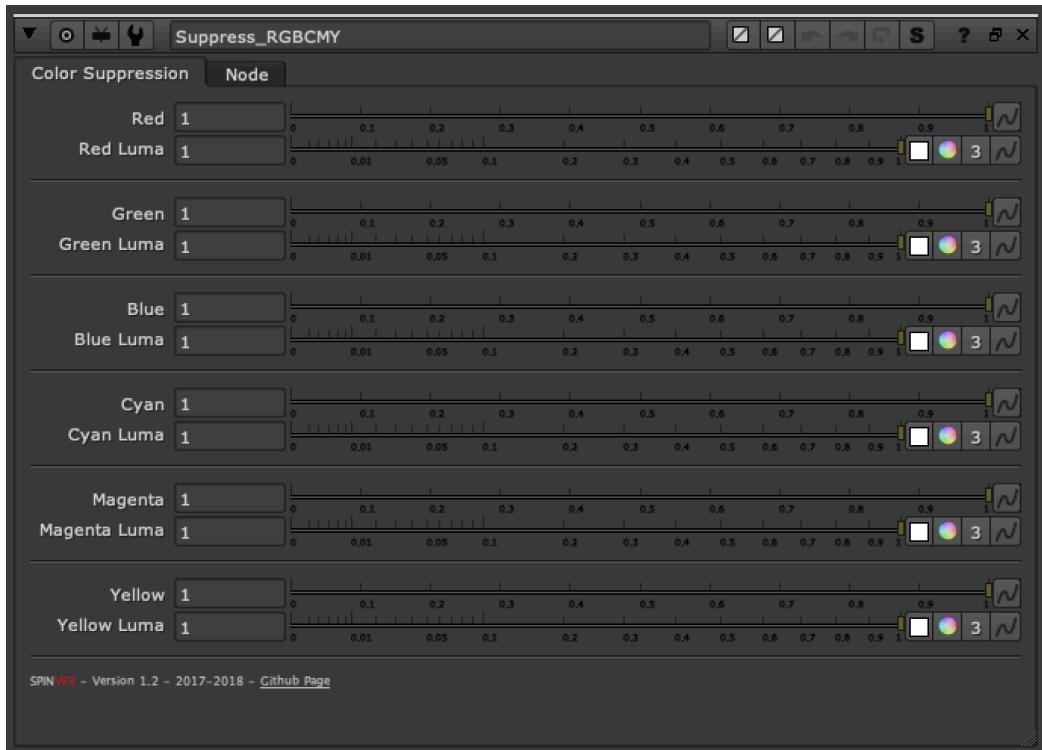
Features: - **Weight** - controls each channel's contribution to the final monochromatic channel - **Source/Target** - allows the user to divide/multiply the monochromatic channel - **Use weighted target as source** - replaces the source values with a weighted multiply to allow colour matching with one colour pick

Suppress_RGBCMY SPIN

Author: Spin VFX

-
- http://www.nukepedia.com/gizmos/other/spin_nuke_gizmos-1
 - https://github.com/SpinVFX/spin_nuke_gizmos

Suppress (or boost) specific colors: Red, Green, Blue, Cyan, Magenta or Yellow.



BiasedSaturation NKPD

Author: Paul Raeburn



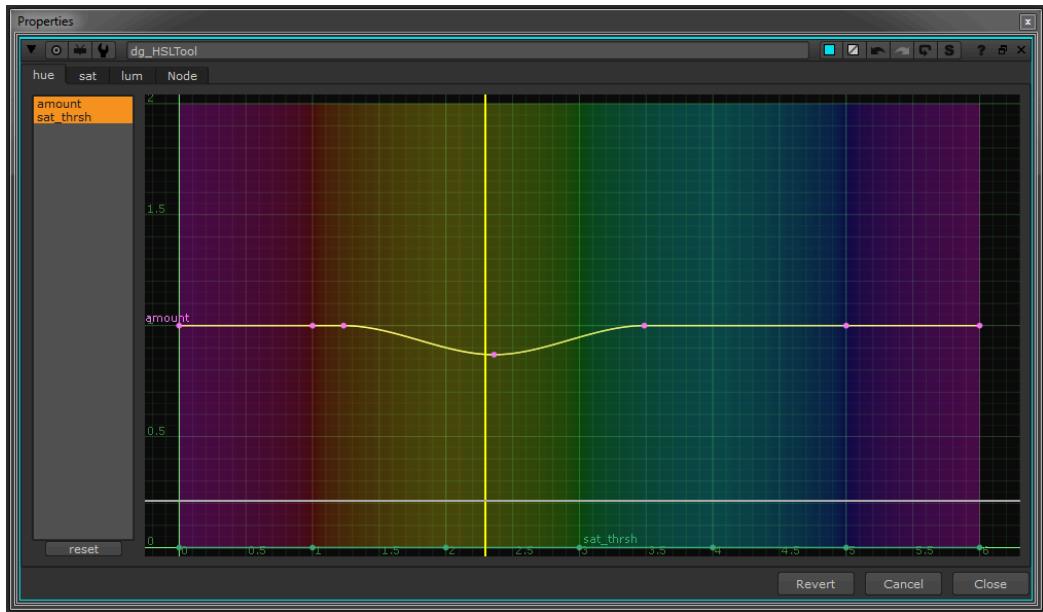
- <http://www.nukepedia.com/gizmos/colour/biasedsaturation>

Simple tool for changing the saturation but toward a picked colour. **Changes by**

Tony Lyons: - Added channels dropdown and restore luminance slider - Default set to a bluish color and saturation and mix sliders set to 0.5

HSL_Tool NKPD

Author: Den Gheiko - <http://www.gheiko.com>



- http://www.nukepedia.com/gizmos/colour/dg_hsltool

A kind of DaVinci Resolve 'Hue Vs Hue', 'Hue Vs Sat' and 'Hue Vs Lum' color correction tool.

Curve based adjusting hue, sat and value in a specific hue range.

Adjust the curves, by default, the difference matte from the original image is stored in alpha, so can be used as a subtle keyer.



before



after

Filter

The Filter category contains tools for glows, blurs, edge treatment, distortions, chromatic aberration, lightwraps, and various image filtering effects.

Submenus

- Glows - Exponential glow effects
- Blur - Advanced blur tools
- Edges - Edge detection, extension, and treatment
- Distortions - Glass, heat wave, and distortion effects
- X_Tools XM - Xavier Martin's GPU-accelerated tools

Main Filter Tools

Tool	Author	Description
BeautifulSkin	Tony Lyons	Paint out skin artifacts while maintaining smooth appearance
BlacksExpon	Tony Lyons	Exponentially blur lows of the plate
Halation	Tony Lyons	Introduce halation effect
Highpass	Tony Lyons	Difference between blurred and original for tracking/sharpening
Diffusion	Tony Lyons	Mix blurred image simulating lens FX
LightWrapPro	Tony Lyons	Advanced lightwrap with exponential blurring
bm_Lightwrap	Ben McEwan	Optically-correct natural lightwrap

Tool	Author	Description
iConvolve	Adrian Pueyo	IBlur-style convolve with mask falloff
ConvolutionMatrix	Andrea Geremia	Apply preset 3x3 matrix filters
apChroma	Adrian Pueyo	Advanced chromatic aberration and drift
apChromaTransform	Adrian Pueyo	Transform RGB channels separately
apChromaBlur	Adrian Pueyo	Blur RGB channels separately
apChromaUnpremult	Adrian Pueyo	Unpremult for apChroma workflow
apChromaPremult	Adrian Pueyo	Premult for apChroma workflow
apChromaMerge	Adrian Pueyo	Multi-alpha merge for apChroma
Chromatik	SPIN FX	Chromatic aberration using spectral wavelength
CatsEyeDefocus	Alexander Kulikov	Convolution filter for swirly bokeh
DefocusSwirlyBokeh	Jed Smith	Cat's Eye Bokeh on frame edges
deHaze	Lucas Pfaff	Remove haze from footage
RankFilter	Josh Parks	Fast Blink median with rank control
DeflickerVelocity	Julien Vanhoenacker	Deflickering using velocity pass
FillSampler	Mads Hagbarth Damsbo	Fill or extend edges/holes in plate

Tool	Author	Description
MECfiller	Matthias Eckhardt	Multi-directional hole filling

Glow

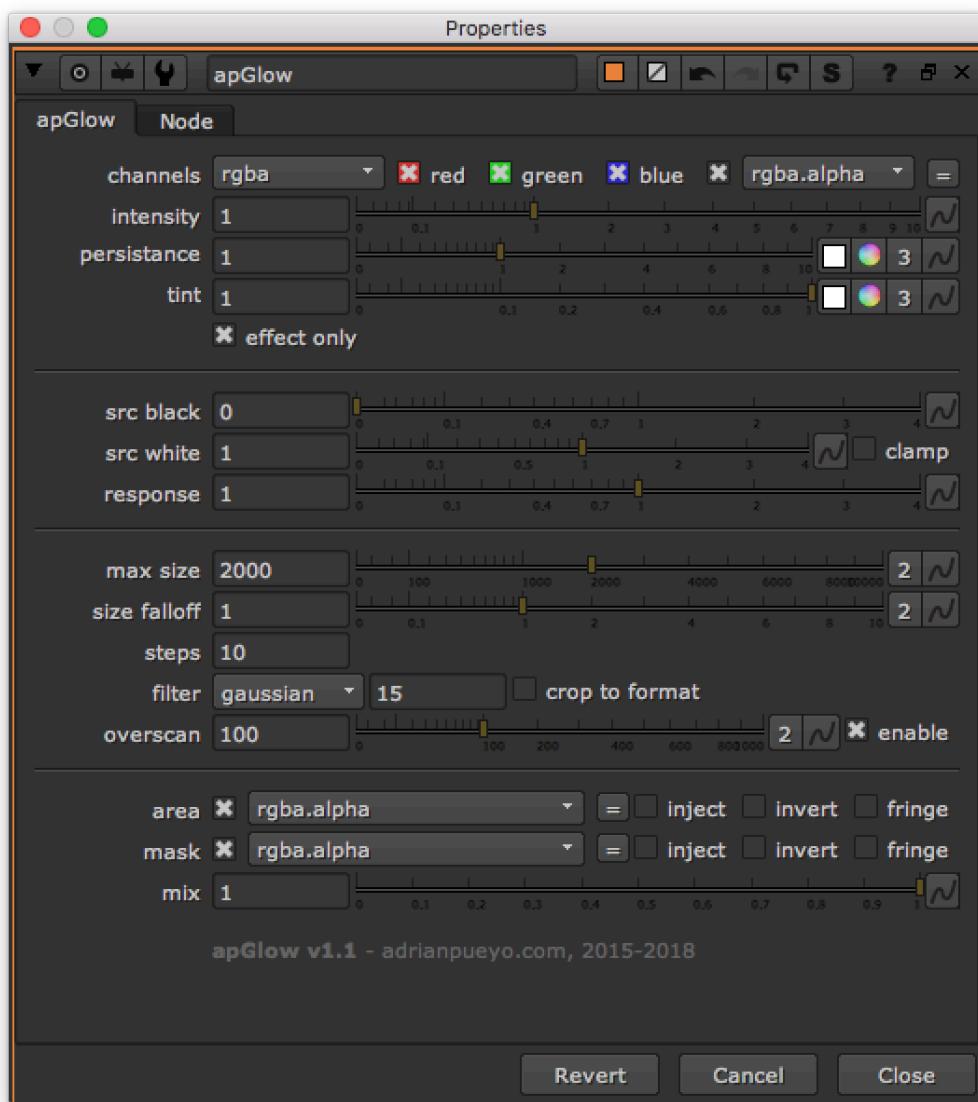
Exponential glow effects for creating realistic light bloom and glow effects.

Tools

Tool	Author	Description
apGlow	Adrian Pueyo	Lightweight exponential glow with advanced controls
ExponGlow	Tony Lyons	Exponential glow with many lookDev options
Glow_Exponential	SPIN FX	Exponential glow with recolor and falloff
Optical Glow	Ben McEwan	Optically-correct natural glow

apGlow AP

Author: Adrian Pueyo - <http://www.adrianpueyo.com/>



- <http://www.nukepedia.com/gizmos/filter/apglow>

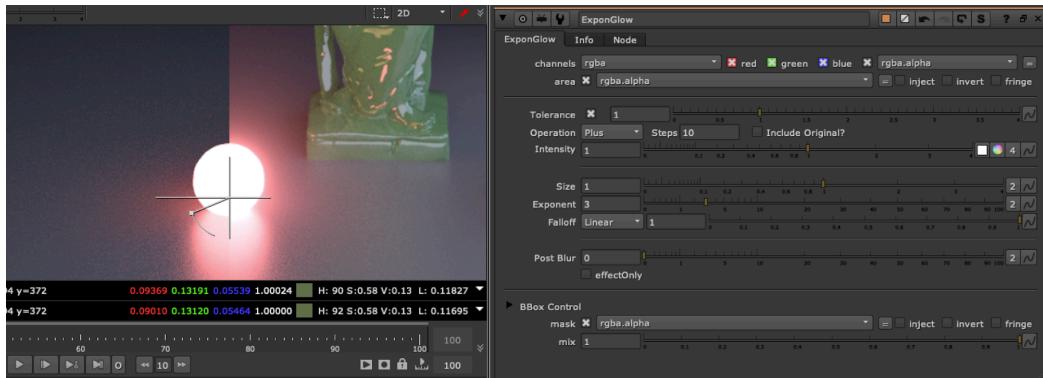
apGlow is a lightweight exponential glow effect with advanced control over the steps, falloff, distribution, color and other useful parameters.



apGlow

ExponGlow TL

Author: Tony Lyons - <https://compositingmentor.com>



There are many Glow tools out there, Here are some of the features that makes this one unique: - Iterable Blur steps, adds more or less blurs as you change the steps number - Uses percentage blurs, meaning the blur ratio scales along with your format, so when changing from a 2K plate to a 4K plate, the Glow should look the same - Different types of Merge operations to choose from: Screen, Plus, Over, Hypot, Average, Max, Min (Can include original image in Merge) - Different type of falloff to choose from, similar to ramp or roto falloff: Linear, pLinear, Smooth, Smooth0, Smooth1 - Tolerance option (luma key on input) and Area mask input, so you can use mattes/rotos to isolate which part of the image glows - BBox optimization, which has a safe BBox mode that will stop the bbox from growing 10% beyond the format size (or input BBox size, whichever is bigger). You can adjust this amount, or change to pixels instead of percent. And final BBox adjustment, so you can further grow/shrink the final bbox (in percent or pixels).

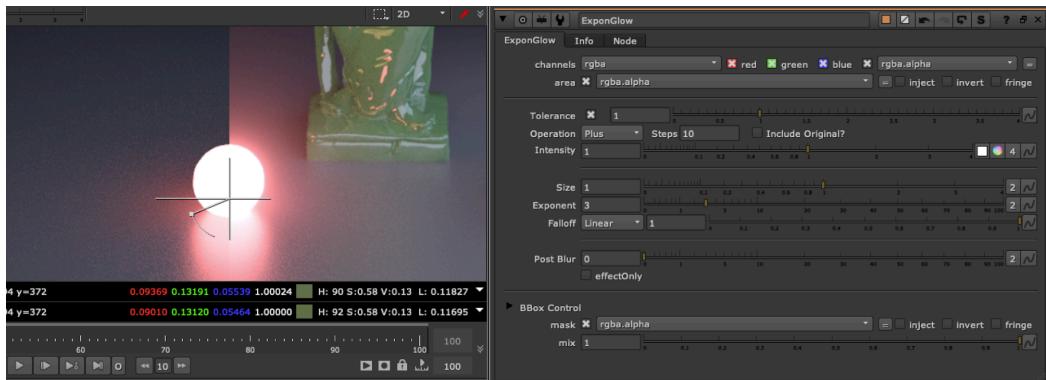
The focus was on an exponential Glow that has a lot of control and lookDev options in the type of falloff, size, and amount, while still paying attention to Bounding Box size and calculation time.

Glow_Exponential SPIN

Author: SPIN FX

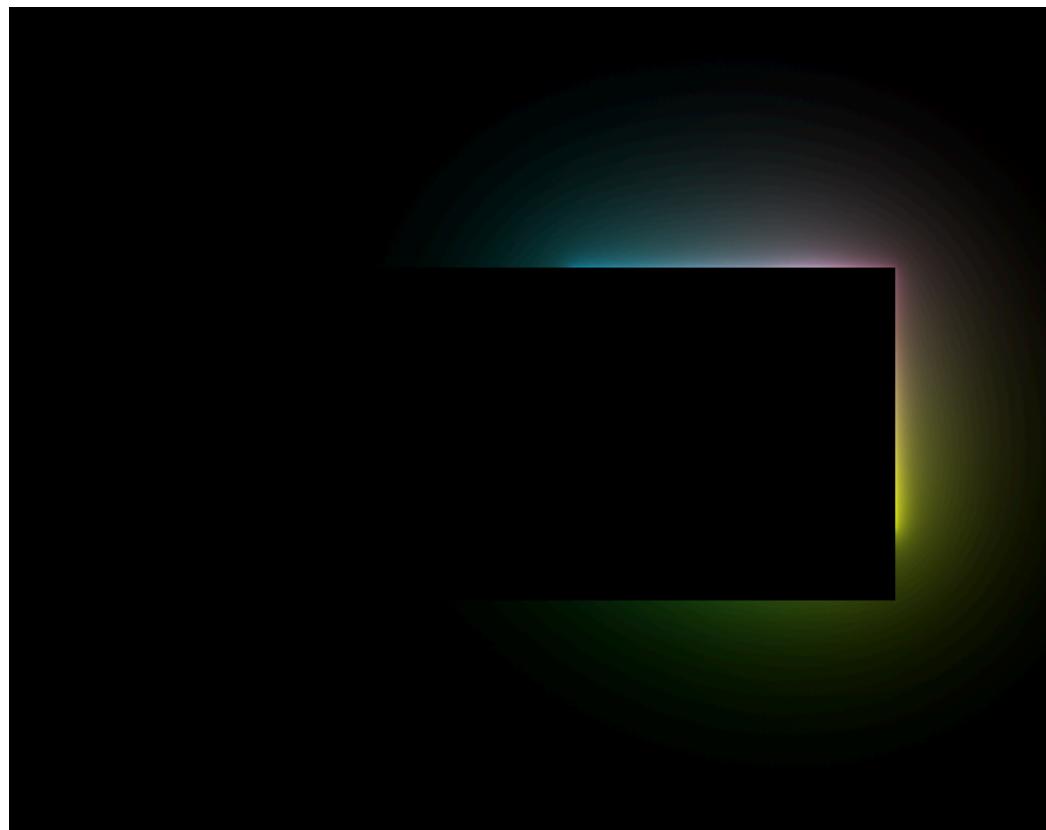
- https://github.com/SpinVFX/spin_nuke_gizmos

Exponential Glow node, with options to recolor and adjust falloff.



Optical Glow BM

Author: Ben McEwan - <https://benmcewan.com/blog/>



- <https://benmcewan.com/nukeTools.html>

Adds exponentially-increasing blurs together to produce a more optically-correct, natural glow.

Blur

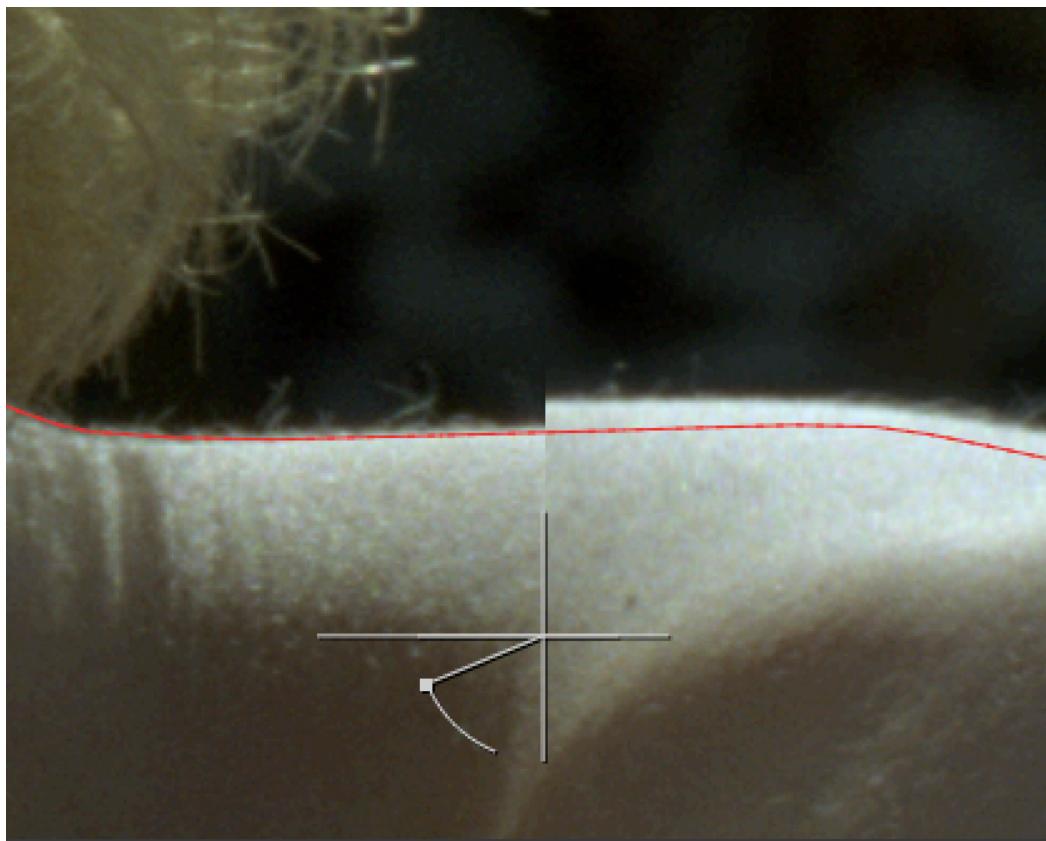
Advanced blur tools beyond Nuke's standard blur nodes.

Tools

Tool	Author	Description
ExponBlurSimple	Tony Lyons	Exponential blur with iterating steps
Directional Blur	Tony Lyons	Blur at specific angle with perpendicular option
IBlur	Moritz Eiche	Smoothly ramped blur based on matte
WaveletBlur	Mads Hagbarth Damsbo	Pick specific frequency range to blur
FractalBlur	Richard Frazer	Blur with noise for textured edges

ExponBlurSimple TL

Author: Tony Lyons - <https://compositingmentor.com>



- http://www.nukepedia.com/gizmos/filter/l_exponblur

Simple exponential blur iterating steps feature. Most often used with rotos/Mattes.
Based on Luma Pictures ExponBlur gizmo.

Set your blur size and multiplier (exponent), and steps (iterations, # of blurs)

Features: - Different types of Merge operations to choose from: Screen, Plus, Over, Hypot, Average, Max, Min (Can include original image in Merge) - Has a clamp and post blur options - If you go negative with the size, the matte will blur inwards (invert, blur, invert back). This can be used for softly eroding/blurring mattes and alpha edges - BBox optimization, which has a safe BBox mode that will stop the bbox from growing 10% beyond the format size (or input BBox size, whichever is bigger). You can adjust this amount, or change to pixels instead of percent. And final BBox adjustment, so you can further grow/shrink the final bbox (in percent or pixels)

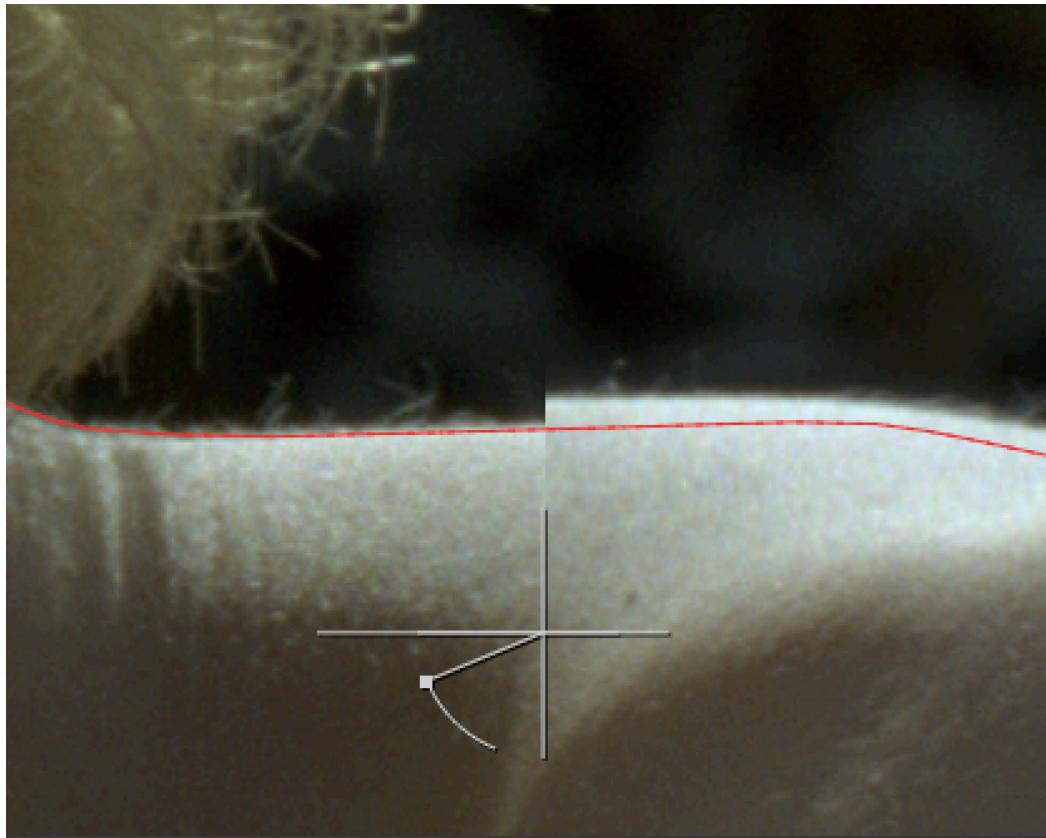
Directional Blur TL

Author: Tony Lyons - <https://compositingmentor.com>

- <http://www.nukepedia.com/gizmos/filter/directionalblur>

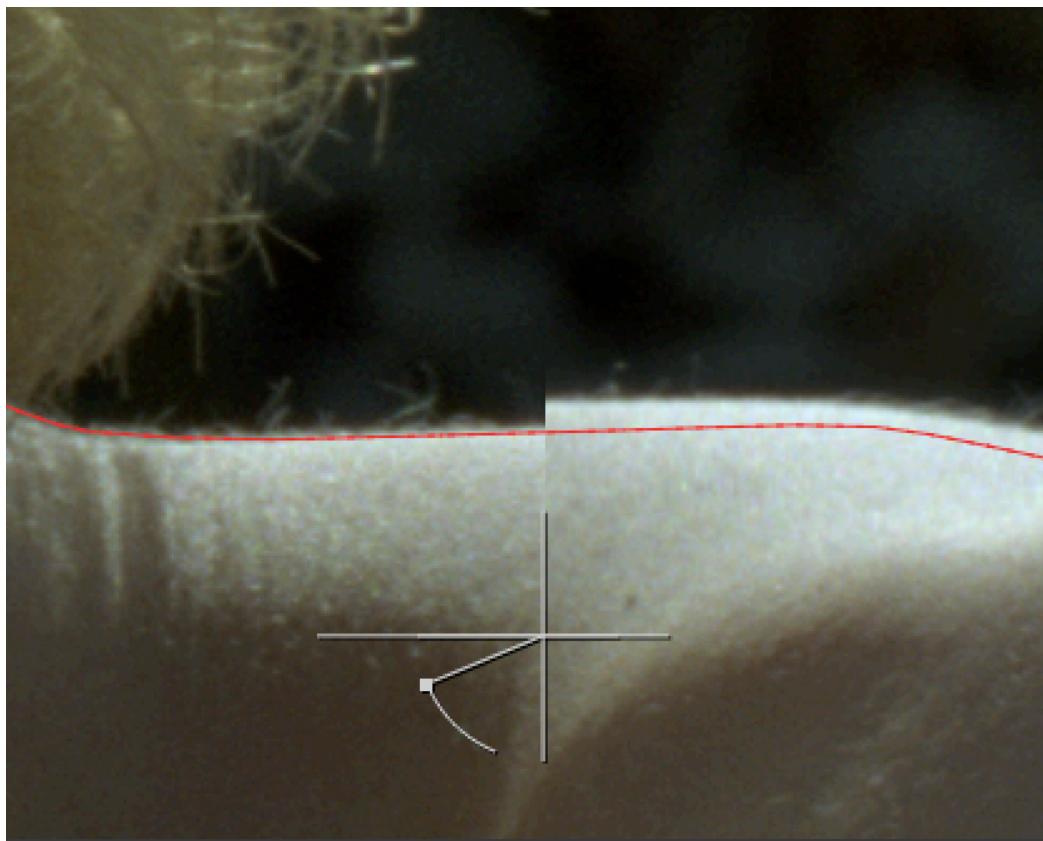
Select the rotation angle and size of the blur. Choose between blur and defocus.
Has a perpendicular blur that blurs in the perpendicular direction to the angle chosen.

Some helpful options for managing your BBox. Has channels, mask, mix, etc.



IBlur NKPD

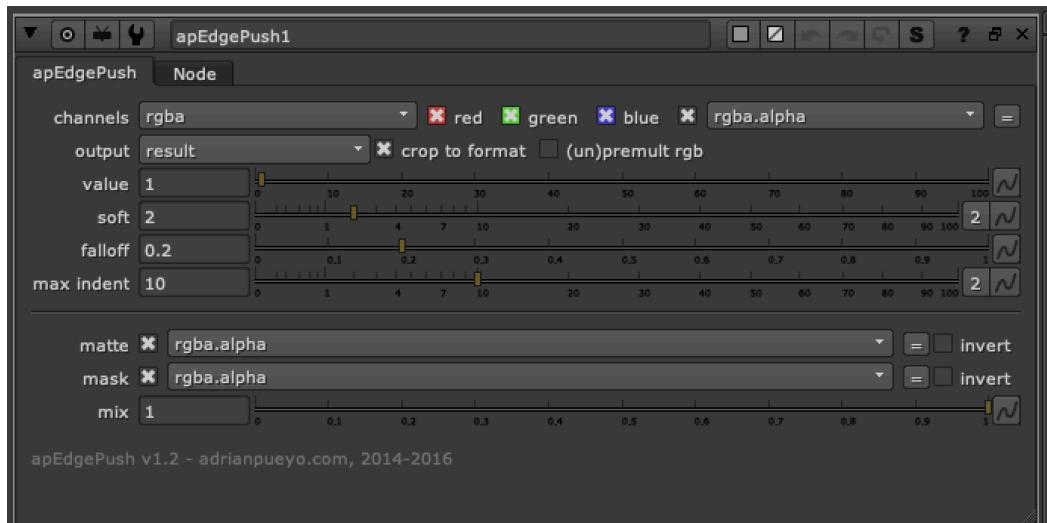
Author: Moritz Eiche



- <http://www.nukepedia.com/gizmos/filter/iblur>

With this gizmo you get a smoothly ramped blur on your image, based on the matte input. It works like 'iBlur'/'iDefocus' in Shake.

It's faster and easier than 'ZBlur', also you can choose between 'blur' and 'defocus'. **Updates by Tony Lyons:** - Allowed for x,y individual size options - Added some better BBox management



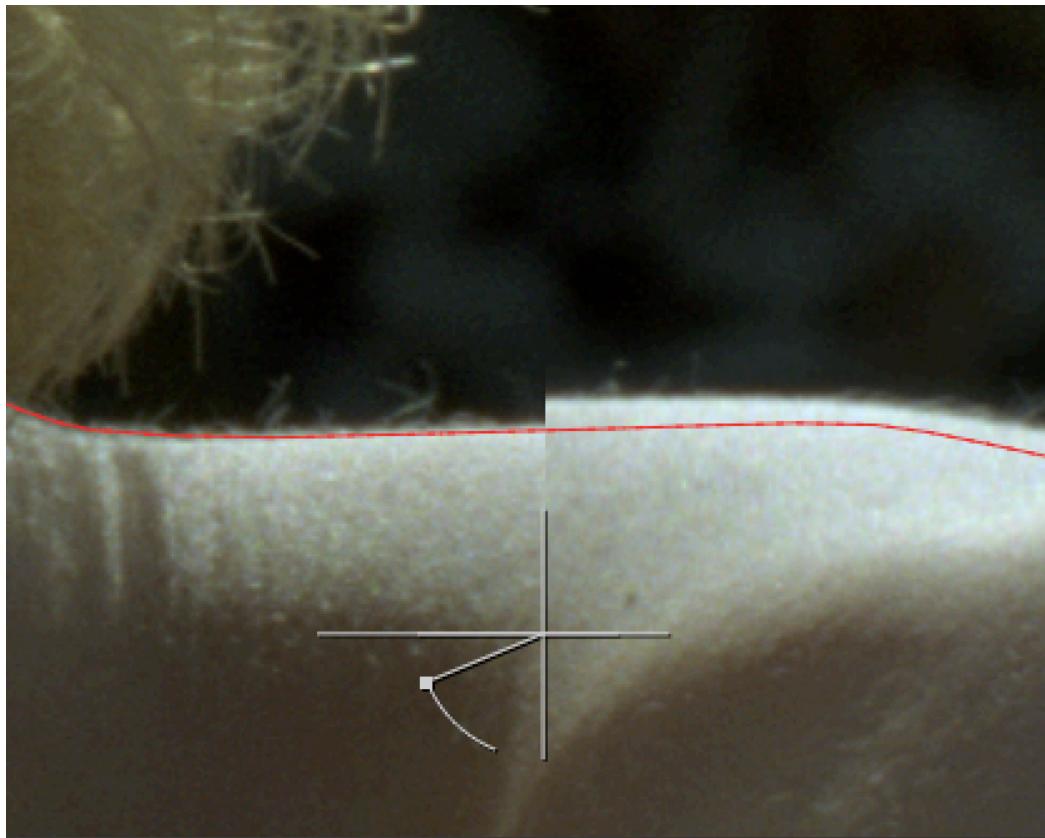
WaveletBlur MHD

Author: Mads Hagbarth Damsbo - <https://hagbarth.net/blog/>

- <http://www.nukepedia.com/gizmos/filter/wavelet-blur>

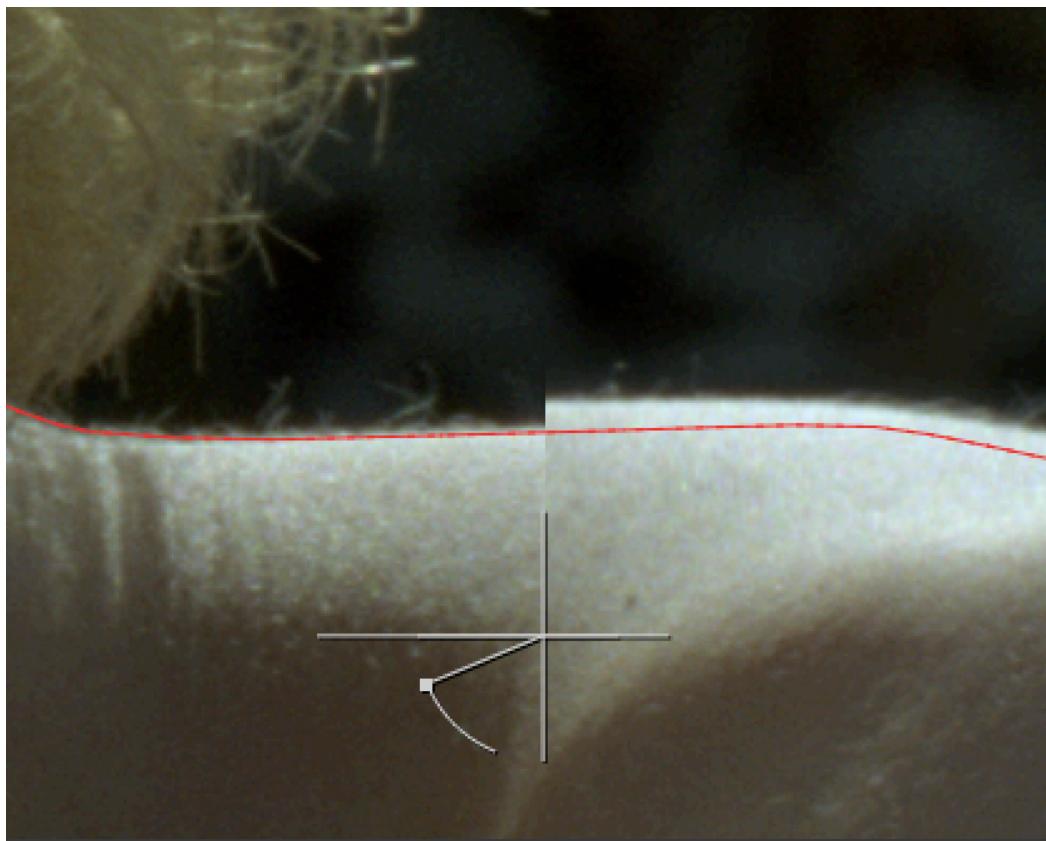
This tool allows you to pick a specific range of frequencies to blur in an image. Helpful for doing beauty and other work where preserving original image detail is important.

Using a BlinkScript powered bilateral filter, this tool also allows you to preserve edges of your footage, while still having good render times.



FractalBlur NKPD

Author: Richard Frazer



- <https://richardfrazer.com/tools-tutorials/fractal-blur-for-nuke/>
- <https://github.com/RichFrazer/fractal-blur/blob/master/fractal-blur.nk>

It's essentially just a blur combined with a noise filter so that the softened image does not have smooth gradients. It really helps to hide soft-edge mattes where the combined images have a lot of texture.

I was working on Where the Wild Things Are at the time and every plate almost entirely consisted of heavy natural texture (forests, trees, fur etc.) and it became essential to use the fractalBlur on every single mask. Since then I frequently require this plugin and have not found an equivalent in Nuke, so thought I'd put one together.

Edges

Edge detection, extension, treatment, and anti-aliasing tools.

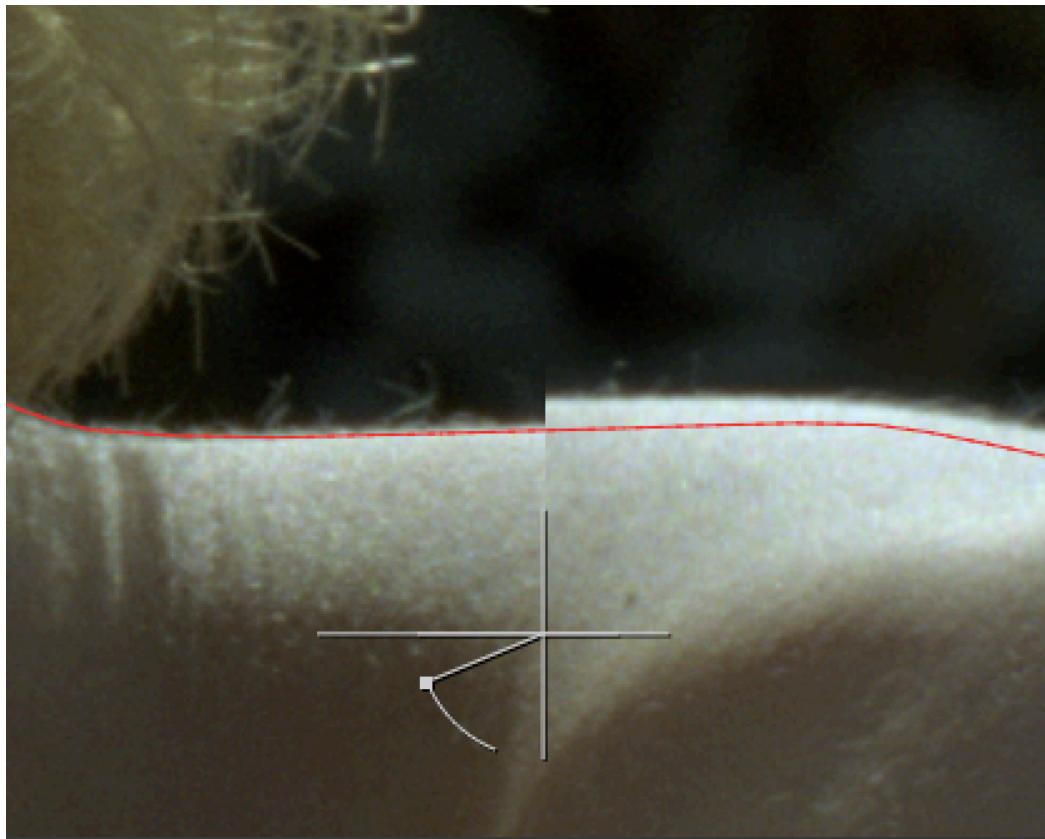
Tools

Tool	Author	Description
apEdgePush	Adrian Pueyo	Vector distort edge warp to remove fringe colors
EdgeDetectAlias	Tony Lyons	Detect aliased edges in alpha
AntiAliasFilter	Andrea Geremia	Increase or decrease antialiasing
ErodeSmooth	Tony Lyons	Erode using blur and colorlookup method
Edge_RimLight	Andrea Geremia	Create quick rim light mask
EdgeDetectPRO	Andrea Geremia	Enhanced edge detect with more options
Erode_Fine	Spin FX	Erode with sub-pixel control
Edge_Expand	Spin FX	Expand edges to fix key fringing
Edge	Rob Bannister	Advanced edge extend with motion blur support
ColourSmear	Richard Frazer	Smear edge colour for soft edges
KillOutline	Andreas Frickinger	Erode/expand RGB edges of keyed image
EdgeFromAlpha	Frank Rueter	Edge detect on alpha with inside/outside control

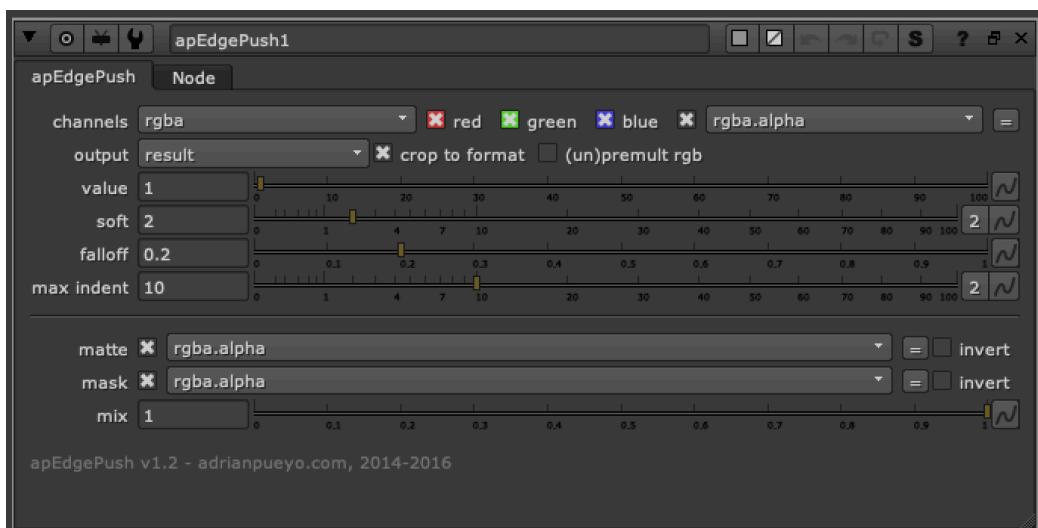
Tool	Author	Description
VectorExtendEdge	Michael Garrett	Push RGB outwards using perpendicular vectors

apEdgePush AP

Author: Adrian Pueyo - <http://www.adrianpueyo.com/>

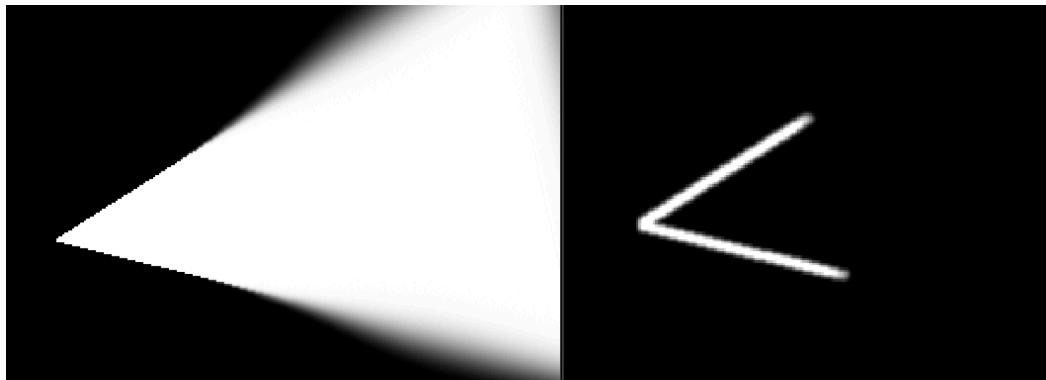


apEdgePush is a vector distort edge warp that warps the edge to try and get right of fringe colors. By default looks for alpha in the img input but you can plug in a custom matte to the matte input. Switch channels to rgb and warp before the premult in order to warp the image "within" the premultiplied alpha region.



EdgeDetectAlias TL

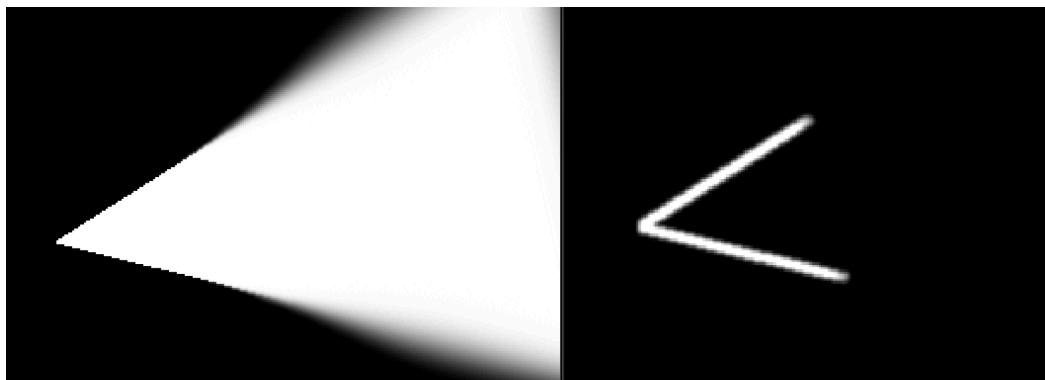
Author: Tony Lyons - <https://compositingmentor.com>



Analyzes your alpha for aliased edges and gives you an edge detect for aliased areas. You can then use an iBlur or blur with mask to introduce blurs to help smooth out edges. Good for CG or DMP or deep combines where you get some harsh edges.

AntiAliasFilter AG

Author: Andrea Geremia - <http://www.andreageremia.it/tutorial.html>



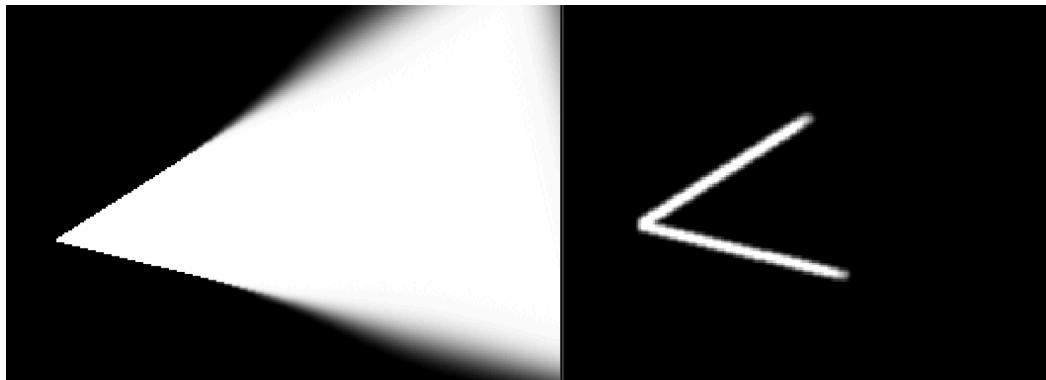
- <http://www.nukepedia.com/gizmos/filter/antialiasing-filter>

Increase or Decrease Antialiasing filter.

Instructions: 1. Select channels. You can just apply to the edge in your alpha channel or also to the RGB 2. Decide the operation (increase or reduce) 3. Move slider to select size of the filter 4. Use gamma for a better tuning This gizmo uses a 3x3 Matrix.

ErodeSmooth TL

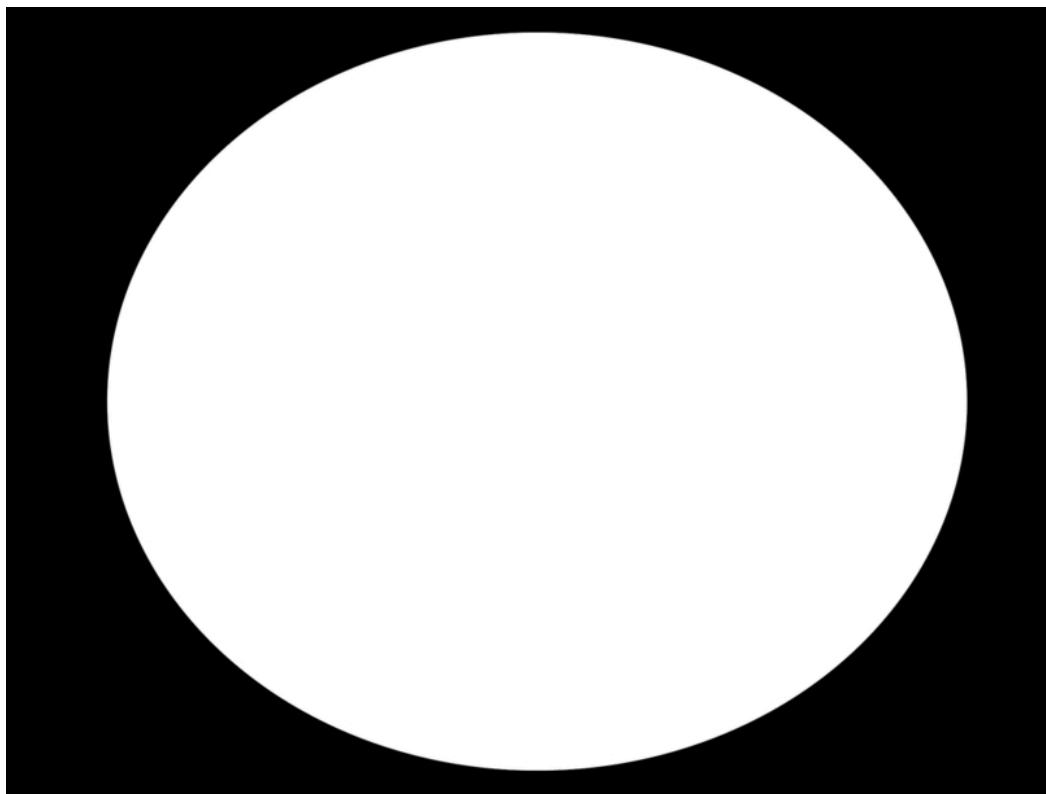
Author: Tony Lyons - <https://compositingmentor.com>



This erode uses a method of blurring the alpha, then uses colorlookup node to tighten the edge back down. The range slides along the full area of the blurred region. Best when used with tight rotos / edges without much blur or falloff.

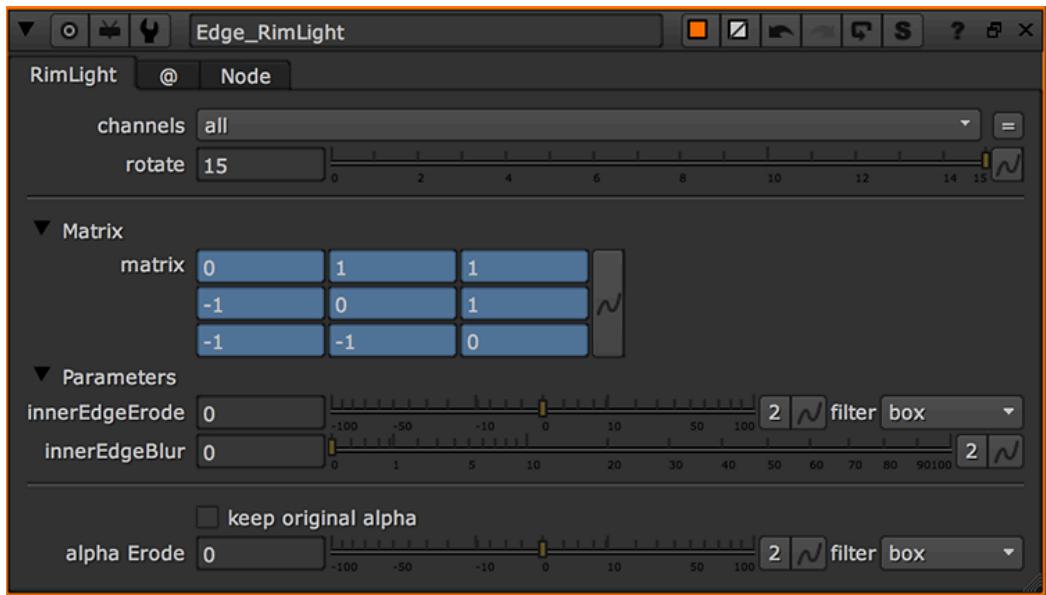
Edge_RimLight AG

Author: Andrea Geremia - <http://www.andreageremia.it/tutorial.html>



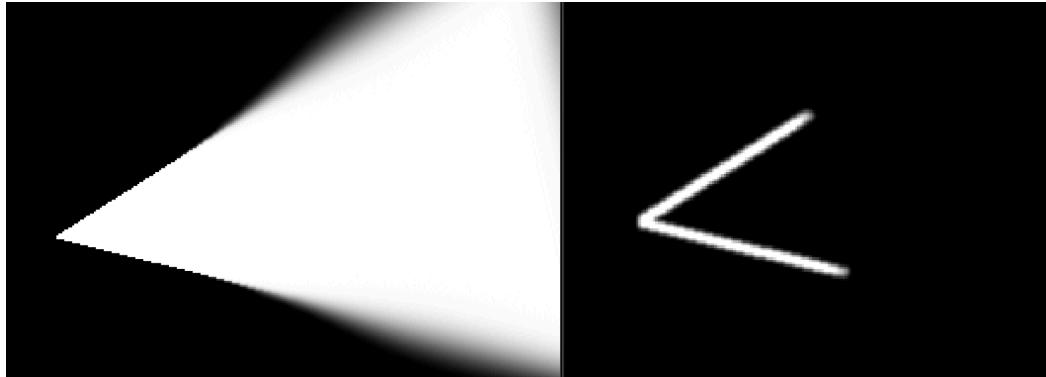
- <http://www.nukepedia.com/gizmos/filter/edge-rim-light>

With this tool you can create a quick mask for your Rim Light. Move the slider rotate and that's it! Use the Parameters to modify the size and the softness of the edge.



EdgeDetectPRO AG

Author: Andrea Geremia - <http://www.andreageremia.it/tutorial.html>



- <http://www.nukepedia.com/gizmos/filter/edgedetect-pro>
- http://www.andreageremia.it/tutorial_edge_rim_light.html

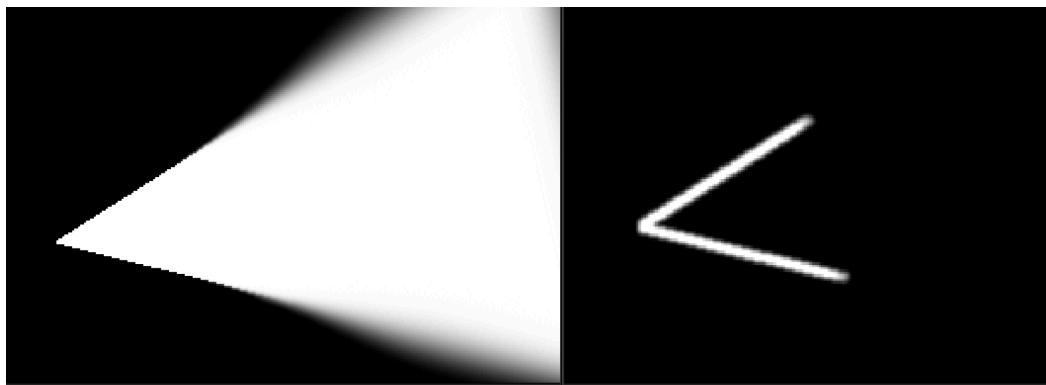
EdgeDetect PRO is an evolution of the classic node from Nuke. Here you have more options to get a better result with thinner edge reveal.

Erode_Fine SPIN

Author: Spin FX

- http://www.nukepedia.com/gizmos/other/spin_nuke_gizmos-1
- https://github.com/SpinVFX/spin_nuke_gizmos

Erode an image with fine controls, as opposed to Nuke's default erode node which can only erode full pixels.

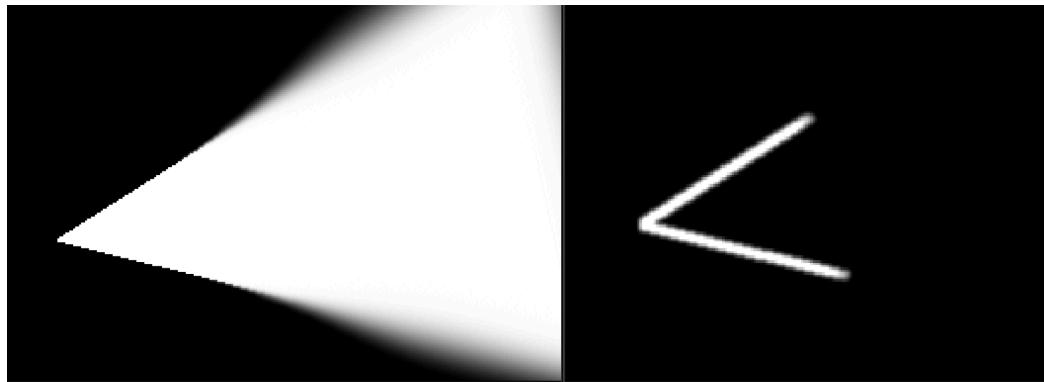


Edge_Expand SPIN

Author: Spin FX

- http://www.nukepedia.com/gizmos/other/spin_nuke_gizmos-1
- https://github.com/SpinVFX/spin_nuke_gizmos

Expand edges to fix fringing on keys.

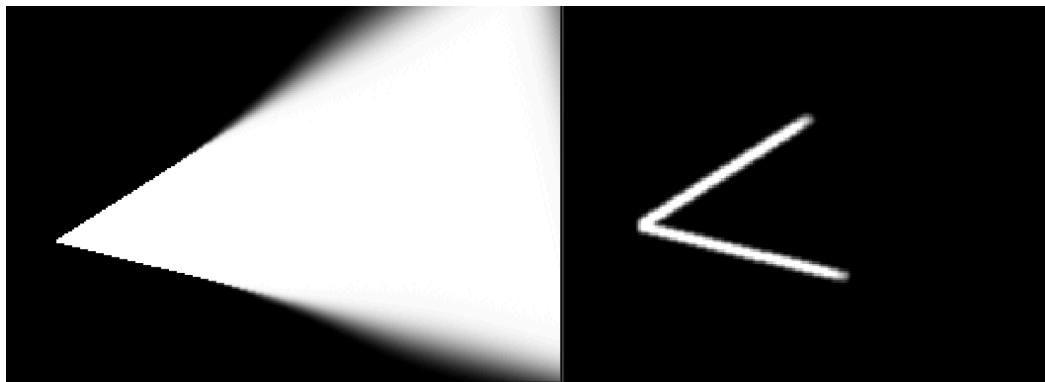


Edge RB

Author: Rob Bannister - <http://www.bannisterpost.com/blog/>

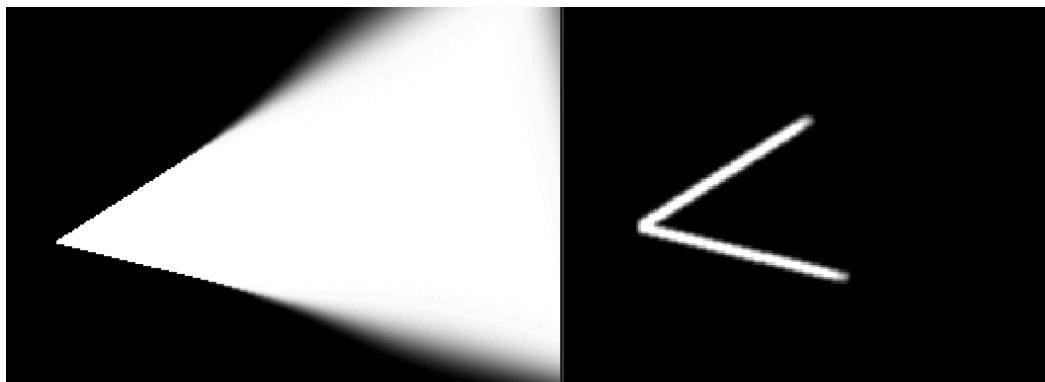
- <http://www.nukepedia.com/gizmos/filter/edge>

Edge allows you to extend the proper color out over transparent edges or areas with a lot of motionblur without eroding away the nice detail. This edge extend has some more advanced features like splitting the core matte and final key which allows you to work on motion blur without affecting small details like hair or a swinging rope for example. There is also more control over how you blend the core detail to the extended edge color. This was shown to me years ago by an old comp sup I had and is the same as the edge extend by Frank Reuter. This is my version of it that has evolved a little bit over the years.



ColourSmear NKPD

Author: Richard Frazer



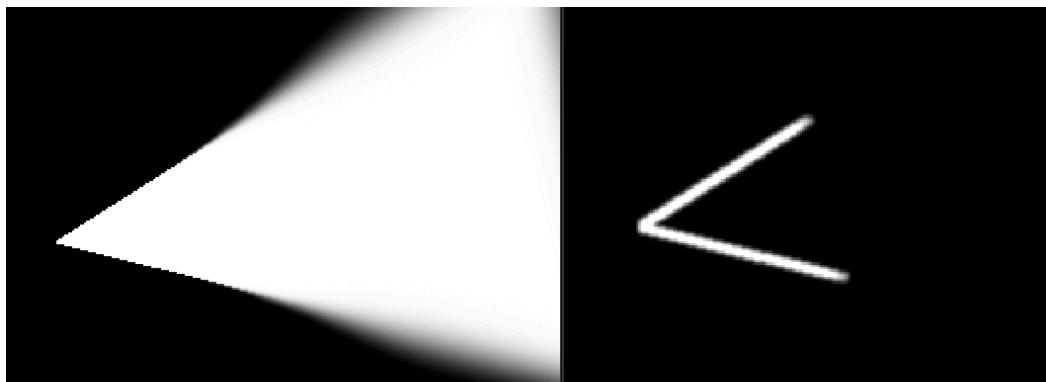
- <https://github.com/RichFrazer/colour-smear-for-Nuke/blob/master/colour-smear.nk>

Smear out the edge colour of your A plate to create better soft edges. Works by blurring and un-premultiplying your image.

I have seen different artists do similar techniques in a number of ways, but this is my take on it (the EdgeExtend gizmo is a simpler version – this one combines the edge erosion aspect and produces softer results). This technique is not application specific, but I am demonstrating it here in Nuke (although I doubt you could do this in After Effects as you need to be able to manually control pre-multiplication).

KillOutline NKPD

Author: Andreas Frickinger

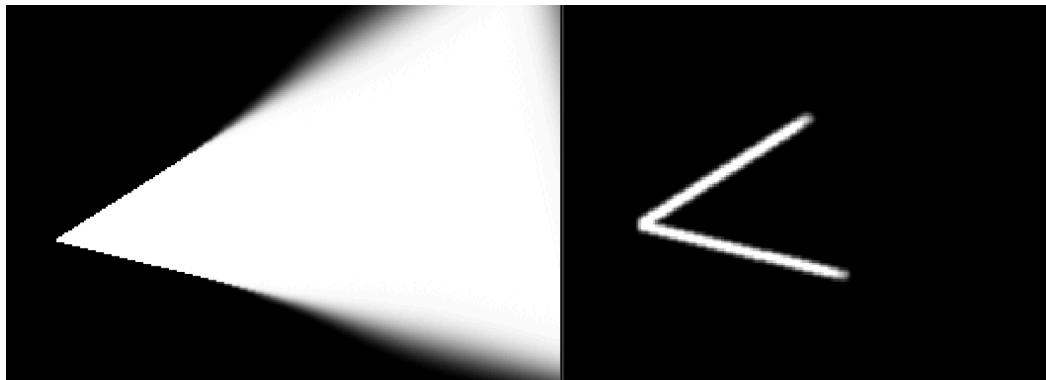


- <http://www.nukepedia.com/gizmos/keyer/killoutline/>

Erodes/Expands rgb edges of keyed image image to get rid of unwanted outlines.
Includes fine tuning for edge treatment. Based on Frank Rueter's Edge Extend.

EdgeFromAlpha FR

Author: Frank Rueter - <http://www.ohufx.com>

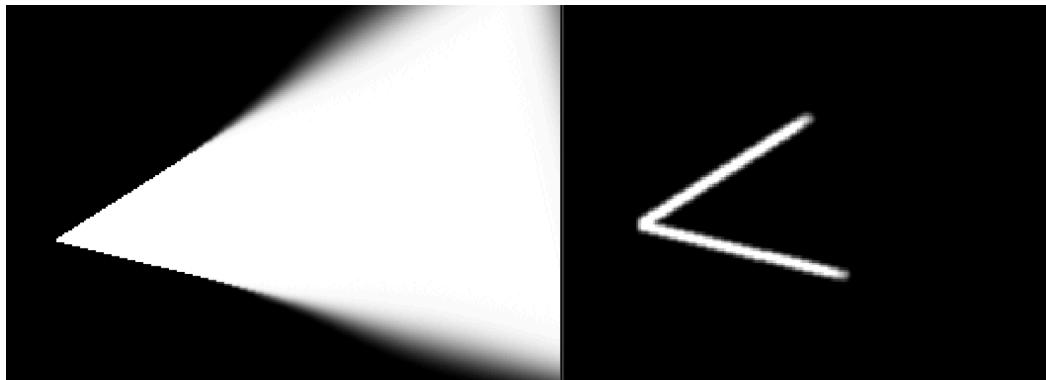


- <http://www.nukepedia.com/gizmos/filter/edgefromalpha/>

This tool is an edge detect on the alpha channel that has separate adjustable erode and blur controls for both inside and outside of the matte.

VectorExtendEdge NKPD

Author: Michael Garrett



- <http://www.nukepedia.com/gizmos/filter/vectorextendededge/>

Pushes rgb pixels outwards using vectors generated perpendicular to a control matte edge. It's similar to Frank Reuter's EdgeExtend gizmo but instead of recursively blurring and unpremulting, it recursively generates vectors based on the input control matte and uses VectorBlur to push the rgb pixels outwards.

To get the best results, you need to input a matte that conforms to the pixels you want to extend.

Distortions

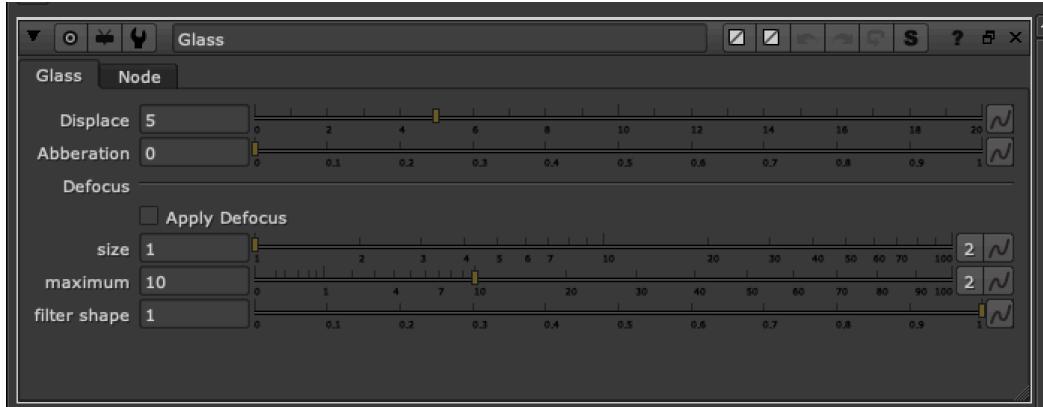
Tools for glass effects, heat distortion, and image warping.

Tools

Tool	Author	Description
Glass	Frank Rueter	IDistort-based glass light effect
HeatWave	Damian Binder	Realistic heat distortion simulation
X_Distort	Xavier Martin	Flexible image distortion with chromatic aberration

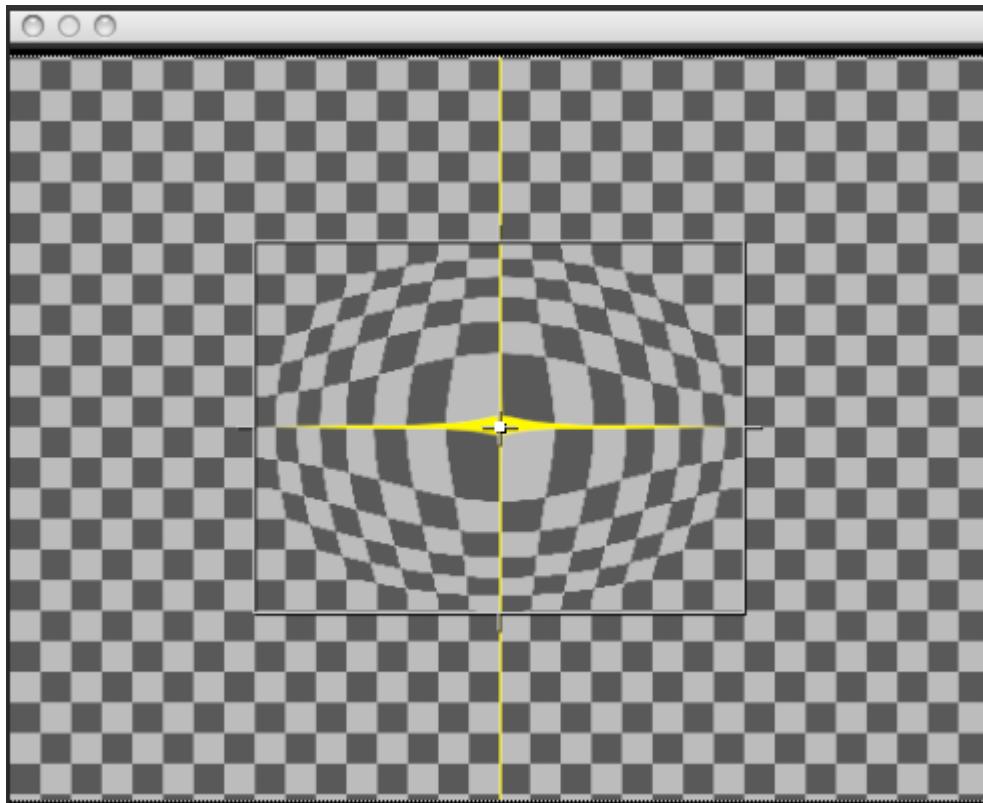
Glass FR

Author: Frank Rueter - <http://www.ohufx.com>



- <http://www.nukedpedia.com/gizmos/transform/glass>

This gizmo uses IDistort to create a simple glass light effect based on a control mask.



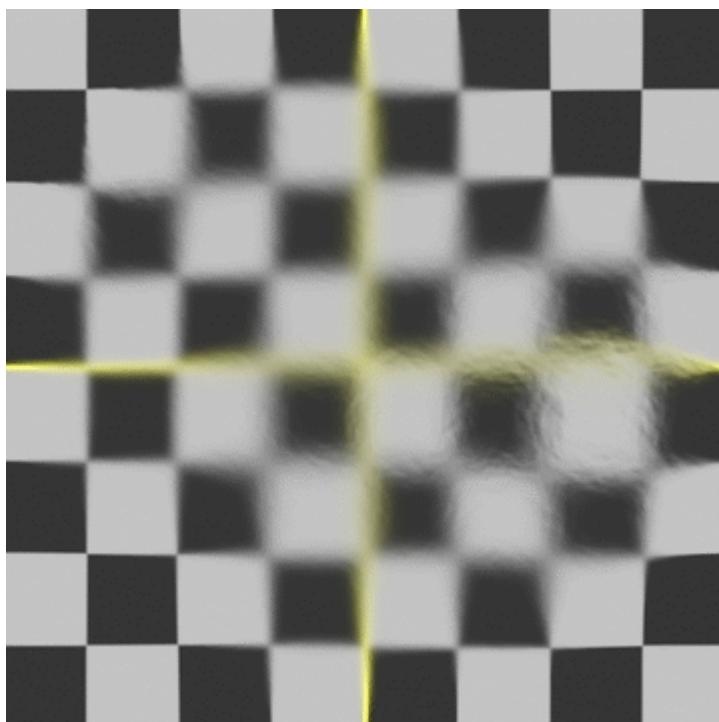
HeatWave DB

Author: Damian Binder



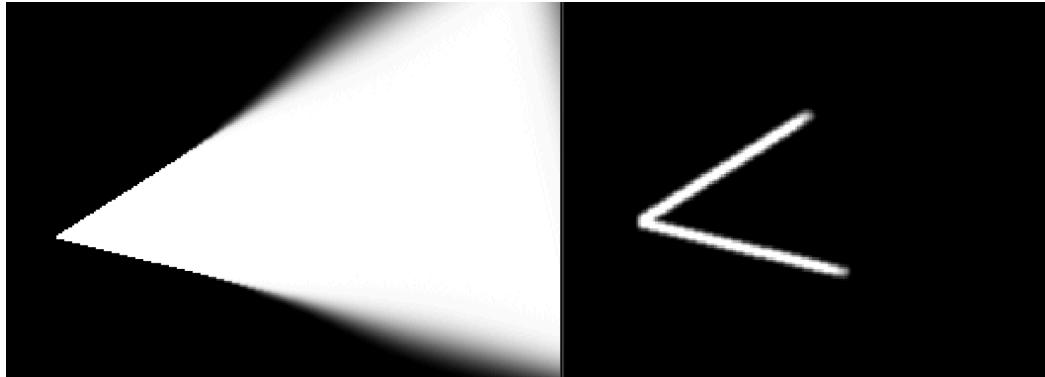
- <http://www.nukepedia.com/gizmos/filter/realheatdistortion>

HeatWave is a gizmo created by Damian Binder that simulates realistic heat distortion you often see around fire or other sources of heat.



X_Distort XM

Author: Xavier Martin - <http://www.xaviermartinvfx.com/articles/>



- http://www.nukepedia.com/gizmos/transform/x_distort
- http://www.xaviermartinvfx.com/x_distort/

This gizmo allows you to distort images with control and flexibility. It is more customizable and easier to use than Nuke's IDistort. You don't need to copy any channels and you have many other controls to play with. You can blur the parts of the image which are being distorted to get a smoother result.

You can distort an image using its own channels, using another image or using an automatic noise. You can choose the detail of the deformation.

You can distort each color per separate, creating a realistic chromatic aberration effect. You can decide the quality of the effect in order to speed up render times.

X_Tools XM

GPU-accelerated tools by Xavier Martin.

Author: Xavier Martin

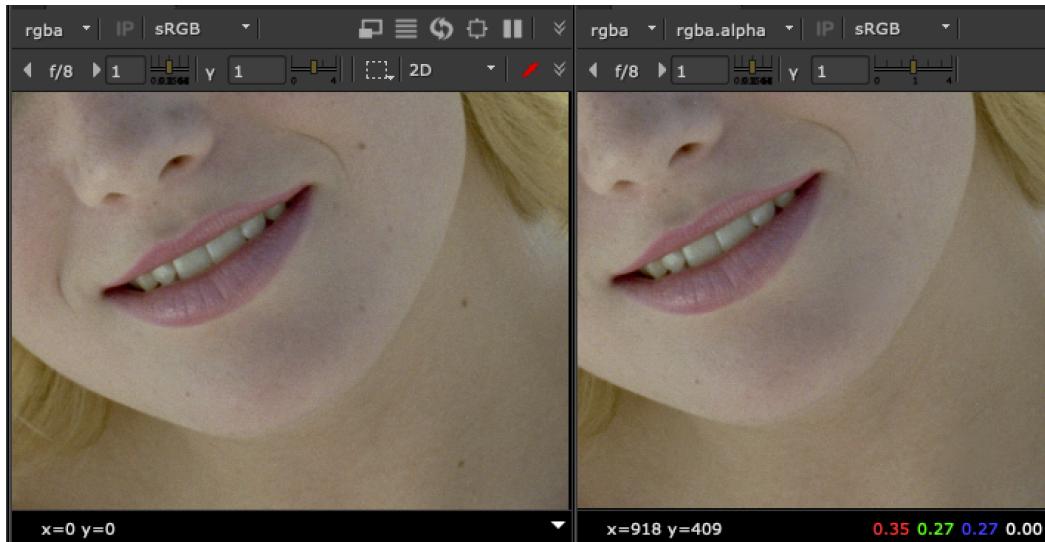
Website: <http://www.xaviermartinvfx.com/articles/>

Tools

Tool	Author	Description
X_Aton	Xavier Martin	Advanced volumetric lighting/god rays
X_Denoise	Xavier Martin	Noise reduction using frame averaging
X_Sharpen	Xavier Martin	GPU-accelerated sharpening filter
X_Soften	Xavier Martin	Fast bilateral-style softening filter
X_Distort	Xavier Martin	Flexible image distortion

X_Aton XM

Author: Xavier Martin - <http://www.xaviermartinvfx.com/articles/>

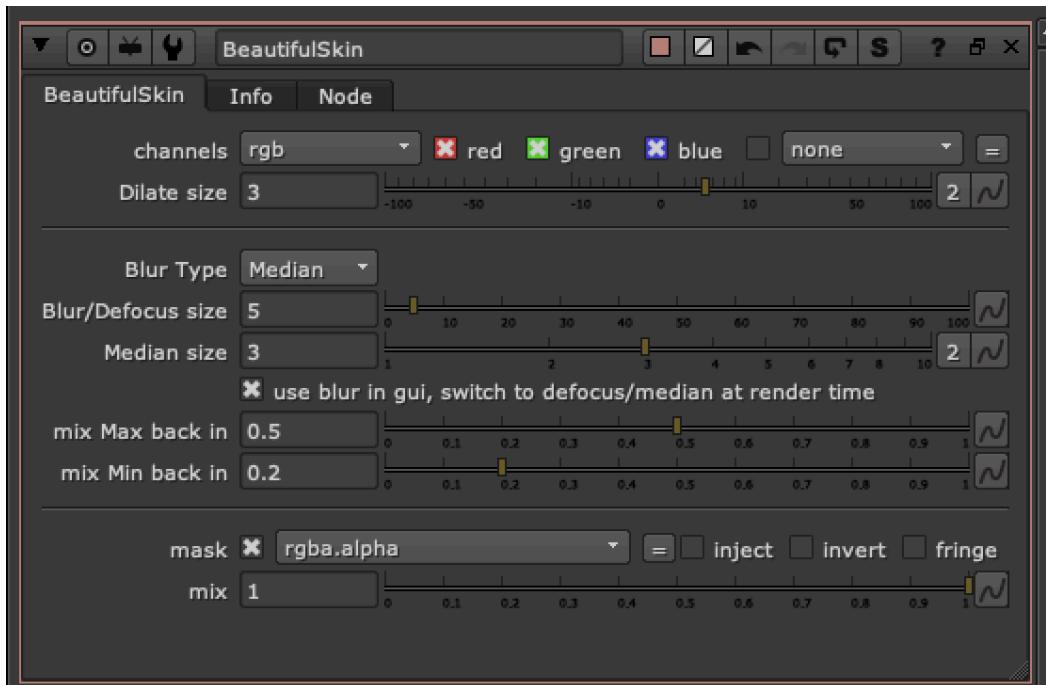


- http://www.nukepedia.com/blink/filter/x_aton
- http://www.xaviermartinvfx.com/x_aton/

This tool is an advanced variation on the God Rays node. It creates volumetric lighting effects with more realism. It supports soft and diffused light rays created by area lights and volumetric lights. It supports Nuke 3D Cameras, Point Lights and Axis to have a better control of the direction of the illumination.

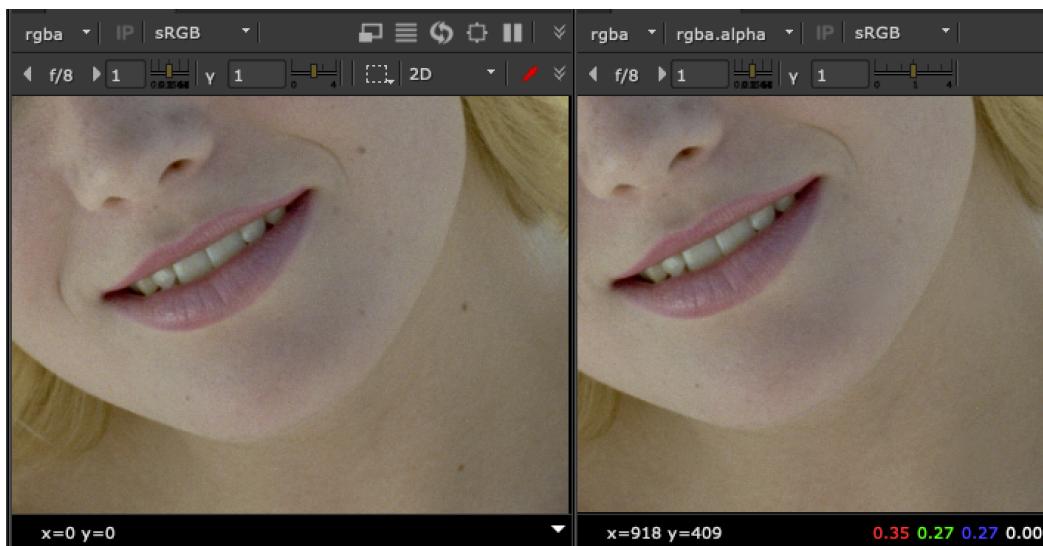
It supports Nuke 3D Cameras, Point Lights and Axis to have a better control of the direction of the illumination. The tool can also be used as a simple screen-space extruder, to create apparent 3D texts or extruded shapes. Now you can do WordArt from the 90s inside of Nuke!

All of this using the power of the GPU to speed up the calculations.



X_Denoise XM

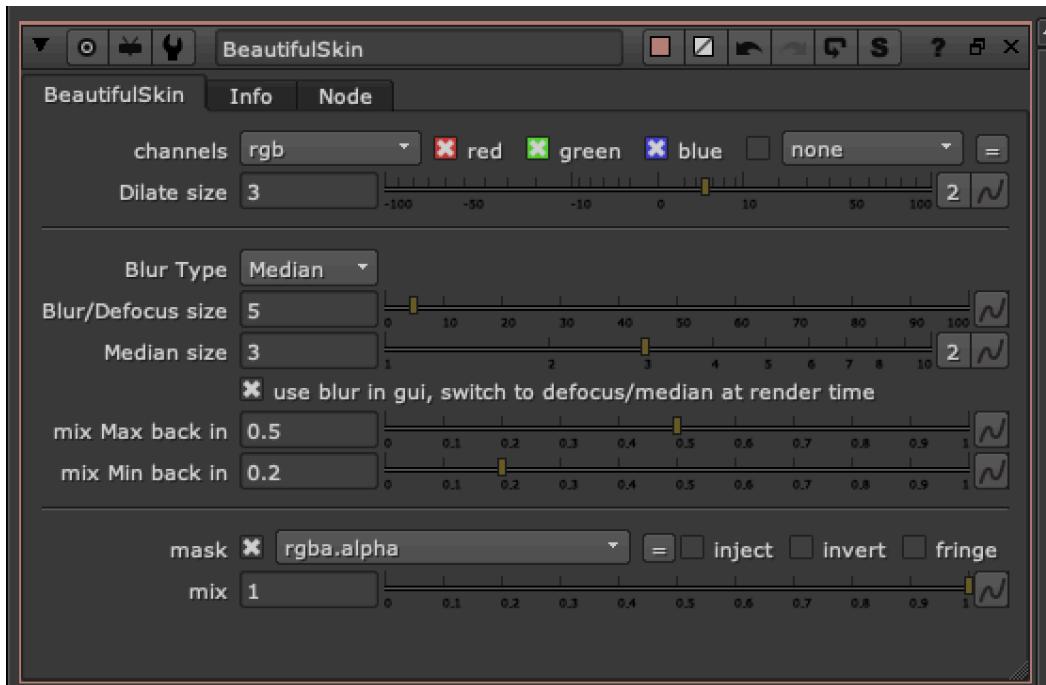
Author: Xavier Martin - <http://www.xaviermartinvfx.com/articles/>



- http://www.nukepedia.com/gizmos/filter/x_denoise
- http://www.xaviermartinvfx.com/x_denoise/

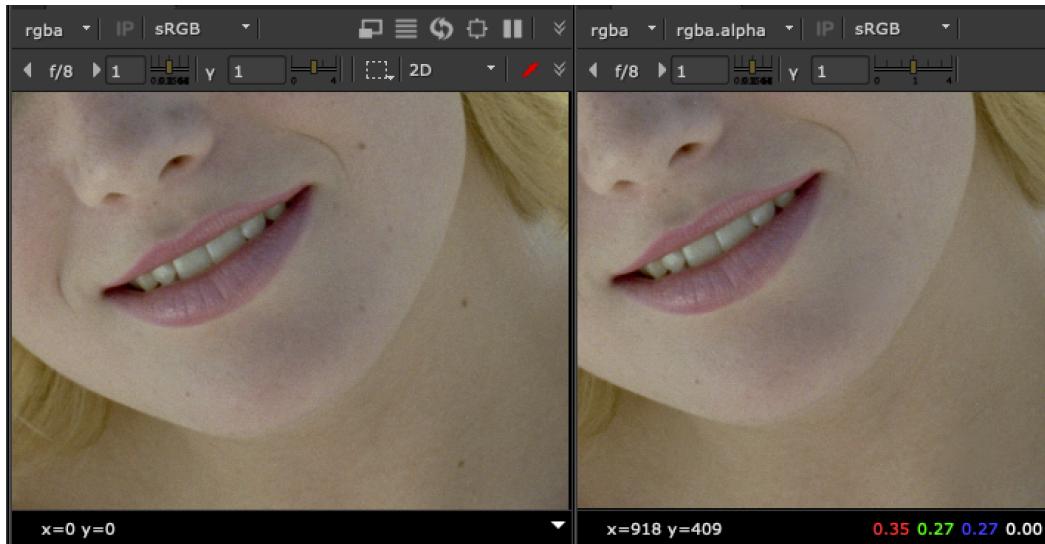
X_Denoise is a noise reduction gizmo that can be used to repair damaged or compressed footage. It does the same function of the Nuke Denoise, but using a different algorithm that can sometimes provide better results.

While most de-noisers try to work out which small pixels are susceptible to be noisy, the X_Denoise averages different frames in order to smooth the noise, making it invisible to the eye. The gizmo offers multiple settings to take control over how many frames are being used and how much detail is preserved.



X_Sharpen XM

Author: Xavier Martin - <http://www.xaviermartinvfx.com/articles/>



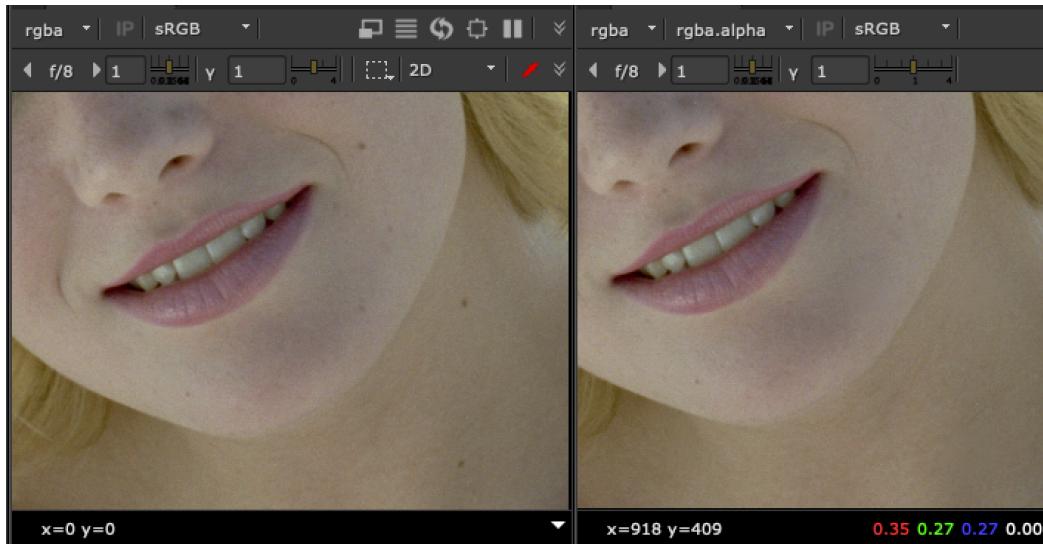
- http://www.nukepedia.com/blink/filter/x_sharpen-and-x_soften/

Advanced Sharpening filter.

This GPU accelerated filter preserves colours, avoids negative lobes and creates minimal ringing and banding on edges.

X_Soften XM

Author: Xavier Martin - <http://www.xaviermartinvfx.com/articles/>



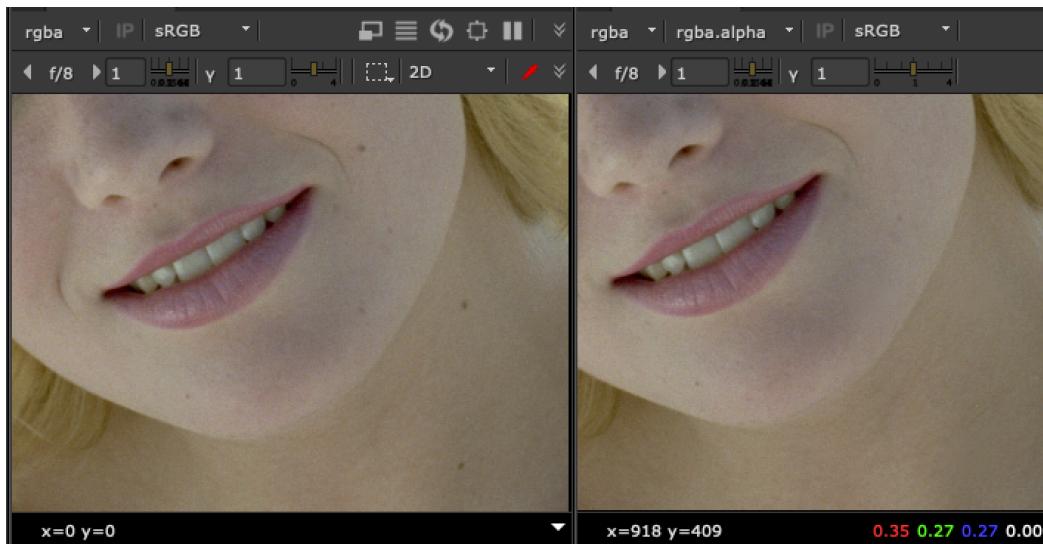
- http://www.nukepedia.com/blink/filter/x_sharpen-and-x_soften/

Advanced Softening filter.

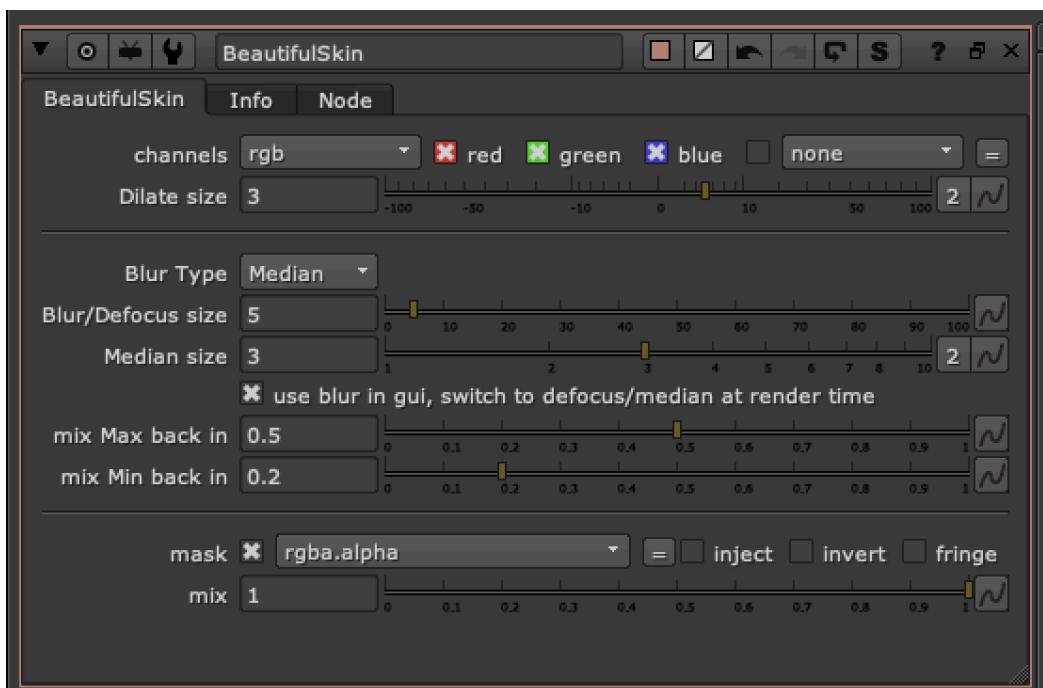
The softening filter is similar to a bilateral filter but much much faster.

BeautifulSkin TL

Author: Tony Lyons - <https://compositingmentor.com>

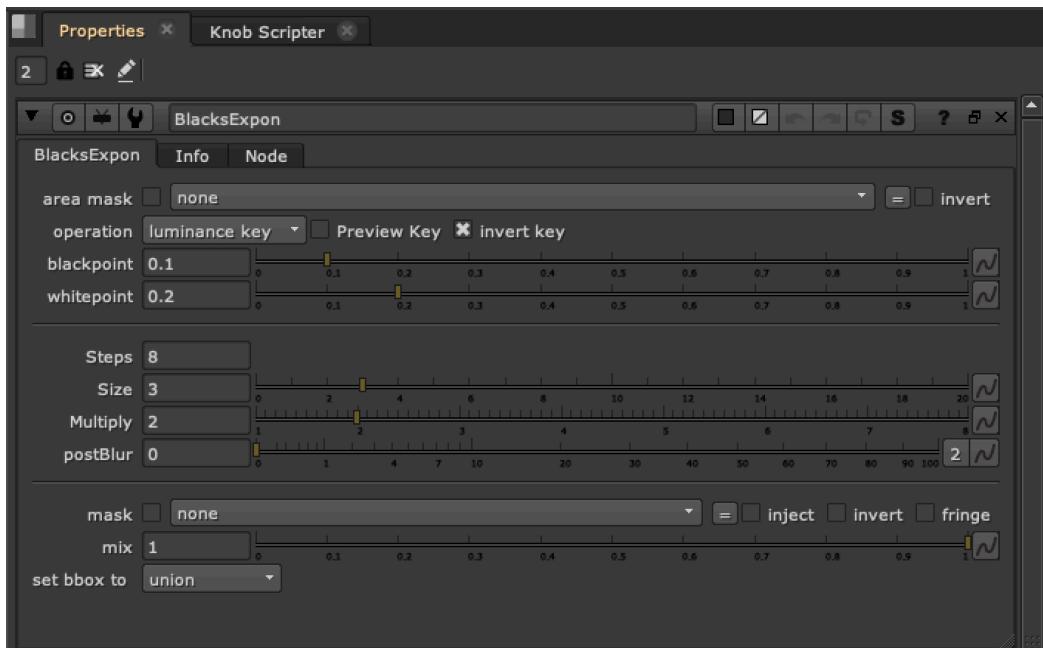


Simple tool that uses erode dilate, blur, defocus, median with a mask to paint out moles, artifacts, markings, etc while maintaining a soft smooth appearance. Ability to bring back min/max values with separate sliders. Best when used with mask.

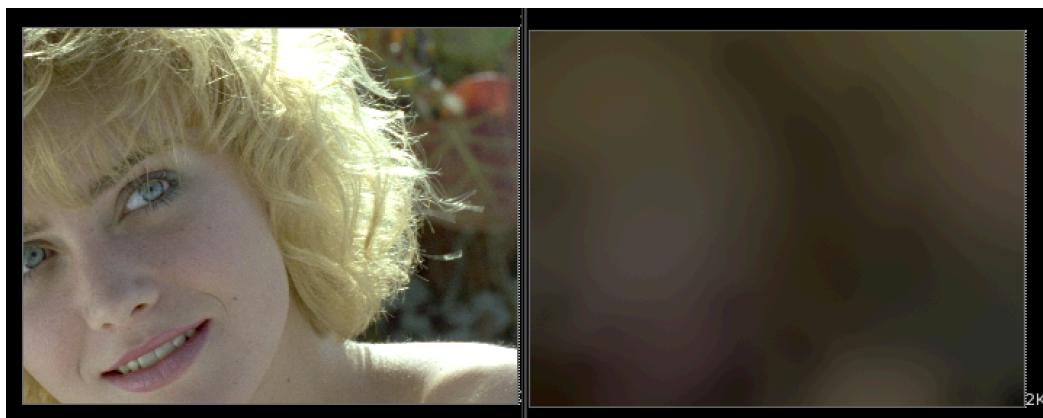


BlacksExpon TL

Author: Tony Lyons - <https://compositingmentor.com>

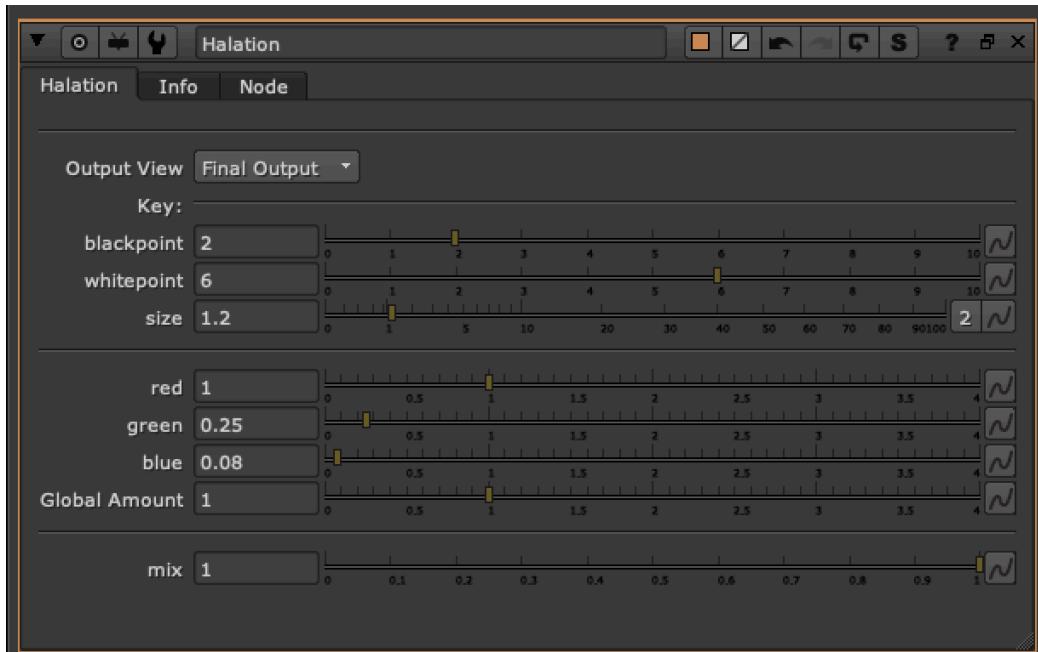


This tool Exponentially blurs the lows of the plate with a merge(Min) operation. Basically trying to find the low colors and spread them out using blur/unpremult technique. This can be quite handy if used with the blacksMatch tool color input. If you have a plate with dynamic lighting, it can be a handy way to get an animated black color for free to match your CG renders too. Can also help with prep tasks if you need to paint out highlights and replacing with a "base" color.



Halation TL

Author: Tony Lyons - <https://compositingmentor.com>

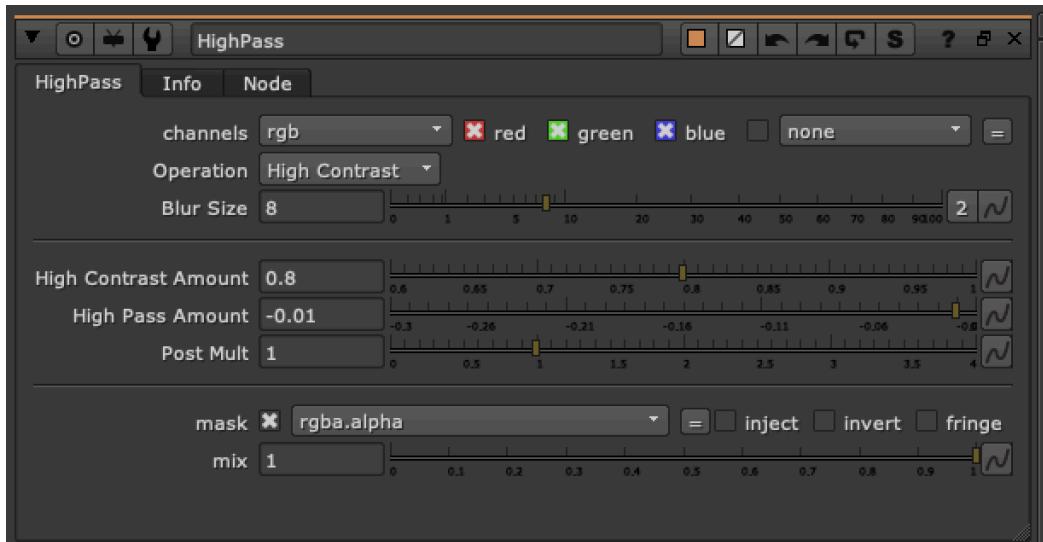


Simple tool to introduce a little halation effect. Adjusts amount of r,g,b channels individually with an overall blur. Blackpoint and whitepoint sliders are the low and high of a luminance key threshold for where the effect starts. You can output final, effect only, and luma key.



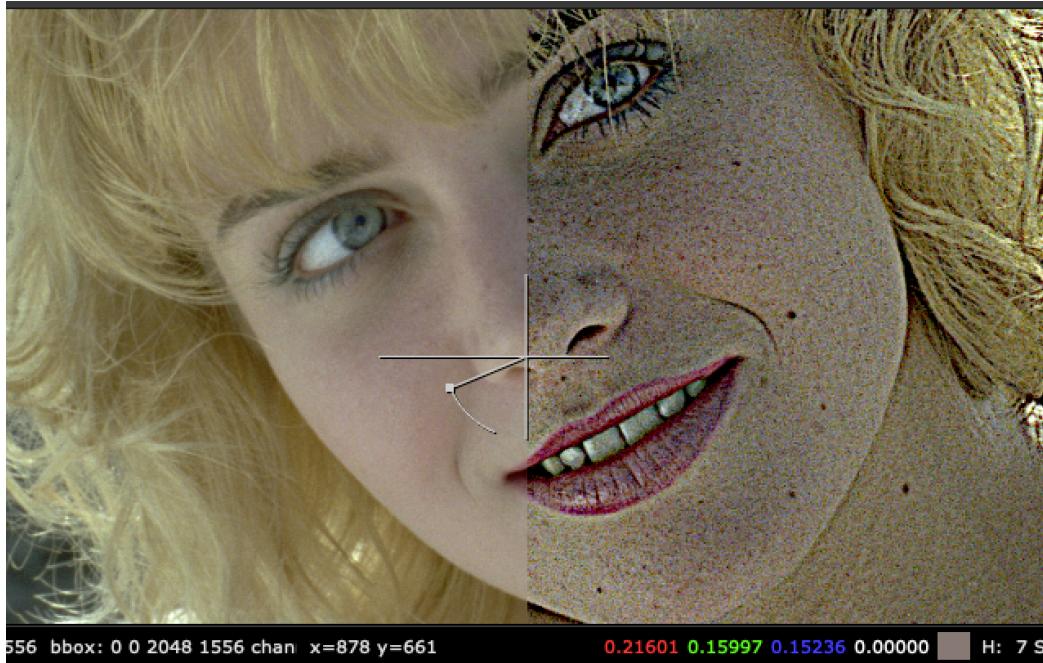
Highpass TL

Author: Tony Lyons - <https://compositingmentor.com>



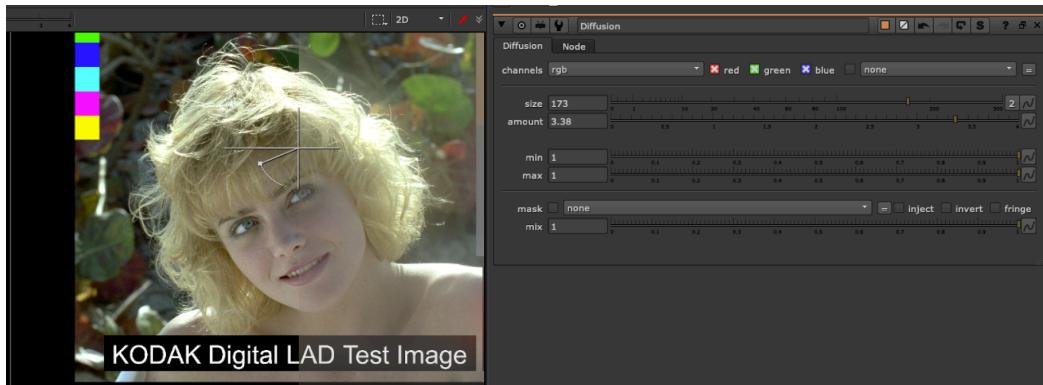
Gives you the difference between a blurred input and the original input. Making small details quite noticeable.

The 2 main uses are: 1. To aid 2d tracking 2. To apply a different type of sharpen filter to an image



Diffusion TL

Author: Tony Lyons - <https://compositingmentor.com>



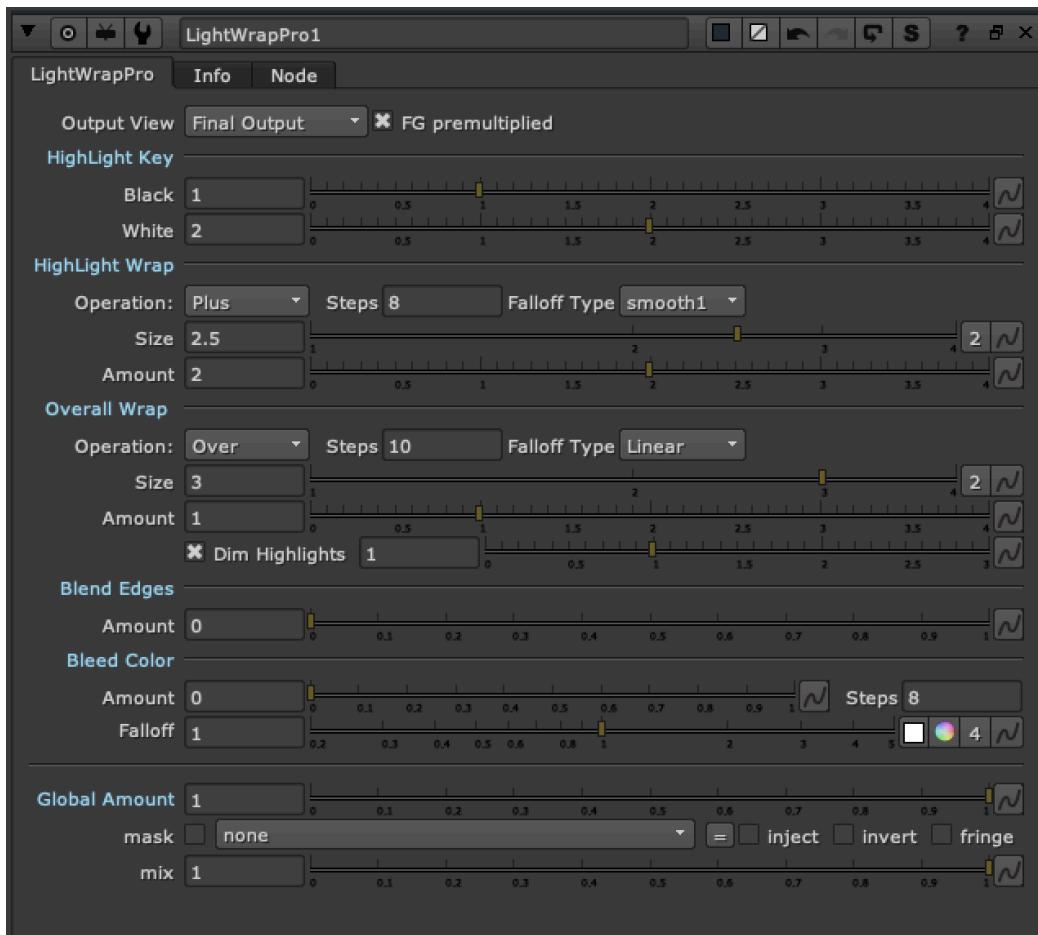
Simple tool that mixes in the result of the blurred image with controls for bringing back min and max values. Simulating a lens FX.

LightWrapPro TL

Author: Tony Lyons - <https://compositingmentor.com>

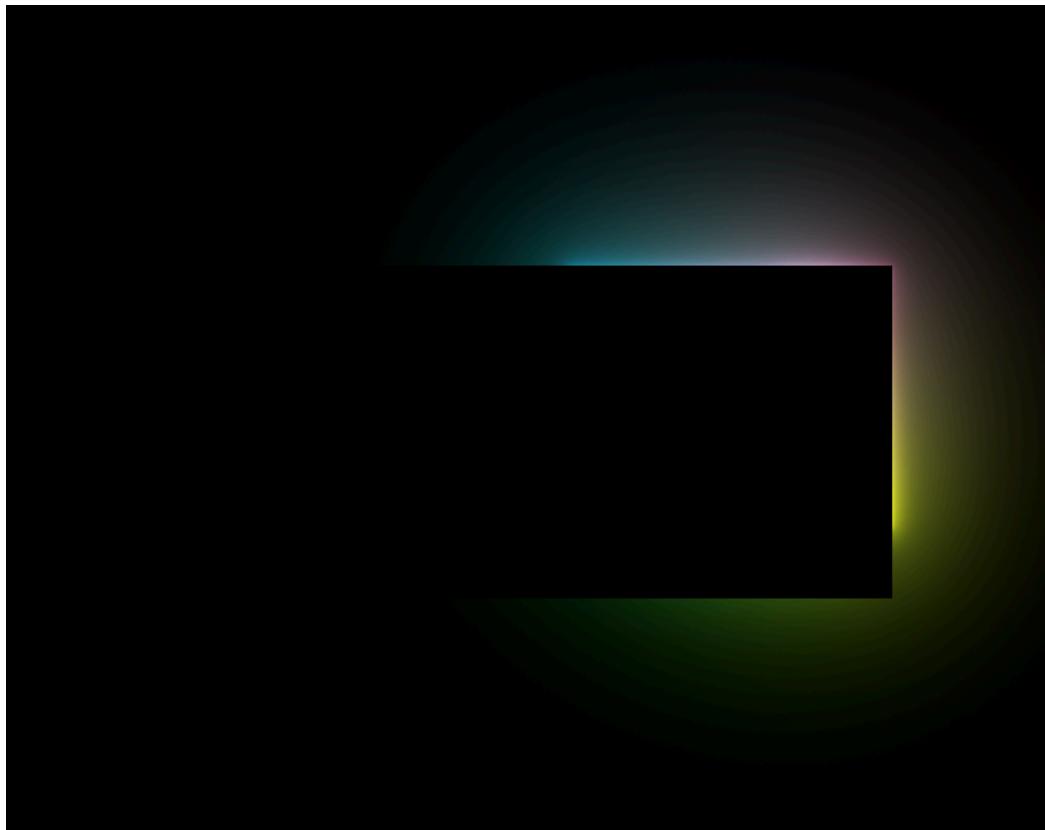


This lightwrap tool evolved from luma pictures Fuse node, but as a stand alone lightwrap. The features that set this tool apart: Exponential blurring with adjustable steps, a Highlight Wrap and Overall Wrap, blend edges and bleed color options (idea from luma's fuse). Multiple output views to help you work step by step with the workflow of the tool.



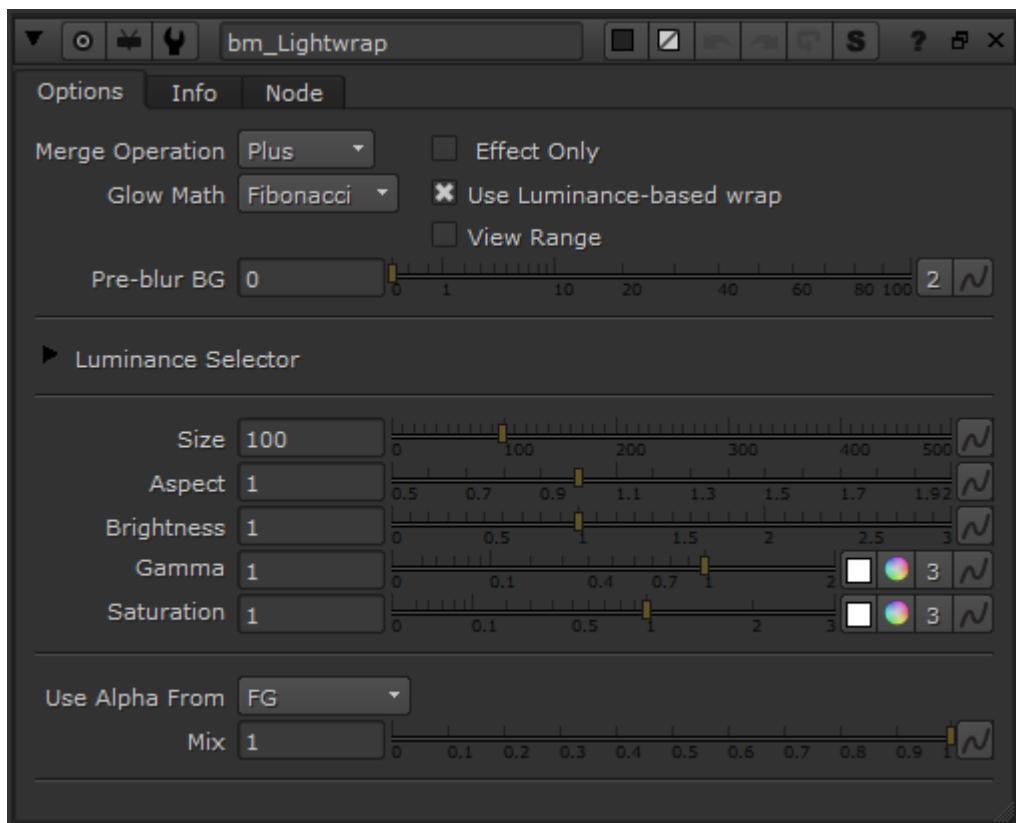
bm_Lightwrap BM

Author: Ben McEwan - <https://benmcewan.com/blog/>



- http://www.nukepedia.com/gizmos/filter/bm_lightwrap
- https://github.com/BenMcEwan/nuke_public
- <https://benmcewan.com/nukeTools.html>

Like `bm_OpticalGlow`, this adds exponentially-increasing blurs together to produce a more optically-correct, natural lightwrap.

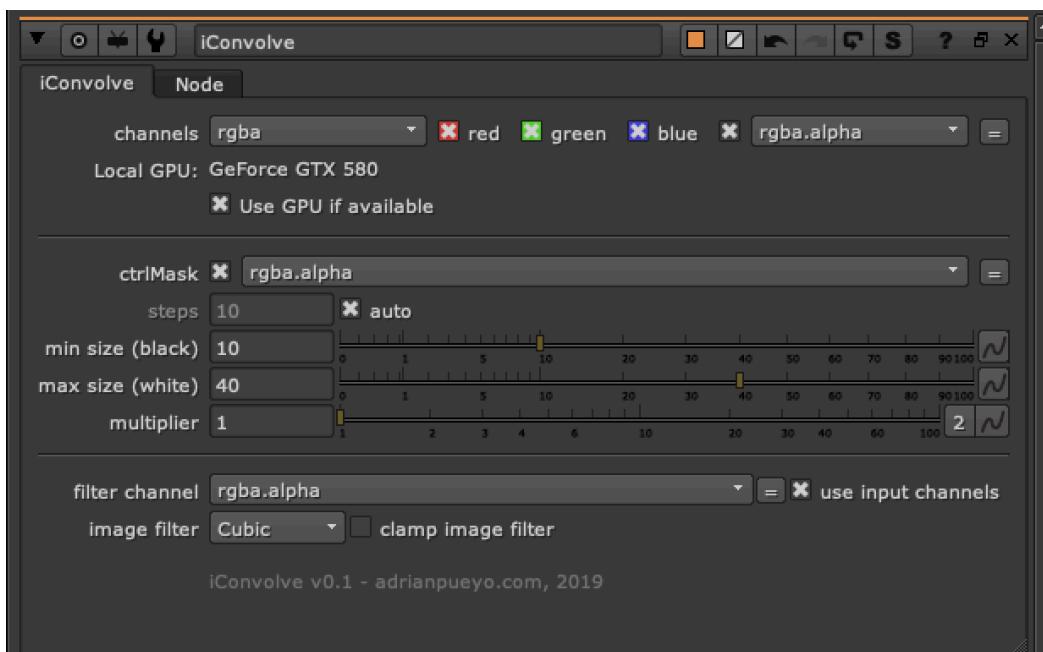


iConvolve AP

Author: Adrian Pueyo - <http://www.adrianpueyo.com/>



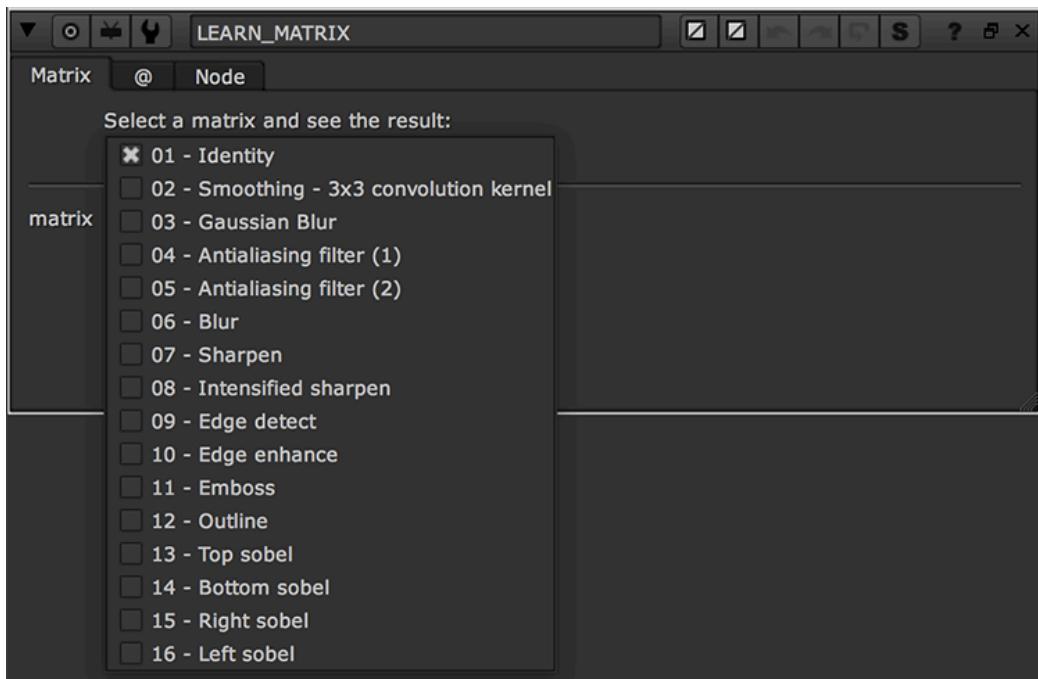
Similar to the iBlur, but with a convolve (defocus)! Uses a control mask and a custom filter/kernel to create a convolve effect with a falloff. Ramps off from 0-1, 0 will have the min size convolve, 1 will have the max size convolve.





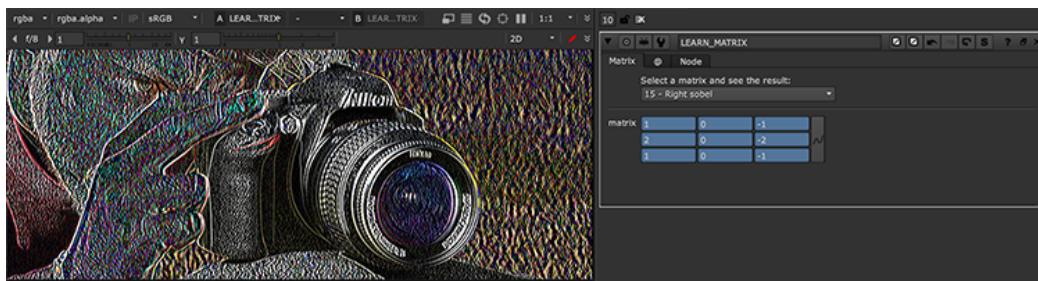
ConvolutionMatrix AG

Author: Andrea Geremia - <http://www.andreageremia.it/tutorial.html>



- http://www.nukepedia.com/gizmos/filter/learn_matrix
- http://www.andreageremia.it/tutorial_matrix.html

Apply a preset Matrix Filter 3x3 to your image.



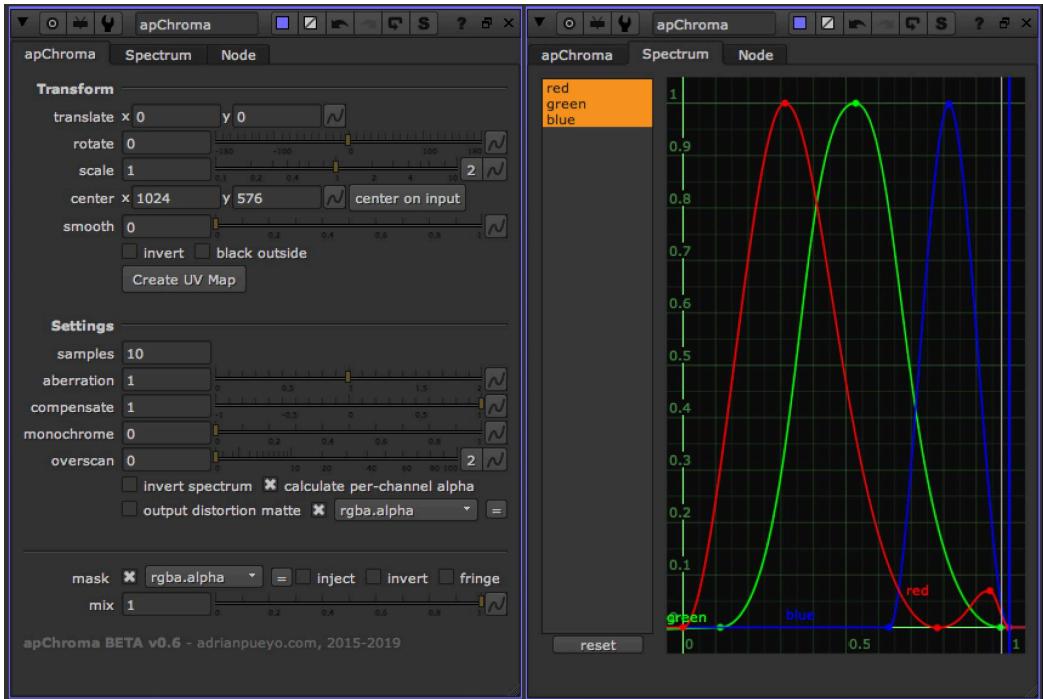
apChroma AP

Author: Adrian Pueyo - <http://www.adrianpueyo.com/>

- <http://www.nukepedia.com/gizmos/filter/apchroma>

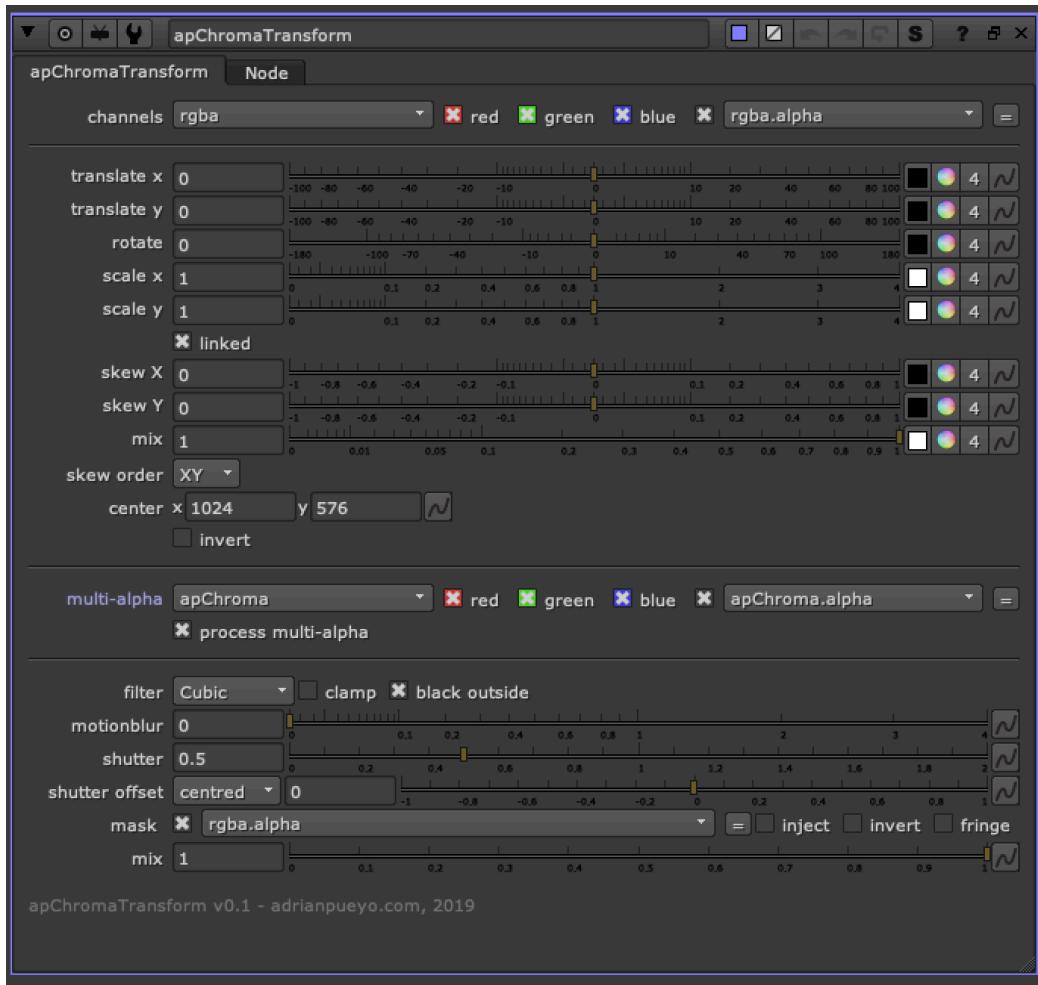
apChroma is an advanced chromatic aberration and drift gizmo, that works through a sub-frame blend of different values on an STMap and Transform, while creating a user-defined color spectrum. apChroma can calculate a multi-channel alpha for correct merging of the result onto a plate, and the included apChromaMerge node will perform the multi-alpha merge operation.





apChromaTransform AP

Author: Adrian Pueyo - <http://www.adrianpueyo.com/>



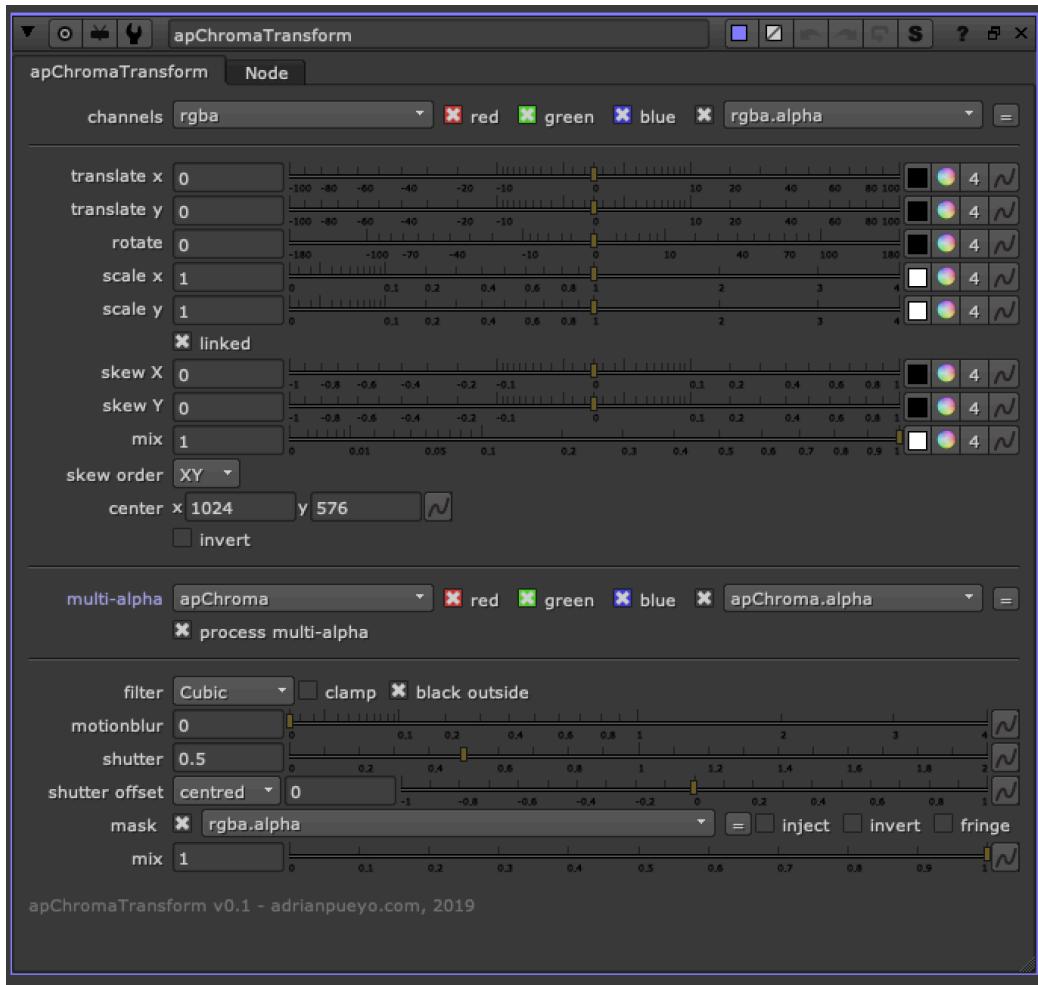
This tool allows you to transform red, green, and blue channels separately, and for all Layers (channels) in the stream.

Each transform knob can be broken up to r,g,b,a channels and individually manipulated.

To be used with the apChroma multi-channel alpha workflow so that apChromaMerge can be used.

apChromaBlur AP

Author: Adrian Pueyo - <http://www.adrianpueyo.com/>



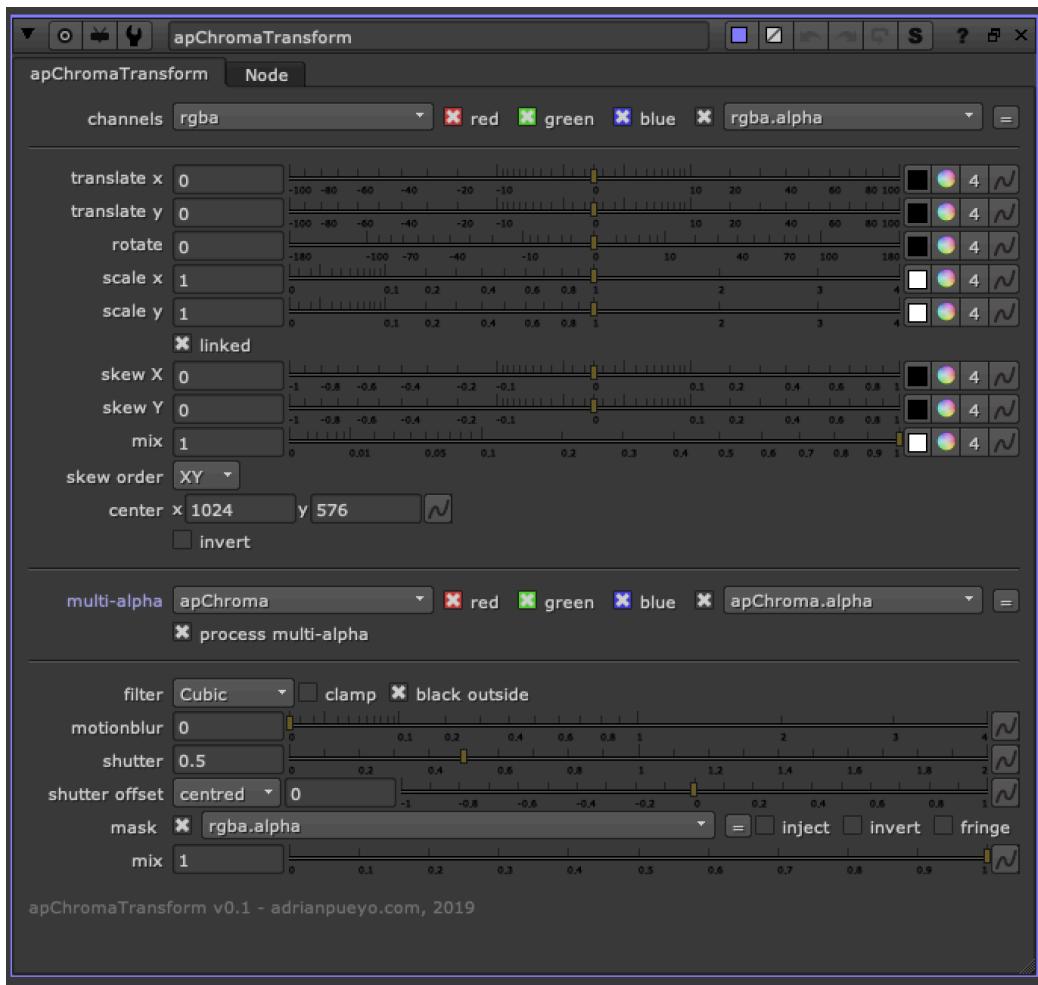
This tool allows you to blur or defocus red, green, and blue channels separately, and for all Layers (channels) in the stream.

Each knob can be broken up to r, g, b channels and individually manipulated.

To be used with the apChroma multi-channel alpha workflow so that apChromaMerge can be used.

apChromaUnpremult AP

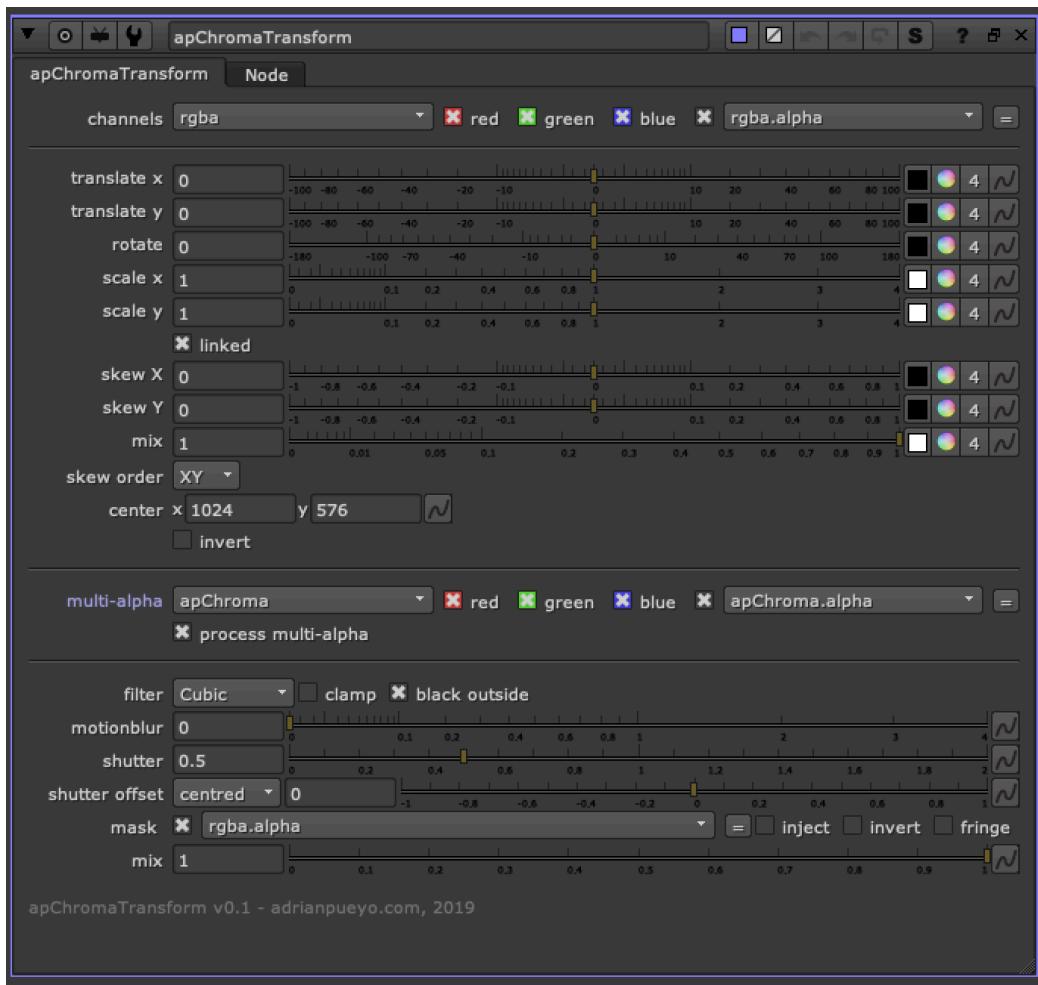
Author: Adrian Pueyo - <http://www.adrianpueyo.com/>



There are some rare cases where you will need to unpremult and premult all layers(channels) by the apChroma multi-alpha layer. Whether it's for color corrections, lightwrap, or something else, this node gives you the option to successfully unpremult and premult during the apChroma workflow.

apChromaPremult AP

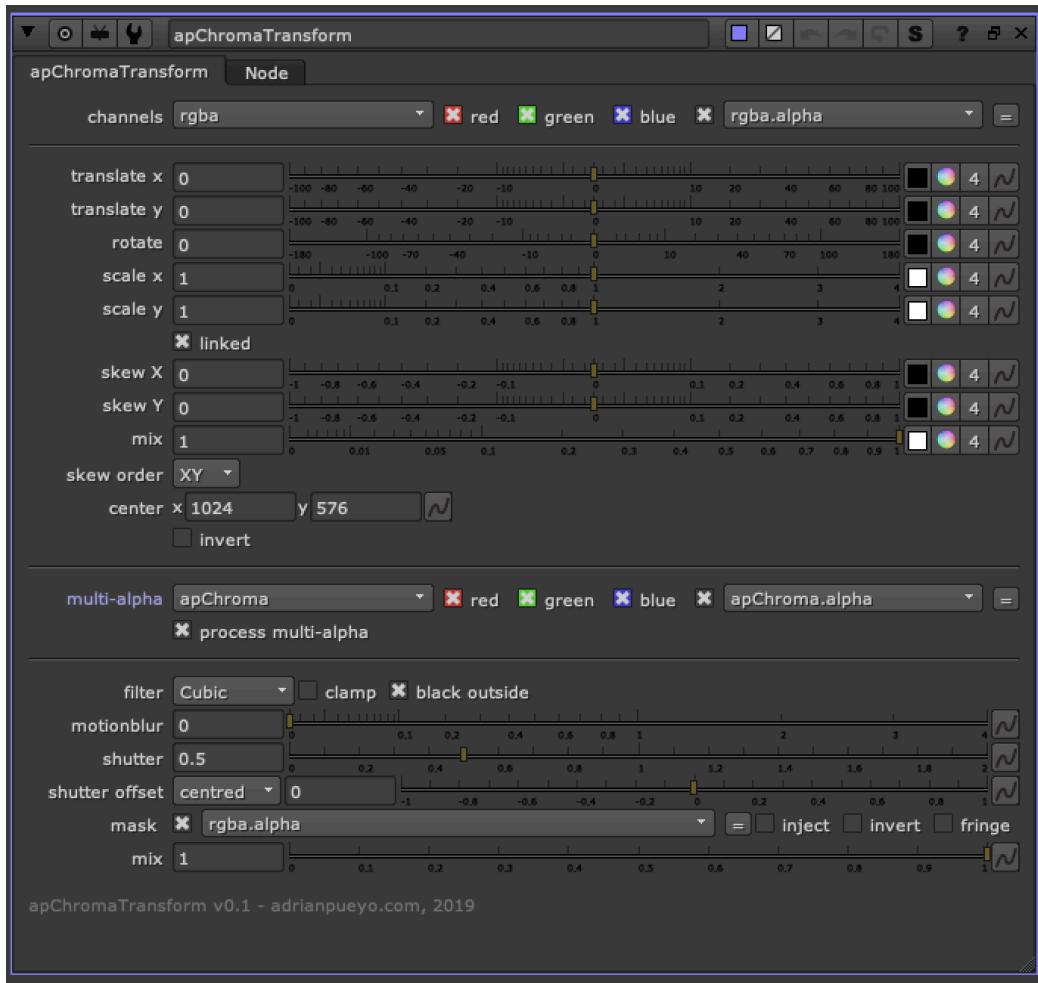
Author: Adrian Pueyo - <http://www.adrianpueyo.com/>



There are some rare cases where you will need to unpremult and premult all layers(channels) by the apChroma multi-alpha layer. Whether it's for color corrections, lightwrap, or something else, this node gives you the option to successfully unpremult and premult during the apChroma workflow.

apChromaMerge AP

Author: Adrian Pueyo - <http://www.adrianpueyo.com/>



apChromaMerge is the final step in the apChroma Workflow. When using the apChroma toolset, a new layer, apChroma will be in the channels stream. This layer(channel) is storing each 'alpha' to be used per channel.

Since there is separation between the channels, whether they are transformed or blurred differently, they also need individual alphas to properly merge them over the background image.

You will find the normal options of a merge, with the option to: - Keep the multi-alpha apChroma layer and pass it onto the this merge stream Since there are 3 alphas being used to merge each channel (red, green, blue) it's difficult to know which alpha to use for the final alpha to be passed onto this stream, representing the A inputs final alpha. By default, process single alpha from Rec 709 is checked on, meaning all 3 channels will be desaturated with the Rec 709 algorithm to

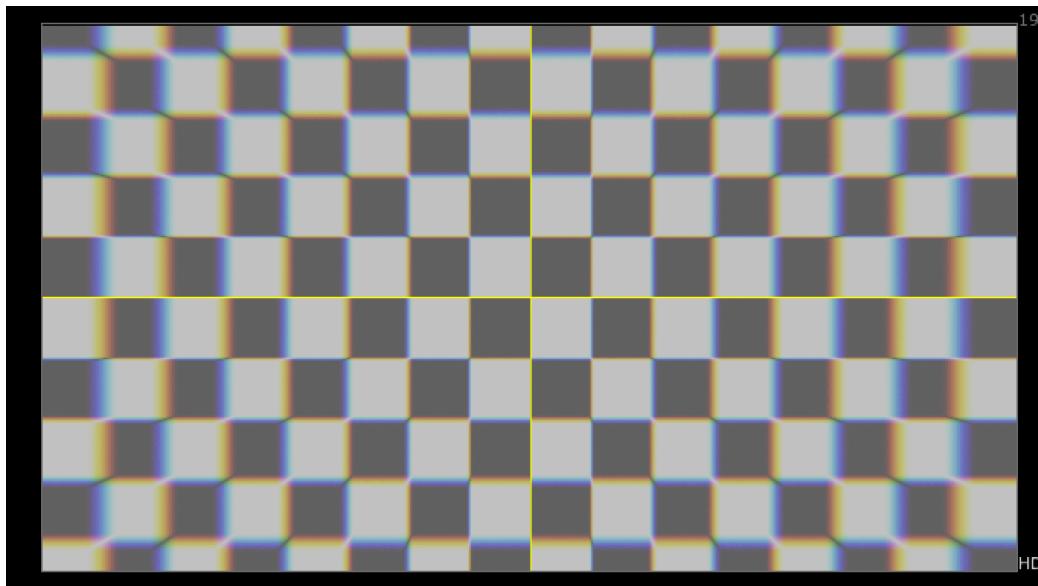
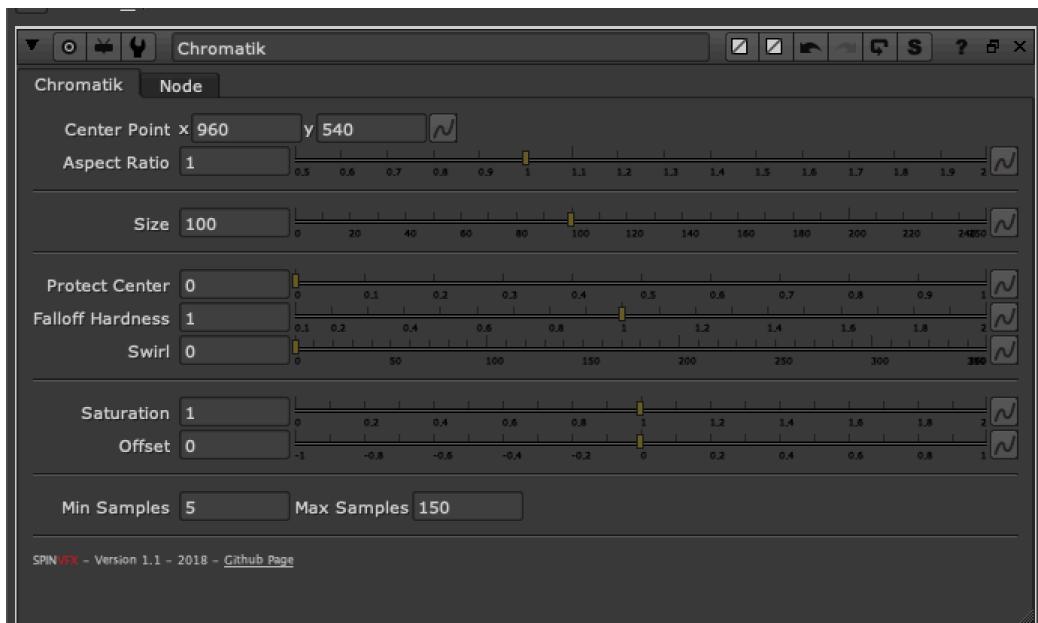
produce a new greyscale alpha off the (luminance) and this will represent the new alpha channel to be passed onto the B stream after the merge.

Chromatik SPIN

Author: SPIN FX

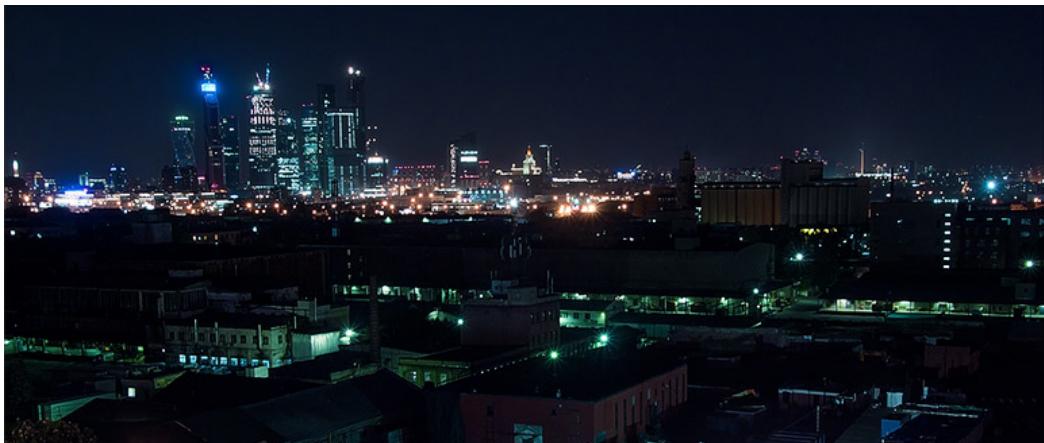
-
- http://www.nukepedia.com/gizmos/other/spin_nuke_gizmos-1
 - https://github.com/SpinVFX/spin_nuke_gizmos

Chromatic aberration node using a spectral wavelength gradient.



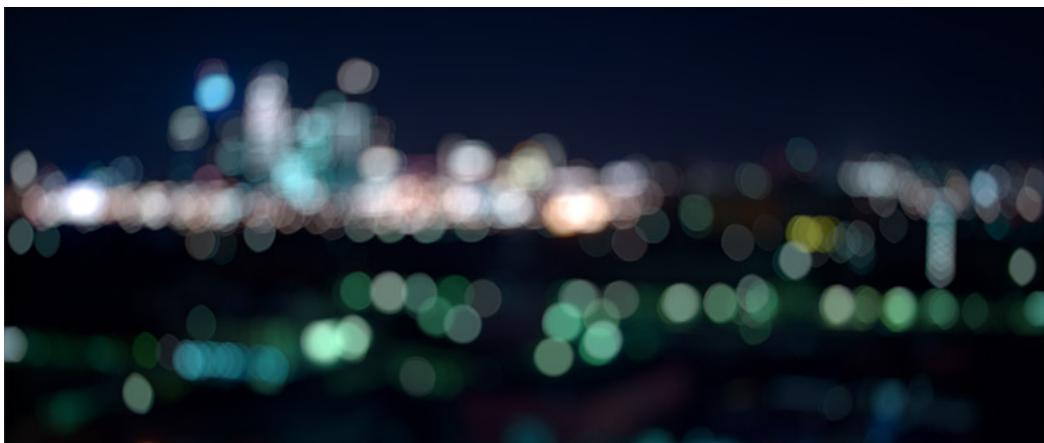
CatsEyeDefocus NKPD

Author: Alexander Kulikov



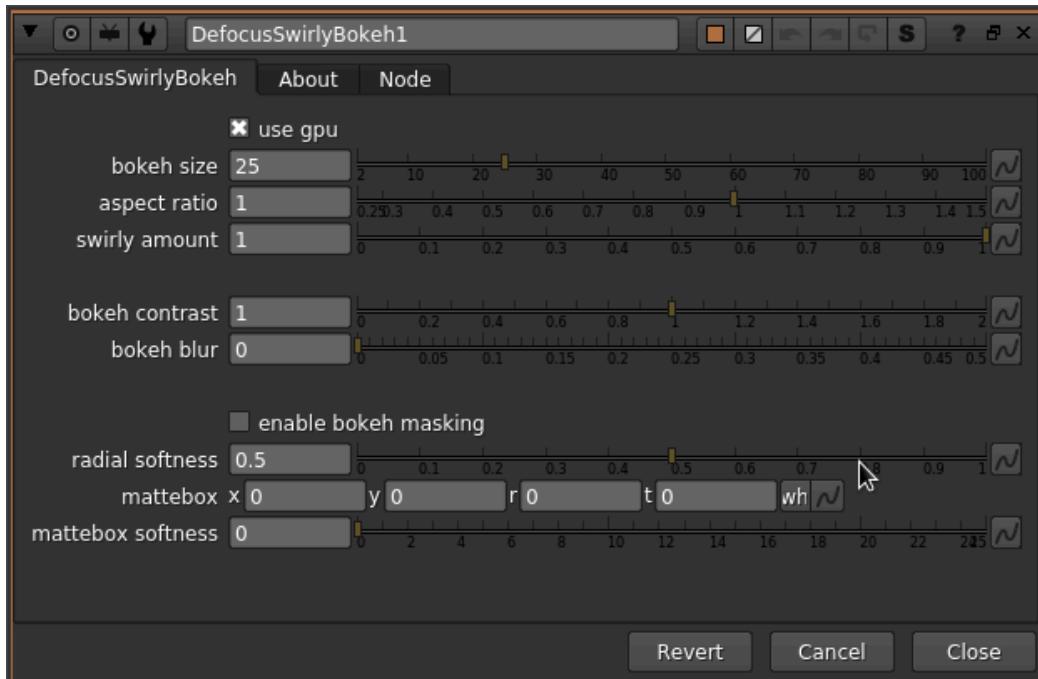
CatsEyeDefocus is a convolution filter which simulates swirly bokeh.

This lens abnormality is also called cat's eye effect and it is noticeable when an aperture goes wide. The shape of the bokeh progressively narrows from the image center towards the edges and starts to resemble a cat's eye.



DefocusSwirlyBokeh NKPD

Author: Jed Smith



- <https://gist.github.com/jedypod/5d35858d488df478aaf2f2e8f3f7875a>

Creates Swirly Bokeh or Cat's Eye Bokeh shapes on the edges of frame. Does not perform depth-varying defocus. Needs a good GPU to run fast.

Based on Alexander Koolikov's CatsEyeDefocus.

deHaze NKPD

Author: Lucas Pfaff



deHaze is build after the great dehazing-tutorial made by Mads Hagbarth Damsbo. Mads concludes the tutorial with 'So you can just package this up and make a cool tool and put it Nukepedia', so I gave it a try :) I added some functionality to shuffle the affected areas into the alpha channel, as well as colour correct the footage based on this matte. Results vary highly with the given shot, it always needs a bit of fiddling around. I highly recommend watching the tutorial to understand the underlying principle.

Note: Needs Nuke 12 for the C_Bilateral node.



RankFilter JP

Author: Josh Parks - <https://www.compositingpro.com/>

- <https://www.compositingpro.com/nuke-blinkscript-rank-filter/>

Faster Blink Median with additional control.

The node takes the pixel values in an area and sorts them from smallest to biggest, then allows you to select which value or rank you would like to take.

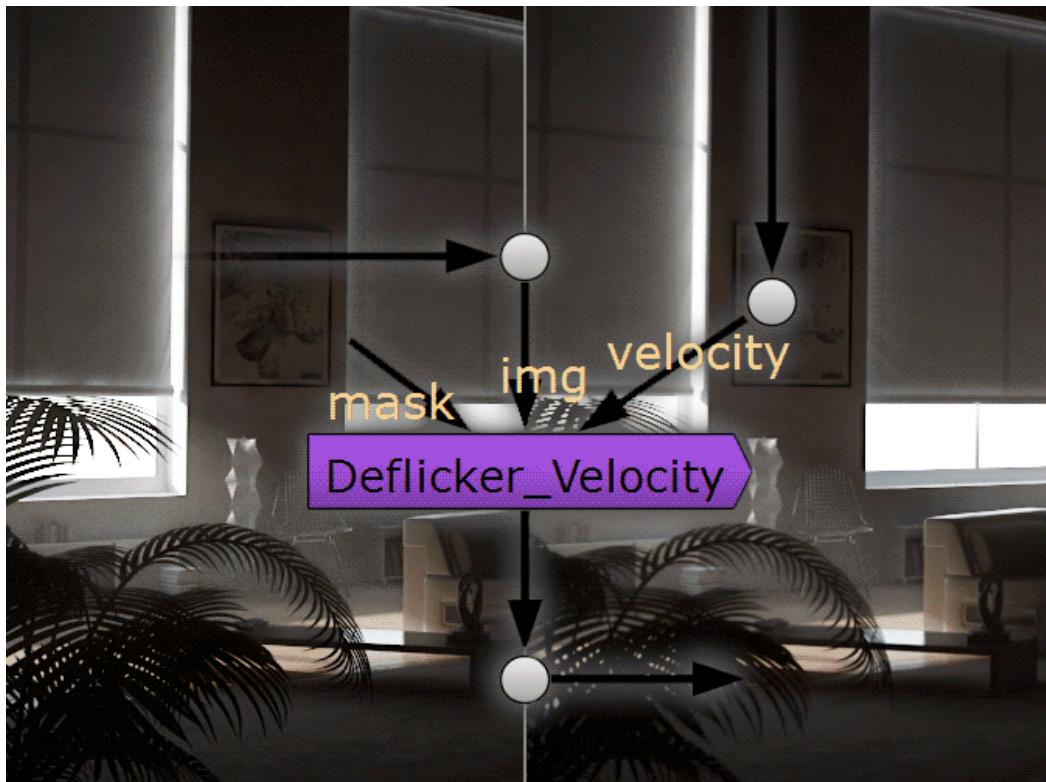
Set to 0.5 you'll get a median (the middle value), however, this allows you to select the lower values or higher.

DeflickerVelocity NKPD

Author: Julien Vanhoenacker



Part of the CG artist's job is to balance rendering time and quality. Low rendering quality often resulting in aliasing, or flickering, specially on raytrace renderers. To find the right balance means to test render with different settings in order to find the one that render the fastest while still being acceptable in terms of aliasing and flickering. But this is time consuming and the render time necessary to achieve this result might also be quite high. It is therefore interesting to find tricks to improve quality with equal or even lower render times. It is possible to use built-in denoisers, however this becomes useless if the flickering happens on the edges of the objects, or if it is on wide GI artefacts (as in lightcache or irradiance GI), and tends to make the image blurry. The technique we present here is deflickering based on previous and next frames.



FillSampler NKPD

Author: Mads Hagbarth Damsbo - <https://hagbarth.net/blog/>



- <https://hagbarth.net/pixel-filling-methods/>
- http://www.hagbarth.net/nuke/FFfiller_v01.nk

Great tool from Mads Hagbarth that fills or extends edges or holes in the plate.



MECfiller NKPD

Author: Matthias Eckhardt



- <http://www.nukepedia.com/gizmos/draw/mecfiller>

Multi-directional hole filling tool with various modes and controls.





Keyer Tools

Keying, despill, and matte refinement tools for green/blue screen compositing.

Tools in This Category

Tool	Author	Description
apDespill	Adrian Pueyo	Advanced despill with custom hue and tone protection
SpillCorrect	SPIN FX	Despill or mute colors from screens with color replacement
DespillToColor	Johannes Masanz	Fix edge colors by despilling to a target color
AdditiveKeyerPro	Tony Lyons	Additive keying for subtle edge details
apeScreenClean	Adrian Pueyo	Clean up irregular green/blue screens
apScreenGrow	Adrian Pueyo	Erode screen color to fill subject insides
KeyChew	Rafal Kaniewski	Dilate and erode mattes subtly
LumaKeyer	Derek Rein	Slider-controlled luminance keyer

apDespill AP

Author: Adrian Pueyo - <http://www.adrianpueyo.com/>

- <http://www.nukepedia.com/blink/colour/apdespill>

Nuke gizmo made to despill an image, with options to despill any hue (and not only the primaries), select different algorithms for de/re-spilling, and protect tones from the despill. All coded in Blinkscript.

Features:

- Choose a custom color
- Despill math
- Output a despillMatte
- Swap colorspaces before/after
- Despill in log Space
- Adjust hue before/after
- Adjust tolerance
- Protect tones for extra level of precision
- Adjust respill color
- Mask/mix v2.0 supports image based despilling, and can toggle the colorspace options on/off for testing



apDespill GPU Settings Node

Local GPU: Not available Use GPU if Available Vectorize on CPU

color: green
output: despill output spill matte in alpha
despill math: minimum Log Space
colorspace: Linear d58 Ekta Space PSS

hue offset: 0
tolerance: 1 protect tones preview

respill math: Rec 709
respill color: -2

mask: *rgba.alpha inject invert fringe
mix: 1

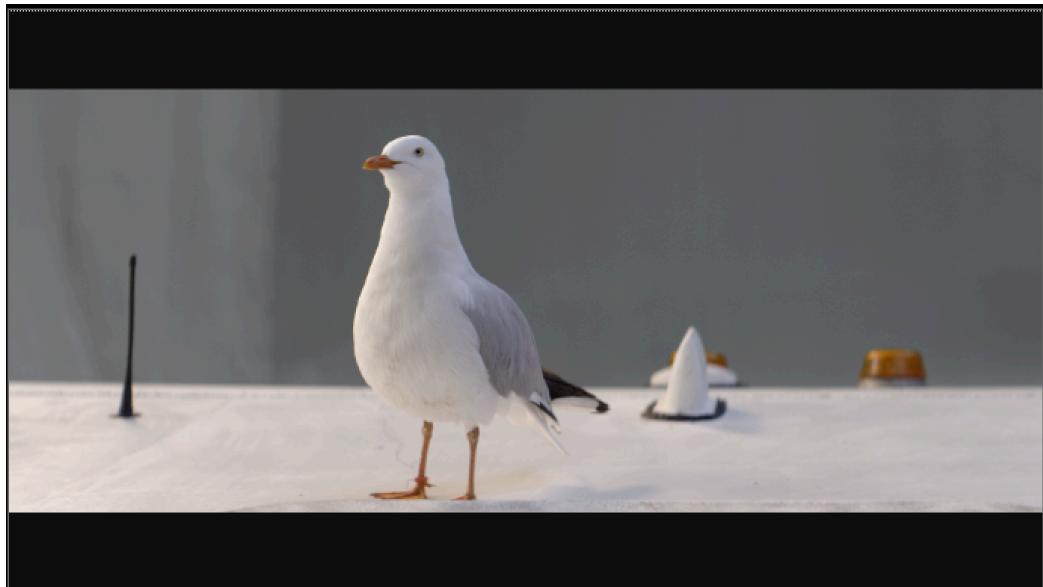
apDespill v1.0 - adrianpueyo.com, 2014-2017

SpillCorrect SPIN

Author: SPIN FX

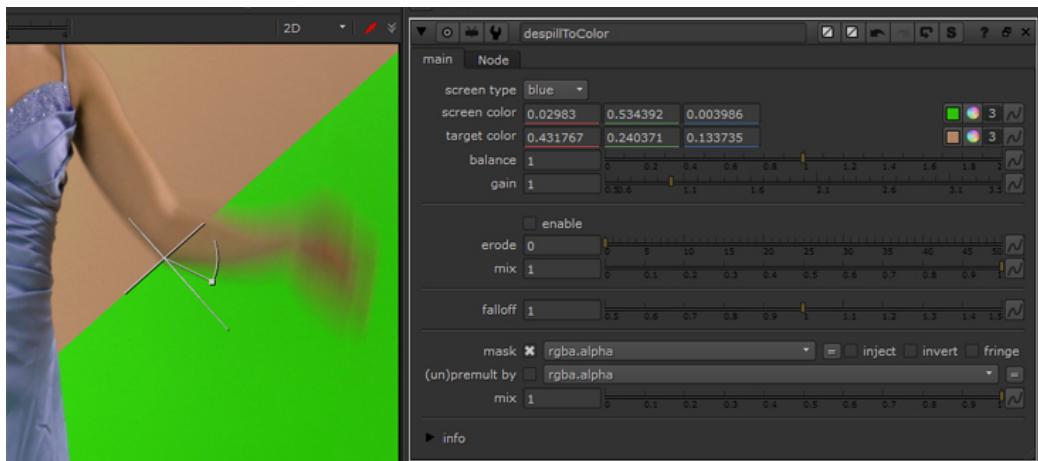
- https://github.com/SpinVFX/spin_nuke_gizmos/blob/master/gizmos/spin_tools/Keying/Spill_Correct2.gizmo

Use this tool to "despill" or mute colors introduced from Red/Green/Blue screens.
Can replace the spill with a chosen color.



DespillToColor NKPD

Author: Johannes Masanz - <http://www.johannesmasanz.com>



- <http://www.nukepedia.com/toolsets/colour/despill-to-color>
- <http://www.vimeo.com/despillToColor>

If you are trying to fix an object's edge, by bringing back its original color, then this tool is perfect for you! DespillToColor is designed to work best with a specific user defined screen color and therefore a good local solution for certain areas of your plate.

Usage:

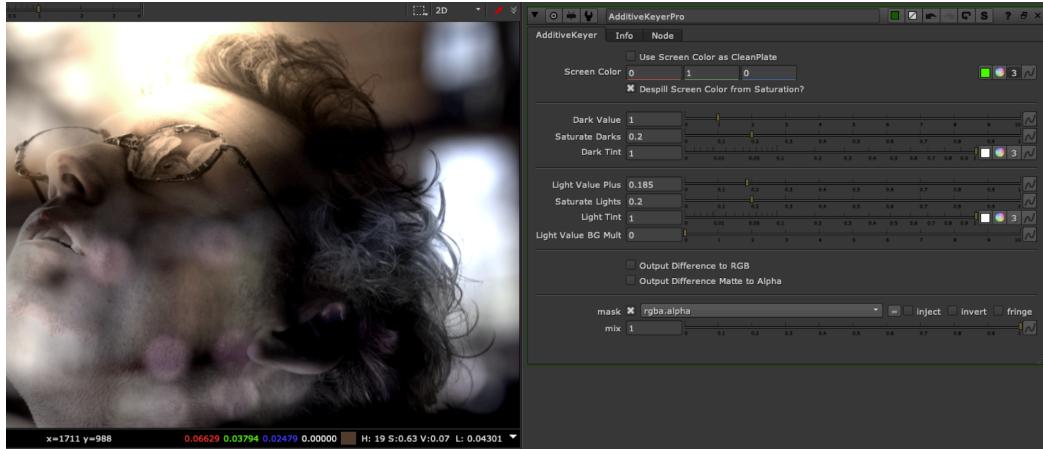
- Pick a blue/greenscreen color - set or pick a target color.
- '**balance**' controls how much red tones are being affected by the despill operation opposed to blue and green tones.
- Increasing the '**gain**' will affect a wider range of colors, like the finetune knob in DespillMadness.
- '**erode**' and '**falloff**' sometimes work well for increasing the effect in defocussed areas. I usually go for ramping up the 'gain' OR the 'erode', rarely both.

Example pics:

(For testing I recommend blurring these jpegs a little to get rid of compression artefacts.) - <http://johannesmasanz.com/files/despillToColor/greenscreen.jpg> - <http://johannesmasanz.com/files/despillToColor/bluescreen.jpg>

AdditiveKeyerPro TL

Author: Tony Lyons - <https://www.CompositingMentor.com>

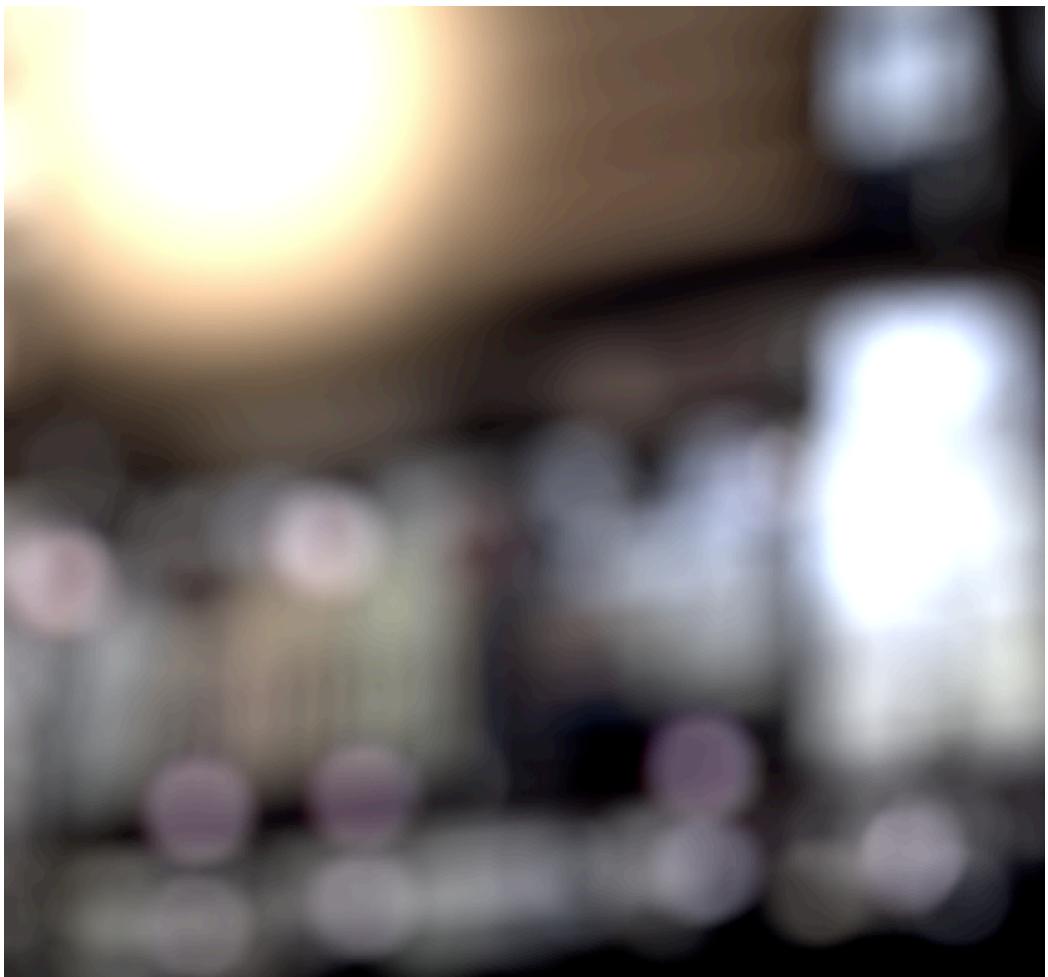


Additive Keyer pro does an additive key, which finds the highs and lows from the difference of a cleanplate and the original greenscreen plate and lightens / darkens the BG image. This process is handy for capturing subtle details in edges, such as hair and motionblur.

There are many additivekeyers, but this one has some unique features: 1. The light values have a plus and BG mult slider, giving you more control over highlights 2. The dark values uses a divide/multiply technique on the bg, preventing negative values 3. Option to keep some saturation from the original colors, with a screen color picker to help remove green/blue spill from the edges if you choose to keep saturation. 4. Options to output the difference to RGB, and difference matte to alpha, to use other comp techniques

Inputs:

- **FG** - Foreground plate
- **Clean** - Clean plate
- **BG** - Background plate
- **Result** - Final composite output





apeScreenClean AP

Author: Adrian Pueyo - <http://www.adrianpueyo.com/>



Clean up an irregular green or blue screen using your plate and a clean plate.
apScreenClean is my own flavor of clean screen tool (ScreenCorrect, PxF_ScreenClean, ...) offering extended functionality.

apScreenGrow AP

Author: Adrian Pueyo - <http://www.adrianpueyo.com/>



Erode the color of a screen to fill the insides of your subject, useful to generate cleanplates in a controlled way.

KeyChew RK

Author: Rafal Kaniewski - <http://movingimagearts.com>



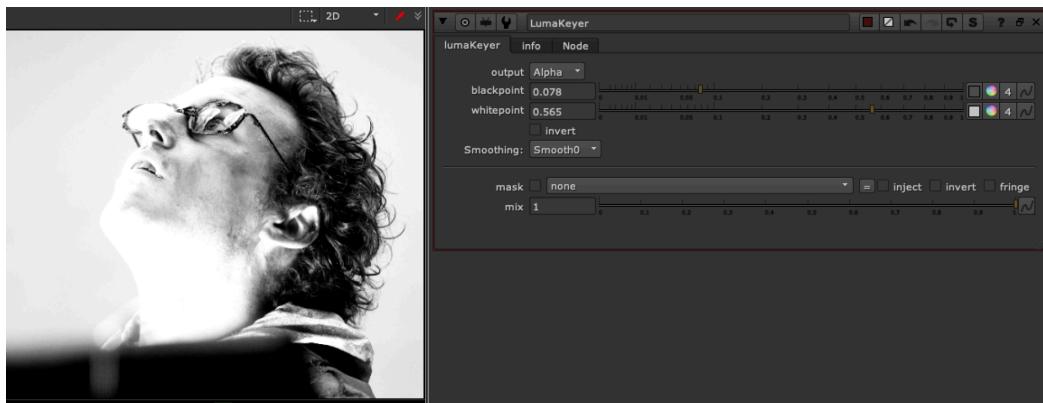
- <http://movingimagearts.com/nuke-tools-london/>
- <https://raw.githubusercontent.com/openNuke/toolset/master/keychew.nk>

Dilates and erodes a matte.

Good for subtly eroding in keyed edges. Can go negative and positive which erodes in and out. Equipped with mask and mix.

LumaKeyer DR

Author: Derek Rein - <http://derekvfx.ca/nuke/>



- <https://github.com/DerekRein/nuke/blob/master/ToolSets/lumaKeyer.nk>

Original Tool by Derek Rein can be found on his github page.

Derek's tool is a simple slider controlled luminance keyer.

Additional features added:

1. Output options of the result to alpha or rgba
2. Smoothing settings which mimic the smoothstep options found in a ramp, smooth, smooth0, and smooth1, using colorLookup curves
3. Mask and mix options

Merge Tools

Merging, compositing, and combining tools for layering images.

Tools in This Category

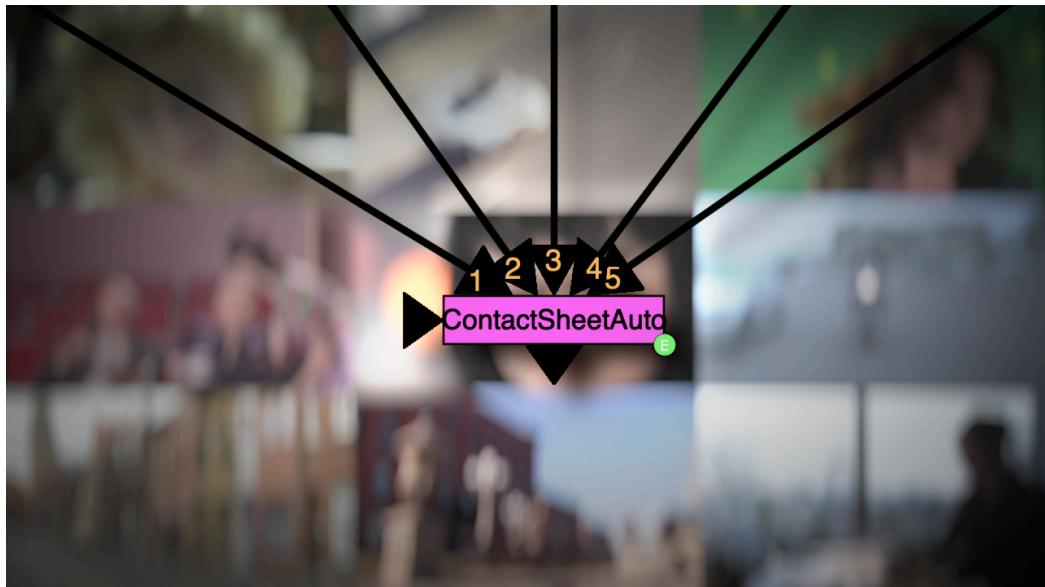
Tool	Author	Description
ContactSheetAuto	Tony Lyons	Auto-sizing contact sheet with expressions
KeymixBBox	Tony Lyons	Keymix with better bounding box management
MergeAtmos	Tony Lyons	Merge for smoke, dust, and atmospheric effects
MergeBlend	Tony Lyons	Blend between two merge operations
MergeAll	Adrian Pueyo	Merge all channels from both streams

ContactSheetAuto TL

Author: Tony Lyons - <https://www.CompositingMentor.com>

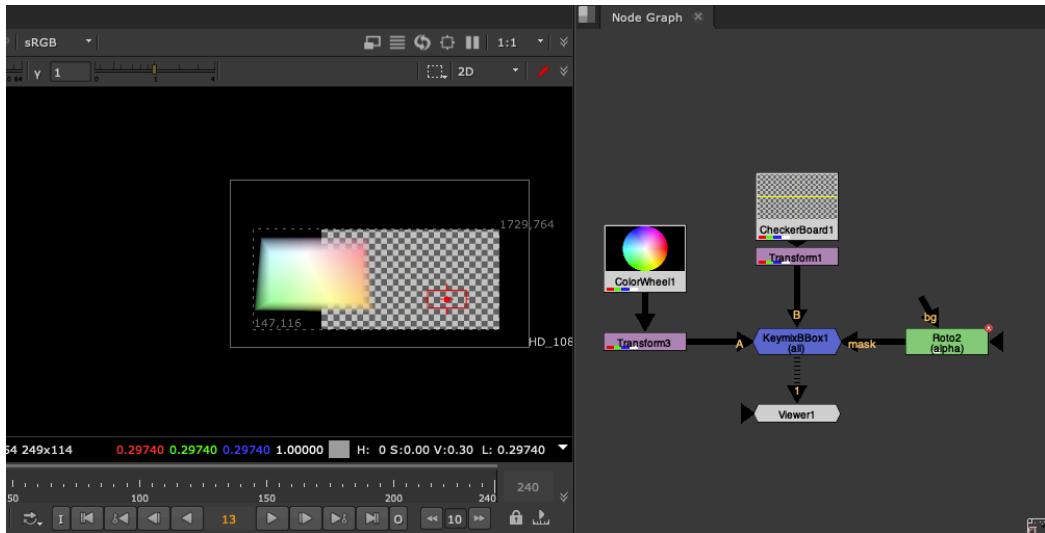
- <http://www.nukepedia.com/gizmos/merge/contactsheetauto>

Full Credit goes to Ben McEwan and his very detailed blog post about powering up your contact sheets: <https://benmcewan.com/blog/2018/08/26/power-up-your-contact-sheets/> The python script to change your knob defaults on the normal contactSheet node in your menu.py file is already here, posted by Ben: <http://www.nukepedia.com/python/misc/autocontactsheet> This one is just for people who want to download the expressionned node and add it to their toolsets and not mess with any menu.py files.



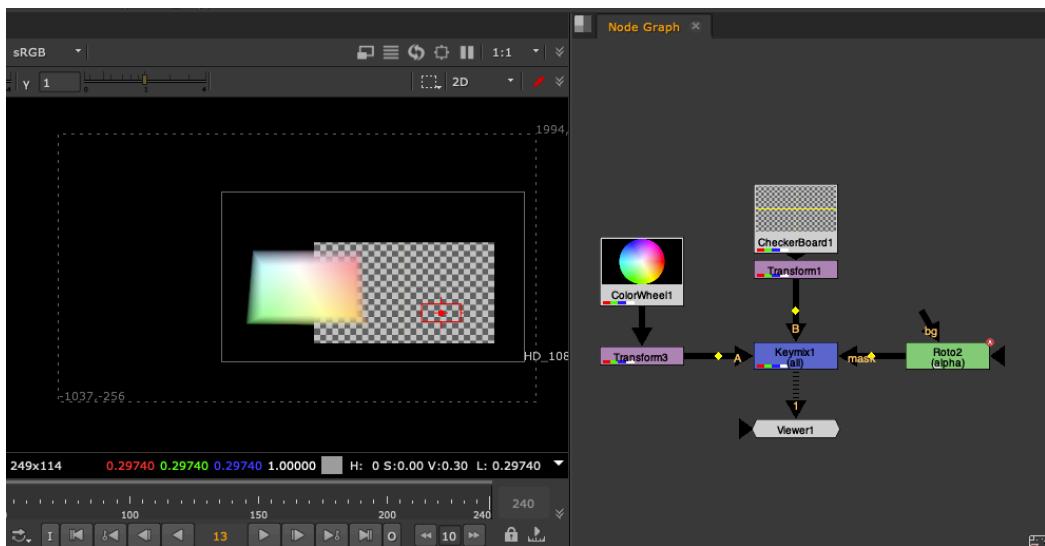
KeymixBBox TL

Author: Tony Lyons - <https://www.CompositingMentor.com>



Same functionality as normal keymix, but with slightly better BBox management.

Nuke's keymix node takes into account the bbox's of the A, B, and mask inputs. In most cases you want the mask bbox to be ignored and that the maximum BBox result would be max bbox of A or B, and then an intersection of both A and B when the mask bbox is smaller.

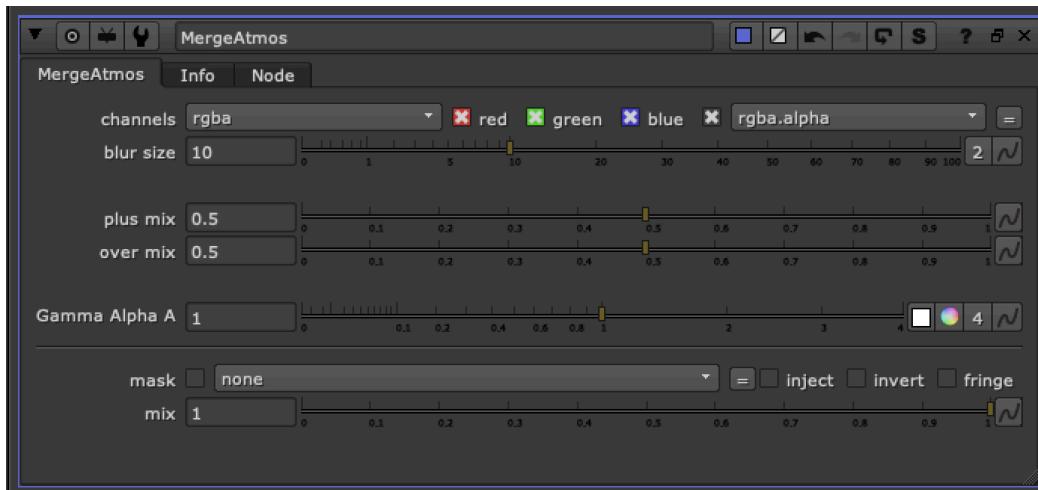


MergeAtmos TL

Author: Tony Lyons - <https://www.CompositingMentor.com>



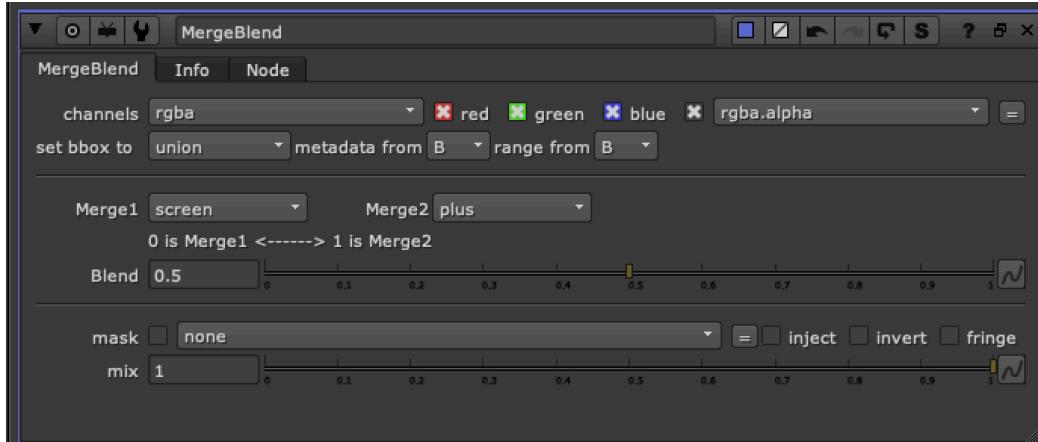
MergeAtmos is a merge for smoke, dust, and/or atmospheric effects. It has mixes of a merge(plus) and merge(over) exposed so you can find the right balance. The alpha of the smoke element is also driving a blur node that is simulating a bit of a diffusion effect.





MergeBlend TL

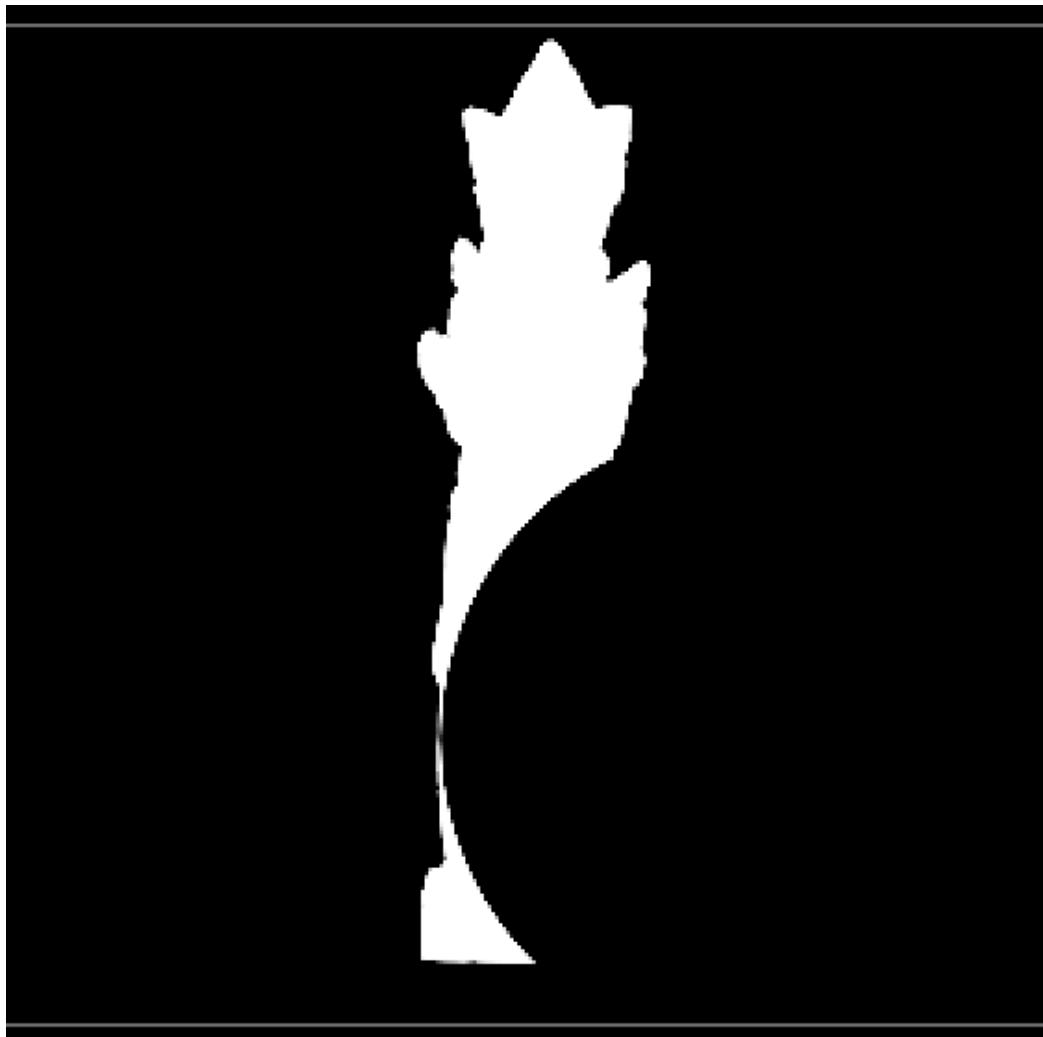
Author: Tony Lyons - <https://www.CompositingMentor.com>



Select 2 different Merge Operations and Blend between the 2 results.

MergeAll AP

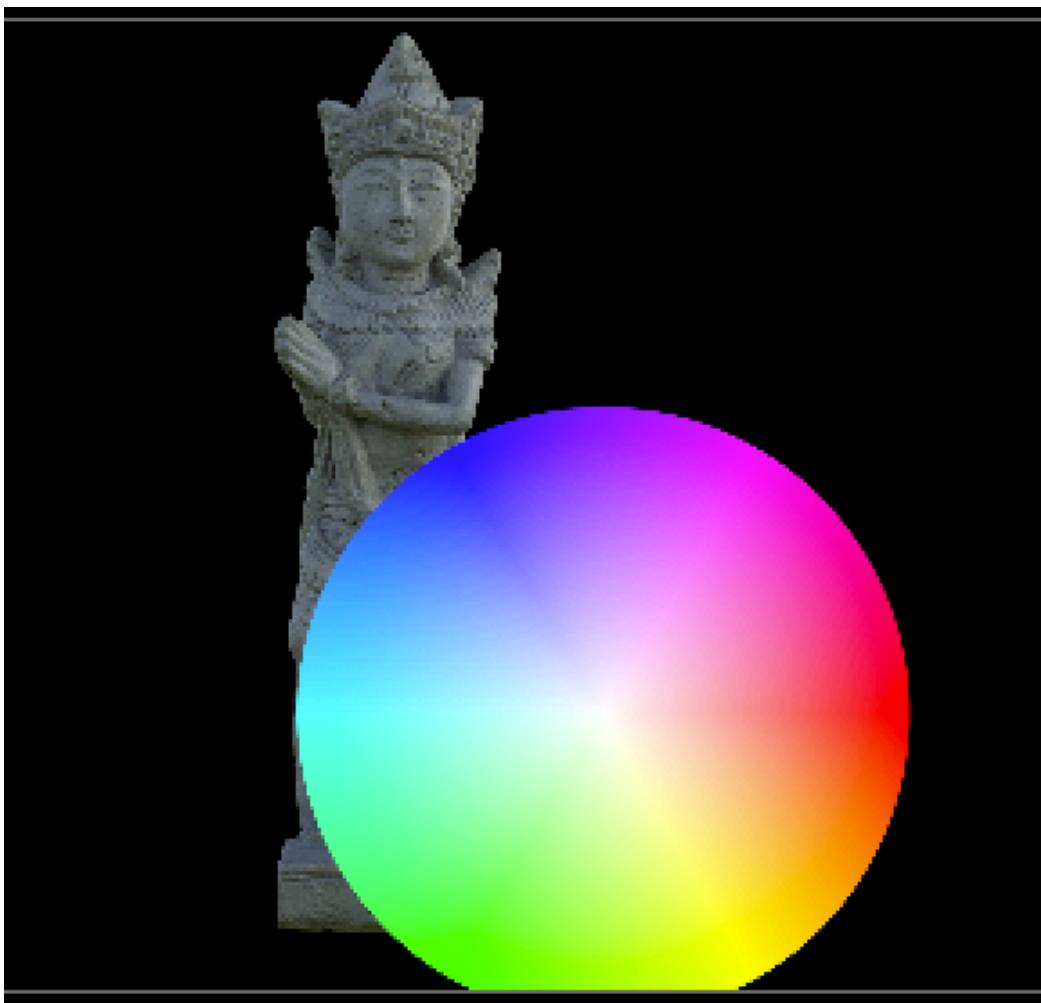
Author: Adrian Pueyo - <http://www.adrianpueyo.com/>

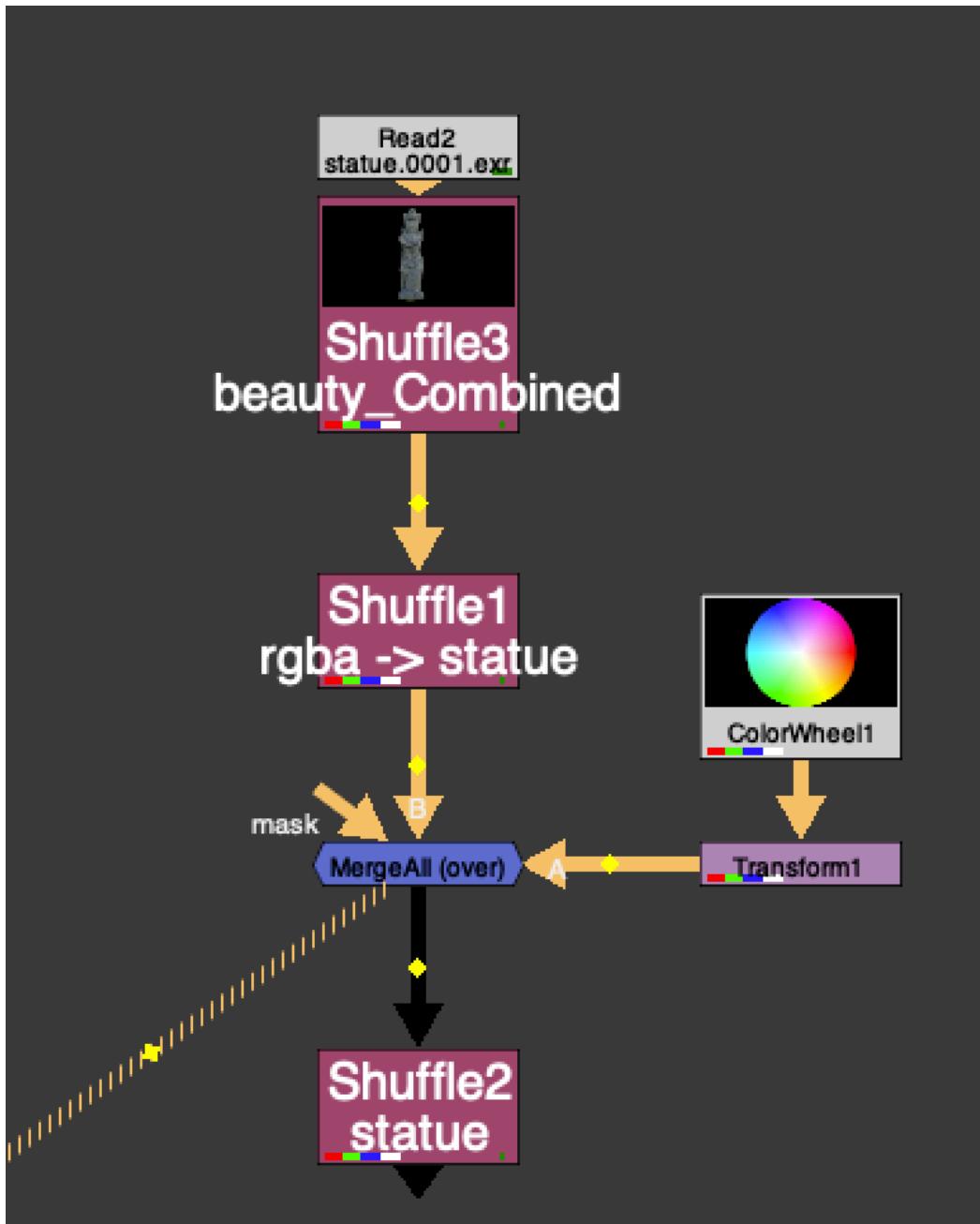


Many times when we are using an extra channel in the stream to pull out later to either use as a mask, DI matte, grain matte, etc. we have to manage that channel separately.

In this example, we have a statue matte channel that we want to pull out later, and we've over'ed a colorwheel. Normally you might have to add a channelMerge and stencil the colorWheel from the statue matte channel separately. MergeAll can save you this step. It basically adds all the channels from A stream to B stream and vice versa, ensuring that before merging, both streams contain the same exact channels. Because the colorWheel in this case now contains a "statue channel" which is black, when you mergeAll, it will merge "black" where the colorWheel is in the statue channel. So when you pull out the statue channel layer, it will appear as though the colorWheel is stenciled from the statue alpha.

This is sort of what you would expect to happen when you "merge All channels" in a merge node, but because sometimes the 2 streams don't have exactly the same channels, sometimes they get ignored. This helps solve that.





Transform Tools

Transformation, warping, stabilization, and 2D/3D projection tools.

Tools in This Category

Tool	Author	Description
Vector Math Tools	Mathieu Goulet-Aubin & Erwan Leroy	Comprehensive vector and matrix math toolset
VectorTracker	Jorrit Schulte	Track using vector information
AutoCropTool	Tony Lyons	Generate quick bounding box on elements
BBoxToFormat	Tony Lyons	Set bbox to format with overscan options
ImagePlane3D	Tony Lyons	3D stabilize/matchmove using projection
Matrix4x4_Inverse	Tony Lyons	Produce inverse matrix from 3D transformations
Matrix4x4_Math	Tony Lyons	Basic matrix math between matrices
MirrorBorder	Tony Lyons	Tile and mirror frame borders
TransformCutOut	Tony Lyons	Cut and transform masked areas
iMorph	Adrian Pueyo	Mask-driven morph dissolve

Tool	Author	Description
RP_Reformat	Mark Joey Tang	Reformat Roto/RotoPaint vector data
InverseMatrix33	Mark Joey Tang	Live inverse 3x3 matrix
InverseMatrix44	Mark Joey Tang	Live inverse 4x4 matrix
CardToTrack	Alexey Kuchinski	Find 3D position and reconcile to 2D
CProject	Alexey Kuchinski	CornerPin matchmove/stabilize
TProject	Alexey Kuchinski	Transform single-point tracking
STiCKiT	Mads Hagbarth Damsbo	2D warp match-moving
TransformMatrix	Andrea Geremia	Transform node with Matrix 4x4
CornerPin2D_Matrix	Andrea Geremia	CornerPin with Matrix 4x4
IDistort	Erwan Leroy	Recursive IDistort
CameraShake	Ben McEwan	Advanced camera shake replacement
MorphDissolve	SPIN FX & Erwan Leroy	Automatic morph between plates
ITransform	Frank Rueter	Mask-based warper with transform controls
RotoCentroid	Alister Chowdhury	Find center of mass of rotoshapes
STMapInverse	Luca Mignardi	Inverse STMap to UV space

Tool	Author	Description
Transform_Mix	Franklin Toussaint	Mix or dissolve between transforms
PlanarProjection	Vit Sedlacek	Smart Reconcile3D for 2D coordinates
Reconcile3DFast	Derek Rein	Simplified fast Reconcile3D

Vector Math Tools MGA-EL

Website: <http://erwanleroy.com/blog/>

- <http://www.nukepedia.com/toolsets/transform/vector-matrix-toolset>
- <http://www.nukepedia.com/toolsets/other/vectortools>
- <https://github.com/mapoga/nuke-vector-matrix>
- <http://erwanleroy.com/vector-tools-for-nuke-tutorials-and-math/>
- <http://erwanleroy.com/vector-tools-for-nuke-tutorials-and-math-part2/>

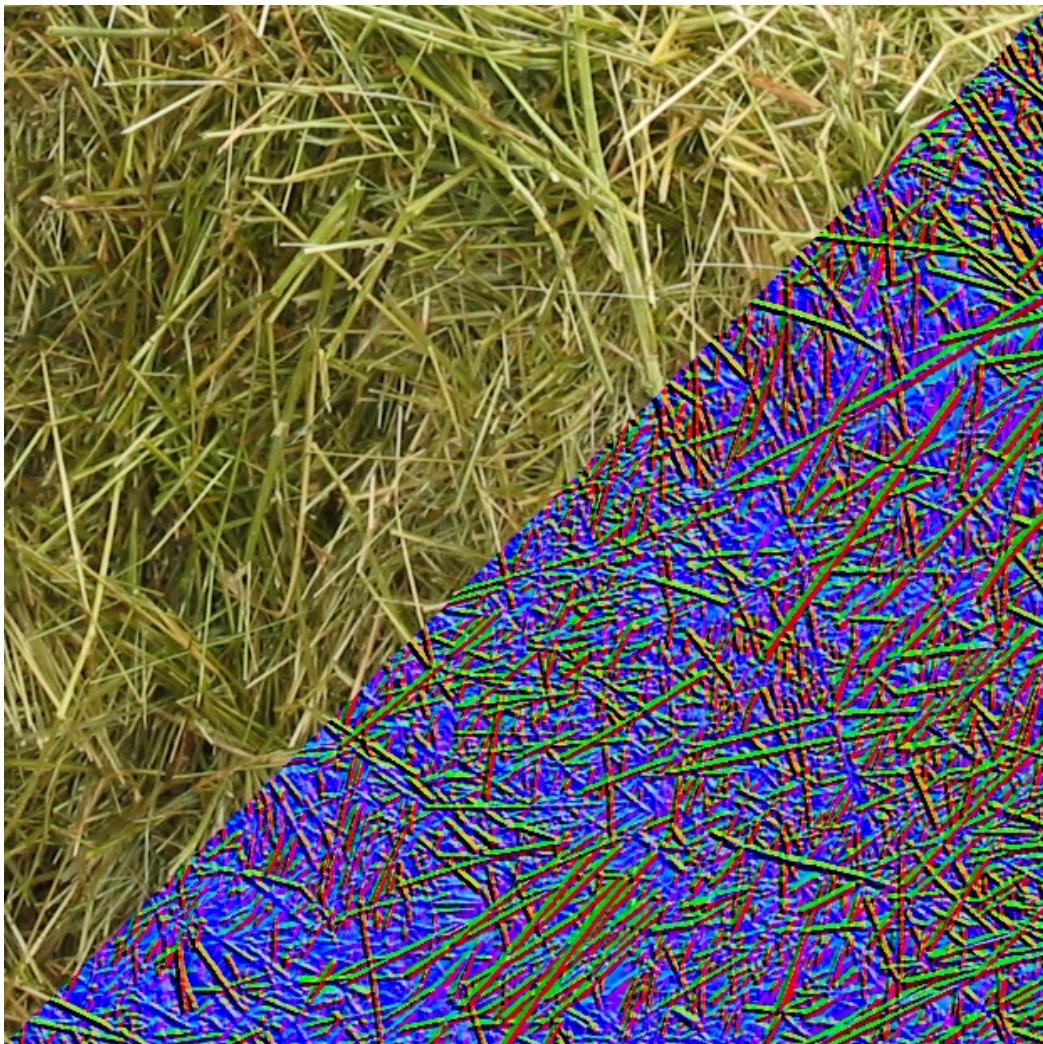
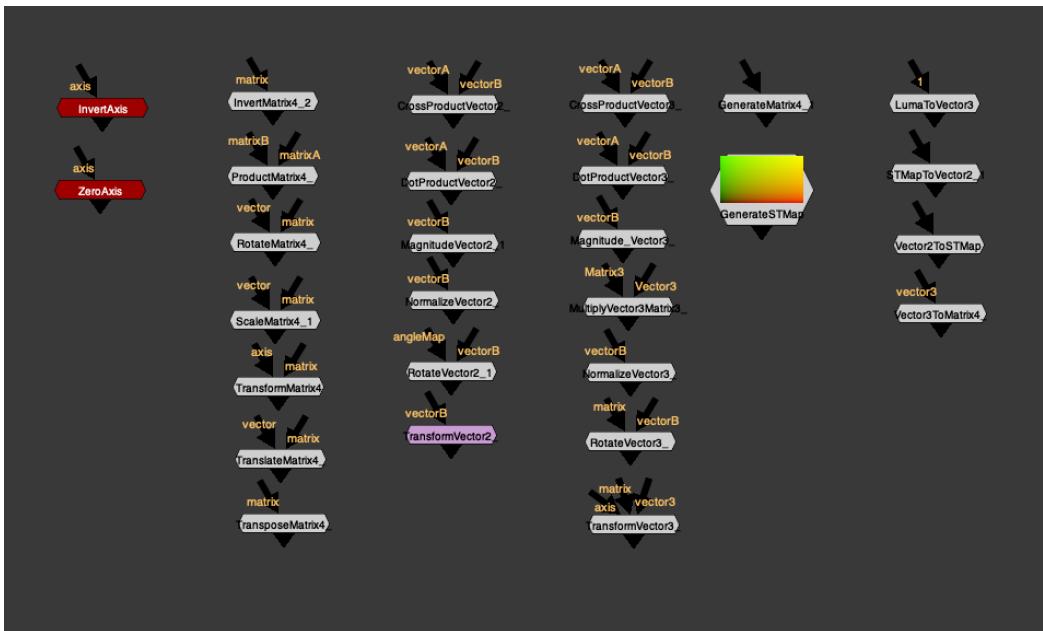
Math Tools combines Mathieu Goulet-Aubin & Erwan Leroy's vector tools into 1 main menu.

Resources to learn about Vectors and Matrices:

Most tools in this toolset are mathematical tools and require some basic knowledge about Vectors and Matrices for optimal use. - Math is Fun: Scalar, Vector, Matrix - Wikipedia: Transformation Matrices - Nukepedia: Python Vector and Matrix Math - Nukepedia: The Matrix Knob

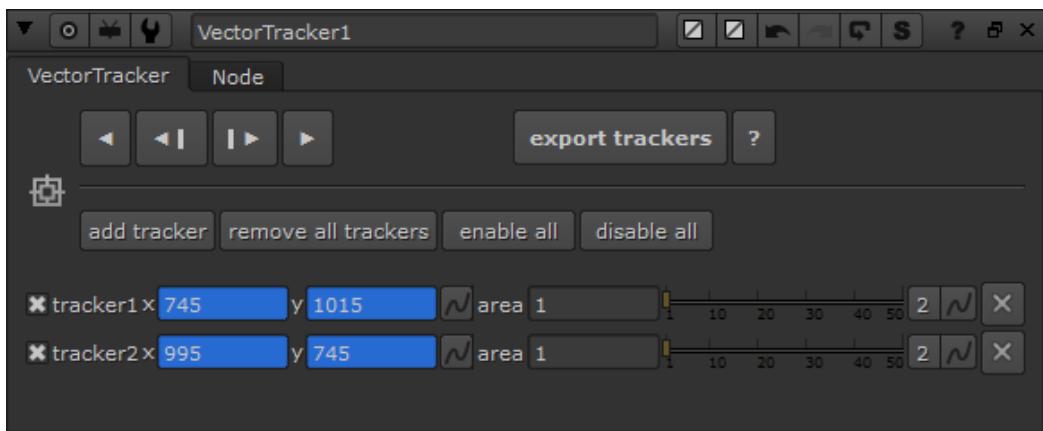
Introduction:

The toolset is separated into 2 categories. One to operate on vectors3 and one to operate on 4x4 transformation matrices. Every pixel can be worked on independently because each can have its own vector and matrix data.



VectorTracker NKPD

Author: Jorrit Schulte - <http://www.jorritschulte.com/nuke-tools/>



This is a tracker gizmo that uses vector information rather than image data to track points. This is useful for certain tracking jobs that are otherwise hard to accomplish. Think of shots that constantly shift focus, or tracks on objects that deform.

This gizmo works with both classic nuke vectors or smartvector data.

If you use smartVectors live, make sure to add a VectorToMotion node after the smartVector and plug the vector input into this to register.

Simply render out either classic nuke vectors or smartvectors, and use this tool to generate tracker points. You can try using a VectorGenerator node to generate live vectors instead, but due to the way nuke and python sample image data this won't always work. The points are exported to a regular Tracker node.

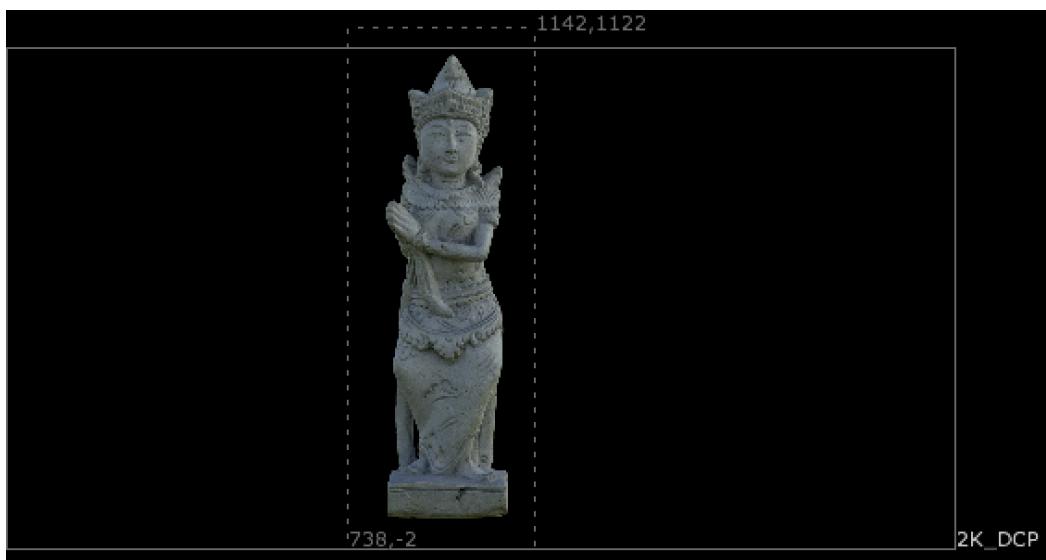
It is looking for motion, forward, backward, backward channels, or VectorGenerator / smartVector (plus VectorToMotion) nodes for the vector input.

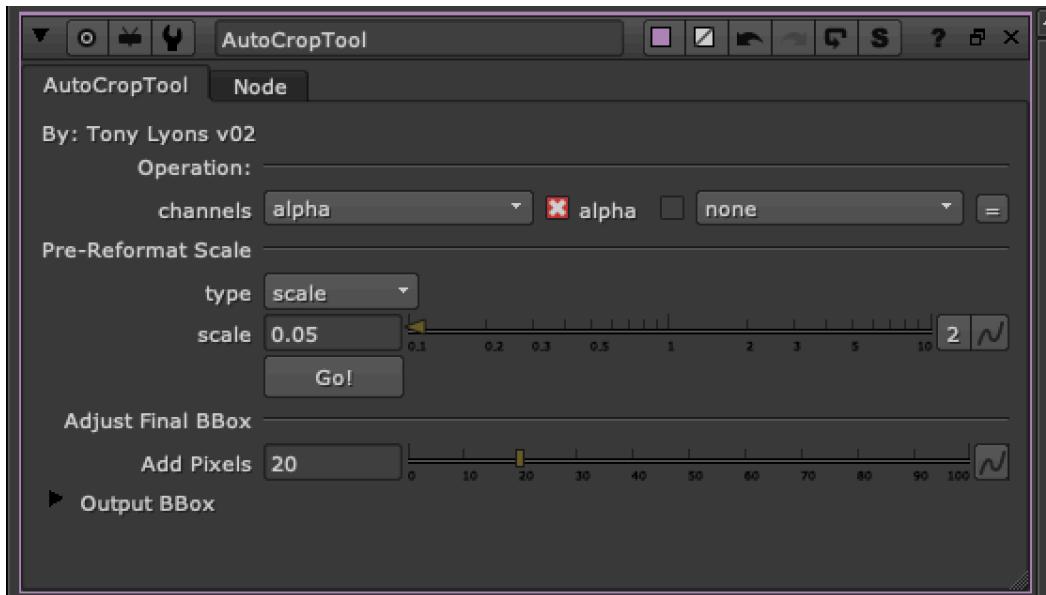
AutoCropTool TL

Author: Tony Lyons - <https://www.CompositingMentor.com>



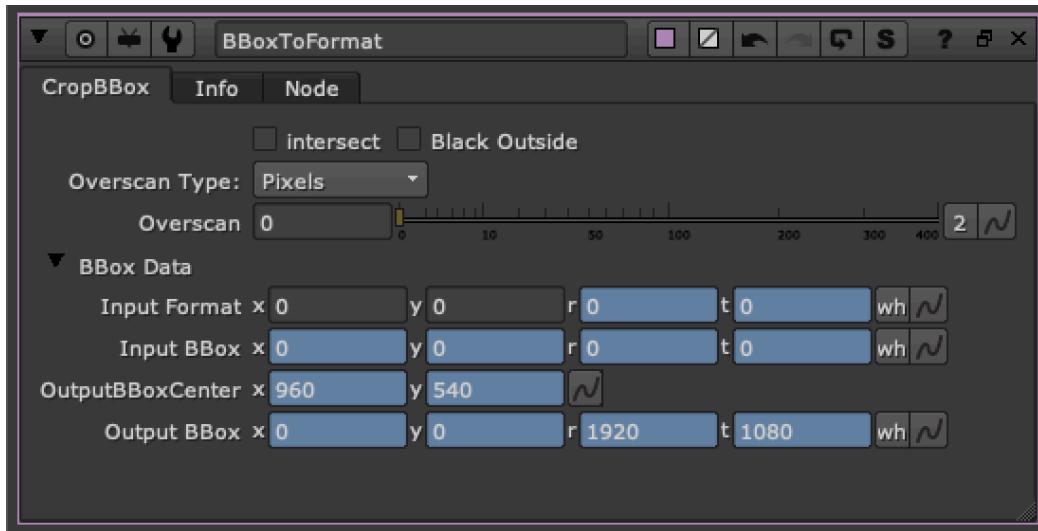
AutoCropTool runs a curvetool node autocrop process on a scaled down single channel version of the input image. Use this to generate a quick bounding box on CG renders or other elements without a defined bounding box. Keeping your bounding box tight and isolated to only the important part of the frame will save processing time in nuke.





BBoxToFormat TL

Author: Tony Lyons - <https://www.CompositingMentor.com>



BBoxToFormat sets your bbox exactly to the input format.

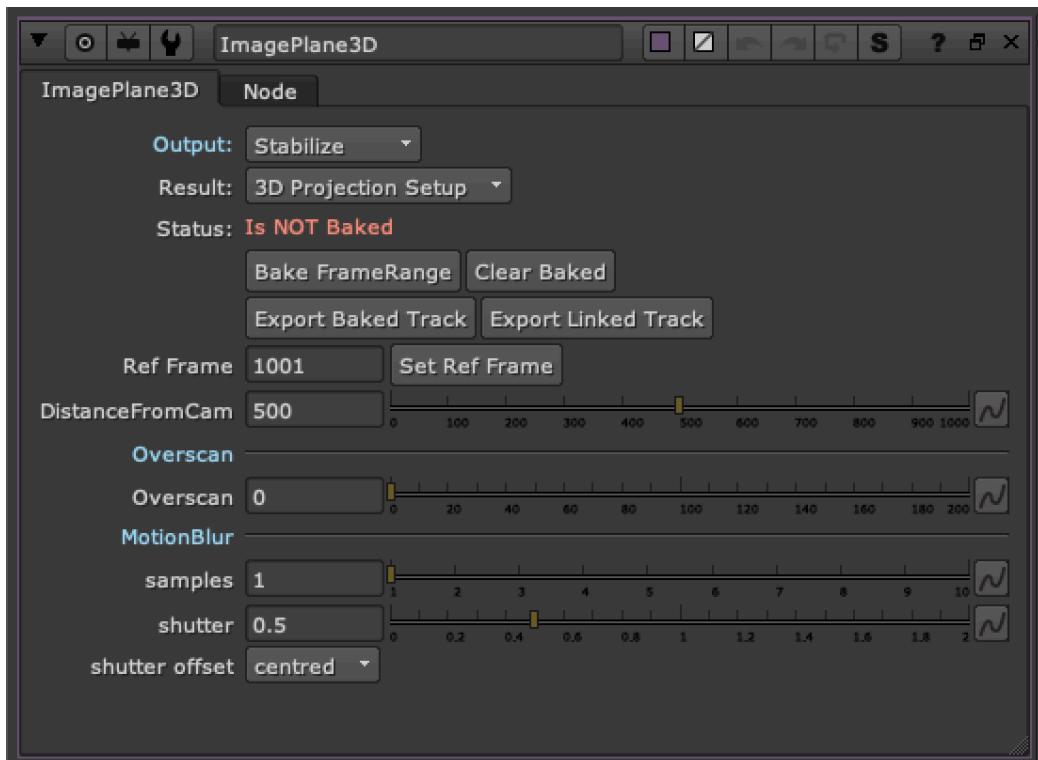
You also have options for either a percentage overscan or pixel based overscan. This is a good way to manage your bbox while keeping some extra overscan for distortion or cameraShake, etc when you are using CG with overscan or additional elements.

The intersect option will take the intersection of the input format with the input bbox.

Exposed data for input format, input bbox, output BBox Center, and Output BBox in a group tab because sometimes it's useful to reference.

ImagePlane3D TL

Author: Tony Lyons - <https://www.CompositingMentor.com>



The original imagePlane node seems to have a problem with stabilizing the image, and then reverting the stabilized image back to the original position by matchmoving. Unfortunately, not being able to reliably restore the stabilized image back to the original position meant your rotos and prep work or whatever positioning you were doing was not guaranteed to matchmove back into the original footage. This tool aims to solve this problem and offering a few extra features.

Output

Choose between stabilize and matchmove

Result Modes

3D Projection Setup - This is using 3d nodes, cards and camera projections to guarantee no funkiness and that the stabilize/matchmove process will be reversible. Unfortunately the 3d projection setup will be the slowest option, but it will be a clean preview. **card3D setup** - This is using the same method as the

original imagePlane node, for some reason, this method creates the problem of stabilizing and reversing the movement when matchmoving. It is however very fast because there is no 3D scanline render and calculates as a 2d cornerpin. This will either give you identical or very similar results to the 3D projection setup but is prone to this "unreversible" result. Good mode for finding the stabilized distance quickly. **Live (Reconcile 3D)** - This is by far the fastest calculation for this stabilization process and is recommended for quick previews and finding the stabilization distance. However when using nuke's reconcile 3D node with live points, it gets very buggy. Some frames are black, other frames 'explode' and seem to lose the 3d points for reference. Proxy mode or lower resolution preview will be buggy or not work. In theory it should be the exact same result as the 3d Projection setup, so the stabilization/matchmove workflow is intact, but it's very buggy, especially when rendering. Do not leave on this live mode, purely use it as a quick preview to find the stabilization distance and ensure accuracy. **Baked (Cornerpin)** - When you bake the framerange, it will switch to this mode in order to save calculation time, and to eliminate the bugginess of the stabilization/matchmove workflow from the "live" previews.

Controls

Status: Will tell you the status of the node, whether it is Live or baked (and what framerange) **Ref Frame:** This frame is the stabilization pivot frame of the stabilization/matchmove and will be unaffected / have zero transformations

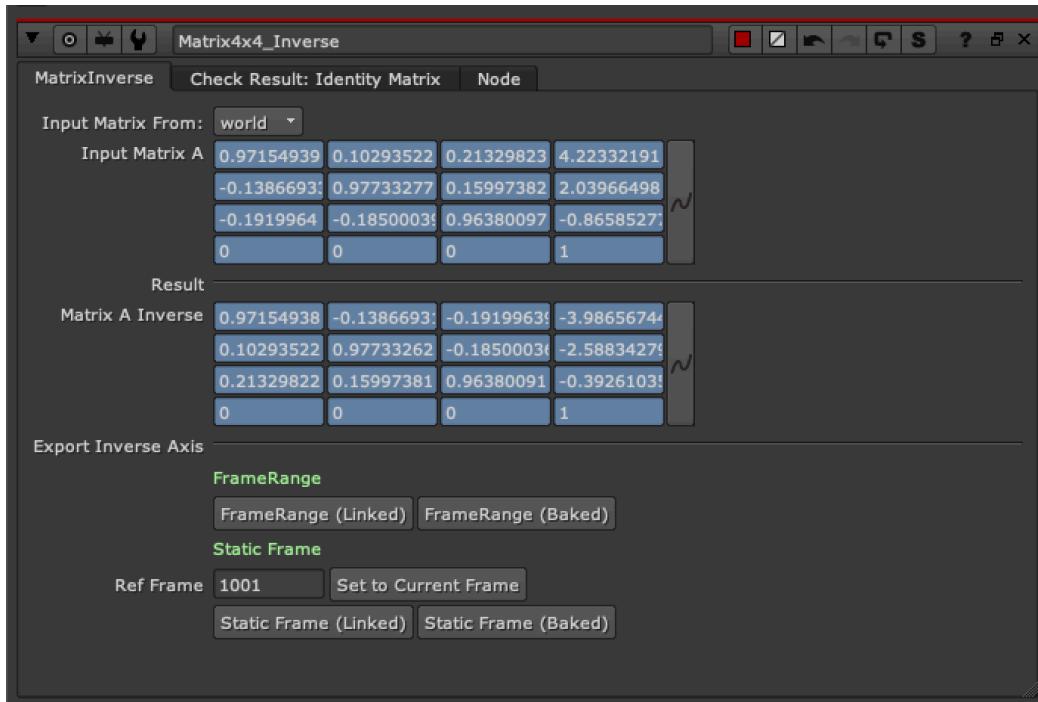
Distance from Cam: This number is the distance from camera in nuke units to place the stabilization card. Sometimes you roughly know the distance from the camera that the object you are trying to stabilize is, and other times you can just eyeball distance by moving away from your reference frame in the timeline and changing the distance until object remains in the same position in the screen as it was in the reference frame. **Bake FrameRange:** This will create a baked cornerpin based off the ref frame and distance from camera. It's recommended to run this once you are happy with your stabilization result because it will not only be less prone to nuke's bugginess from the other live setups but it will also be a lot faster since it is baked and not calculating anything live with expressions or 3D setups.

Clear baked: Clears the keyframes and reverts the node back to live. Sets to default. **Export Baked Track / Export Linked Track:** These 2 buttons are acting like the export cornerpin button in nuke's 2d Tracker node. They will export a cornerpin node that is stabilized or matchmoved (depending on the output you have selected).

Overscan: A simple setting to manage your bbox and set an overscan allowance (in pixels). **Motion Blur:** Ability to add motionblur for your matchmove result based on either samples on the scanline render or motion blur knob on the card3D or cornerpin node.

Matrix4x4_Inverse TL

Author: Tony Lyons - <https://www.CompositingMentor.com>



Matrix4x4_Inverse is a node that takes a node with a 3d transformation matrix, such as cameras, cards, axis, transformGeo, etc, and produces the inverse matrix. This inverse matrix can be used to return the 3D object to the origin (aka to the identity matrix). Sounds really complicated but an easy way to comprehend it is this node stabilizes and returns the 3d object to the origin, where you can then transform it to a new position. Like a 3D 'Stabilize' and then 'matchmove' technique.

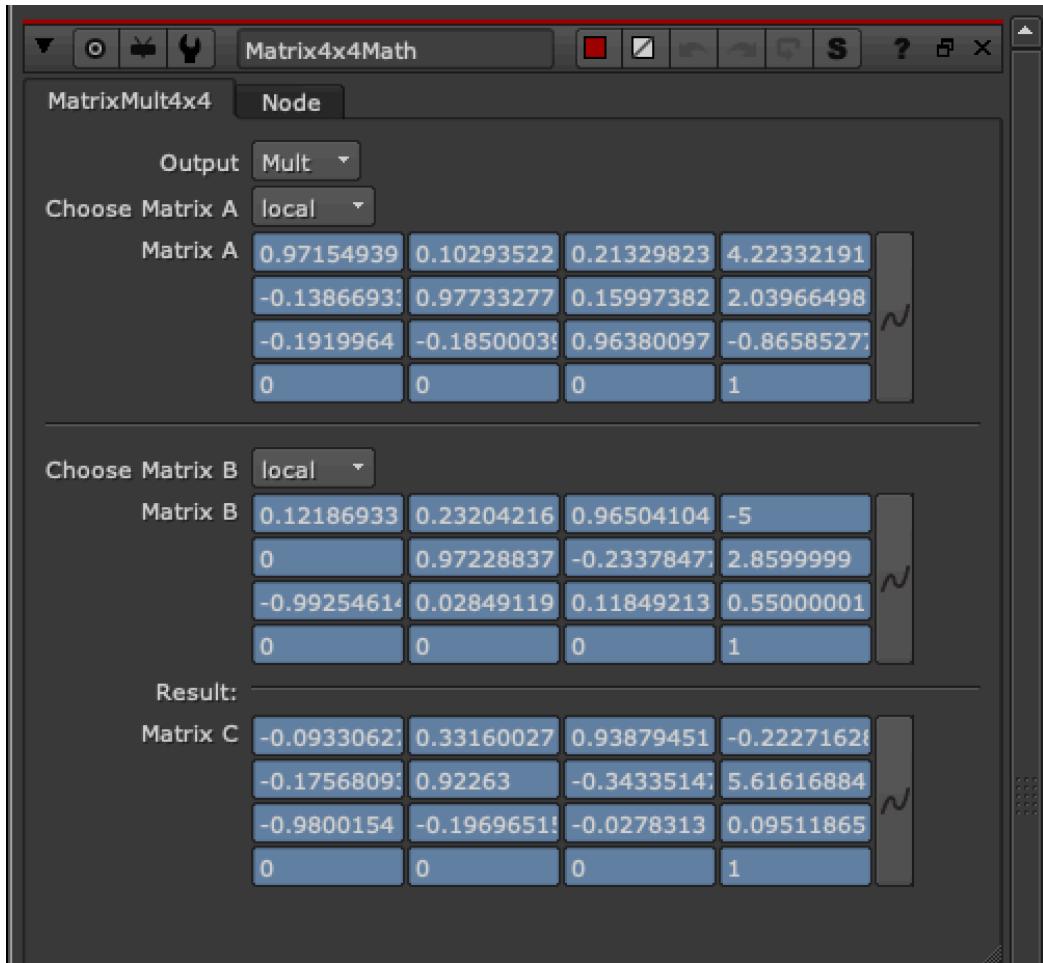
Plug the node into the 3d node or chain of axis' or cameras with transformGeo, etc.

Be sure to choose between the input matrix being either the world matrix or local matrix. Local matrix is only taking into consideration the transformations of that specific input node. World matrix takes into consideration the actual position of the object in 3D space, or the 'totality' of all concatenated 3d transformations (real position).

You can choose to export an Axis node with the inverse matrix either linked or baked and either over a framerange or on a single reference frame.

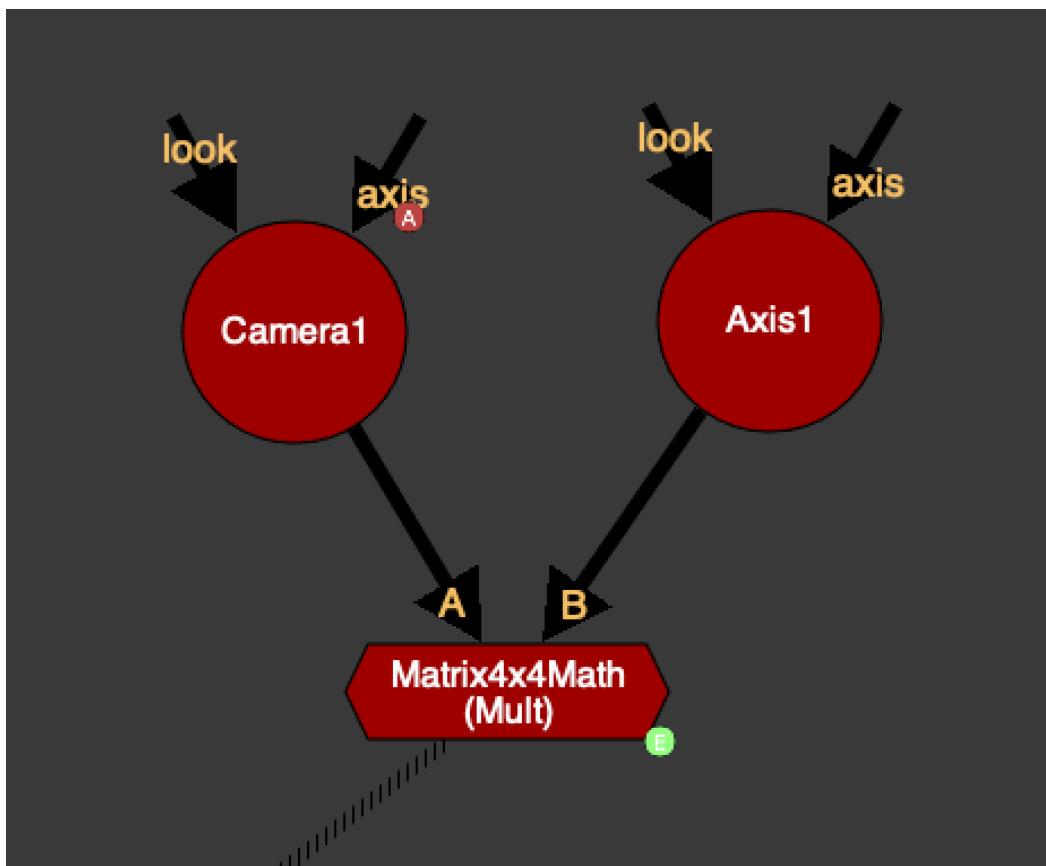
Matrix4x4_Math TL

Author: Tony Lyons - <https://www.CompositingMentor.com>



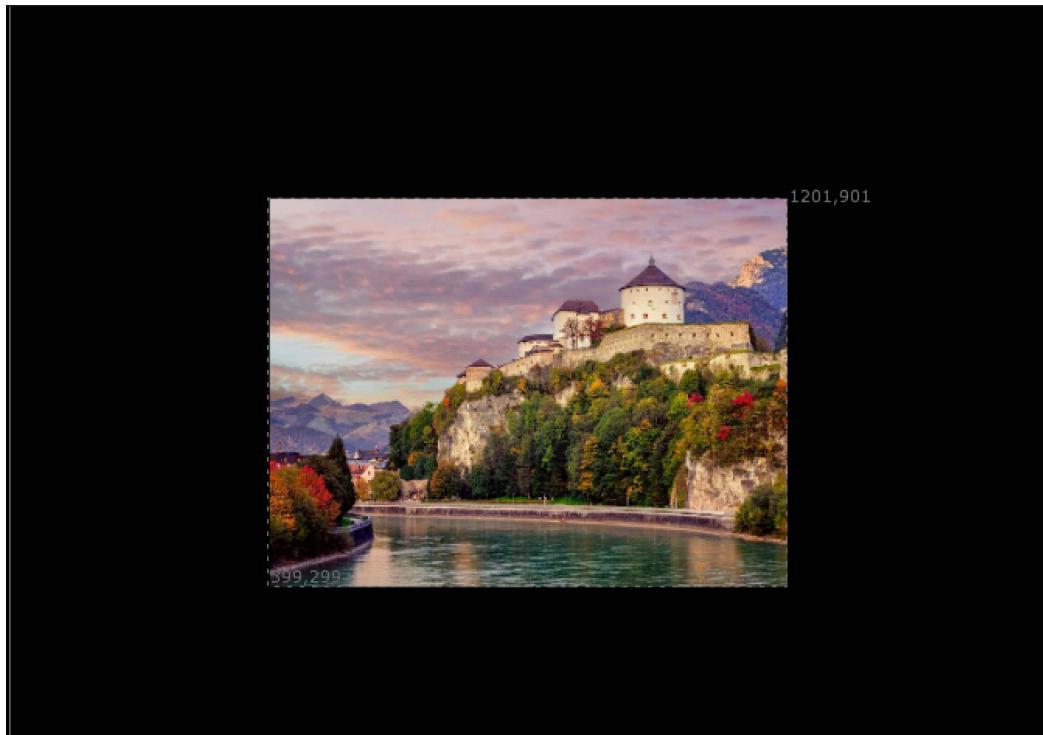
Matrix4x4_Math does some basic matrix math between matrix A and matrix B.

Operations are: Add, Subtract, Mult Choose between local and world matrices of the inputs. You can expression link the resulting matrix (matrix C) to other nodes' local matrix.



MirrorBorder TL

Author: Tony Lyons - <https://www.CompositingMentor.com>

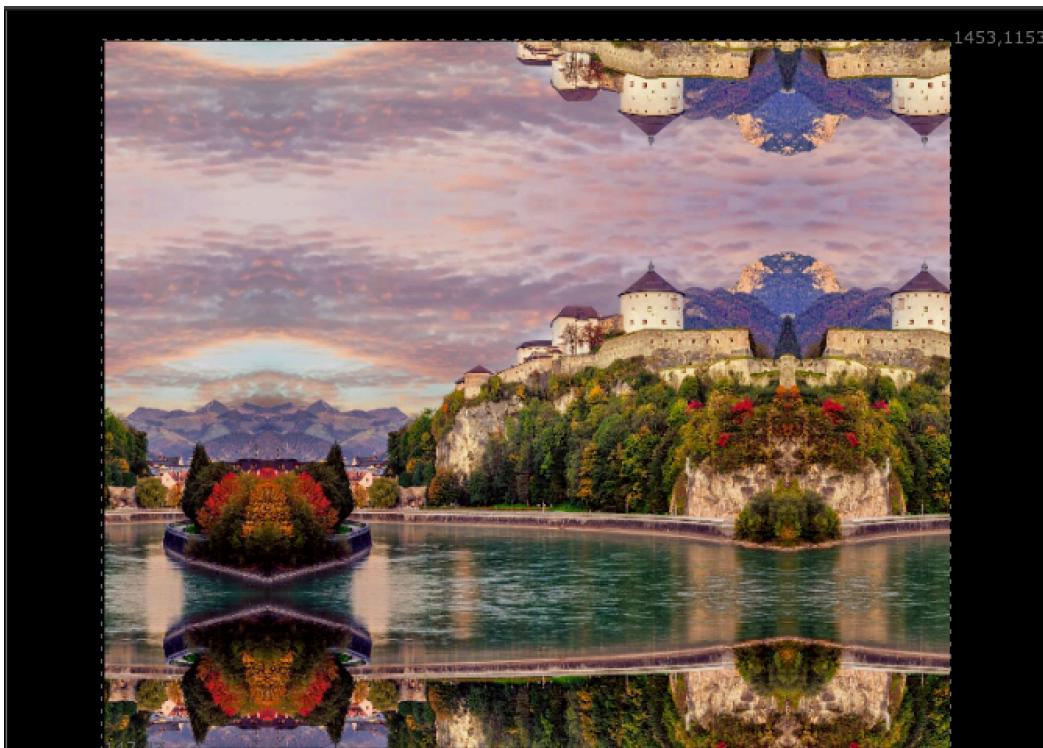


MirrorBorder mimics Adobe AfterEffect's Motion Tile effect. It will tile and mirror the frame around the border of the input format, mostly to be used to produce extra edge pixel details for camera shake. This can avoid either a black edge or stretchy pixels around the edge of frame when adding camera shake.

The tile region is either the input format or input bbox. Tile amount is expansion amount in pixels.

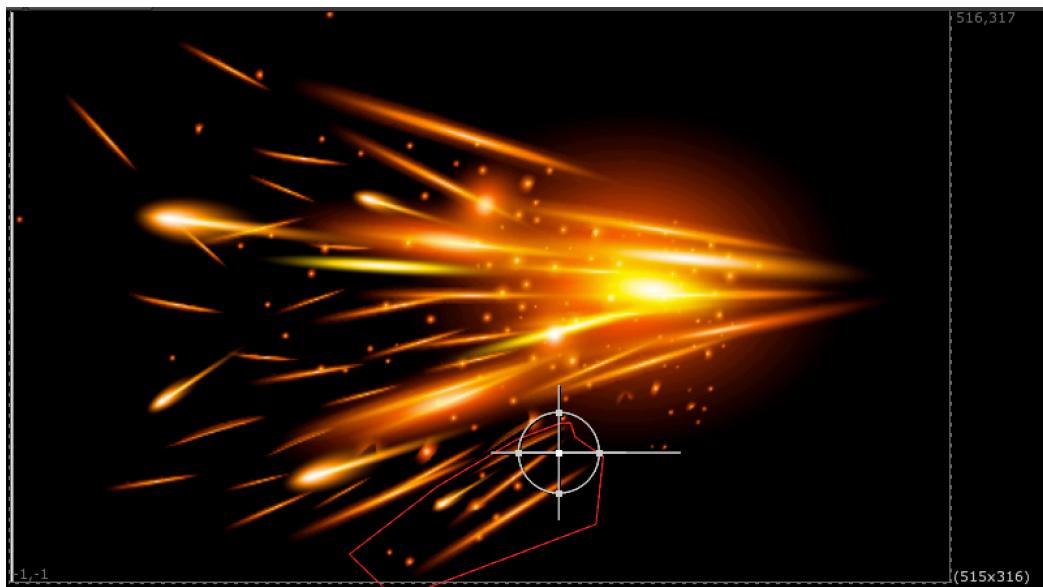
Choke edges refers to cropping the edges in a bit before mirroring them. Left, Right, Top, Bottom choke sliders available.

1453,1153



TransformCutOut TL

Author: Tony Lyons - <https://www.CompositingMentor.com>



TransformCutOut takes the masked area of the image and transforms it and overs it (disjoint-over) back onto the image. Useful for masking an object and placing it somewhere else.

This is different to the transformMasked node which essentially moves the image around 'inside' of the masked area. This node will cut out the masked area, and over it back after the transformation, leaving a hole where the original mask was.

Buttons to set center pivot to either the center of the input format or the center of the mask bounding box, which is meant to compliment rotoshapes that have their own BBox that you will likely use as the mask input. So this option will snap the center pivot to the center of the rotoshape/mask input.



iMorph AP

Author: Adrian Pueyo - <http://www.adrianpueyo.com/>

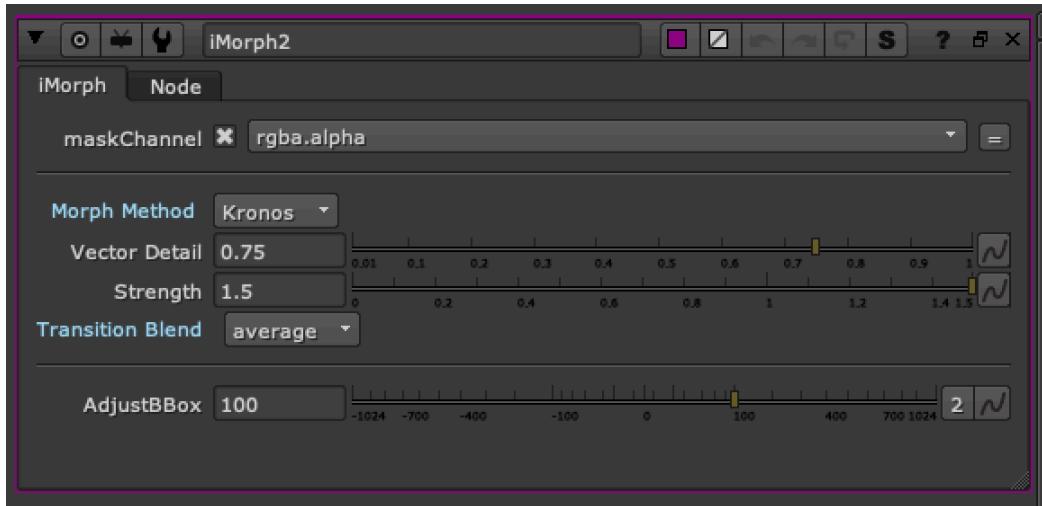


- http://www.nukepedia.com/gizmos/transform/morph_dissolve
- <http://www.nukepedia.com/gizmos/time/timemachine>

IMorph is a spin-off of MorphDissolve from Erwan Leroy and SPIN FX gizmo set. It's also inspired by the TimeMachine gizmo by Ivan Busquets.

MorphDissolve uses 2 images and has a slider from 0-1 to determine how much morphing there is. IMorph, similar to IBlur or ITransform, uses a Mask input to determine where image A is shown and where image B is shown and then morph-dissolves in steps from A to B in between, which produces really smooth transitions from 1 image into another.

Updated to use blink script for extra speed. By default, when nothing is plugged into mask input, the node is an A - B morph same as Morph Dissolve, but faster. When mask is plugged in, 0 = A and 1 = B and the grey pixels determine the morph zone.



RP_Reformat MJT

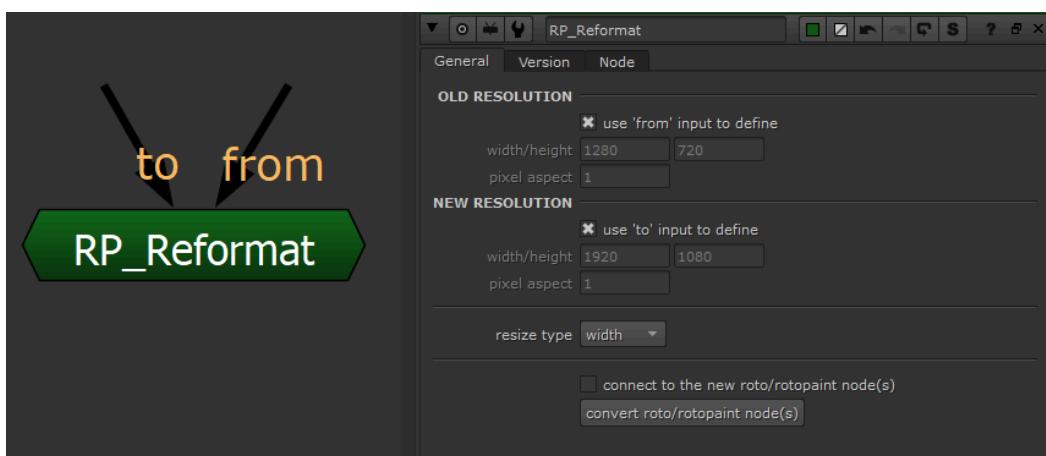
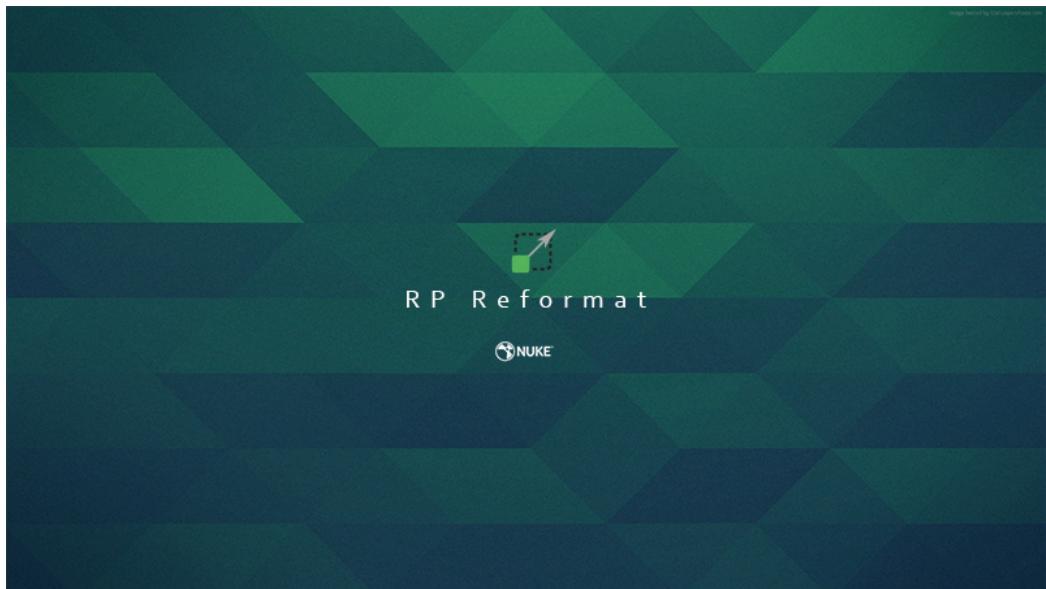
Author: Mark Joey Tang - <https://www.facebook.com/MJTlab>

- <http://www.nukepedia.com/gizmos/draw/rp-reformat>
- <https://m.facebook.com/MJTlab/posts/628051737776651>
- <http://bit.ly/menupy>

Reformat Roto & RotoPaint node's vector data without resolution issue. Keep the same result on any paint strokes. Support all kinds of splines, brushes and aspect ratio reformat.

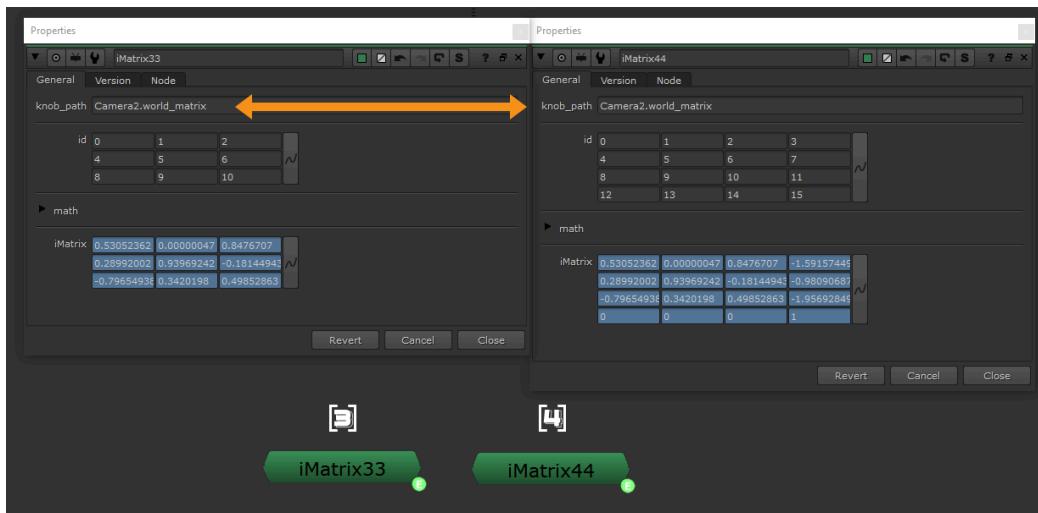
How to use:

1. Fill in the old resolution of the Roto/RotoPaint was done before.
2. Fill in the new resolution.
3. Select which type of resize to process (This depends on how the plate was resized)
4. Select all the Roto/RotoPaint node(s) *Supports multi-select*
5. Click 'convert roto/rotopaint node(s)'. Then the new generated node will be placed next to the original node(s) **Notes:**
 6. Entire process will NOT modify the original node
 7. The resize data will be replaced on individual shape elements:
 8. **Spline:** translate, scale, center & feather
 9. **Stroke:** translate, scale, center, source translate, brush size, brush space & effect
10. Resize process will not touch any data on Layer.



InverseMatrix33 MJT

Author: Mark Joey Tang - <https://www.facebook.com/MJTLab>



- https://github.com/xmjtx/MJTLab/tree/main/gizmo_library/Misc/iMatrix_v11

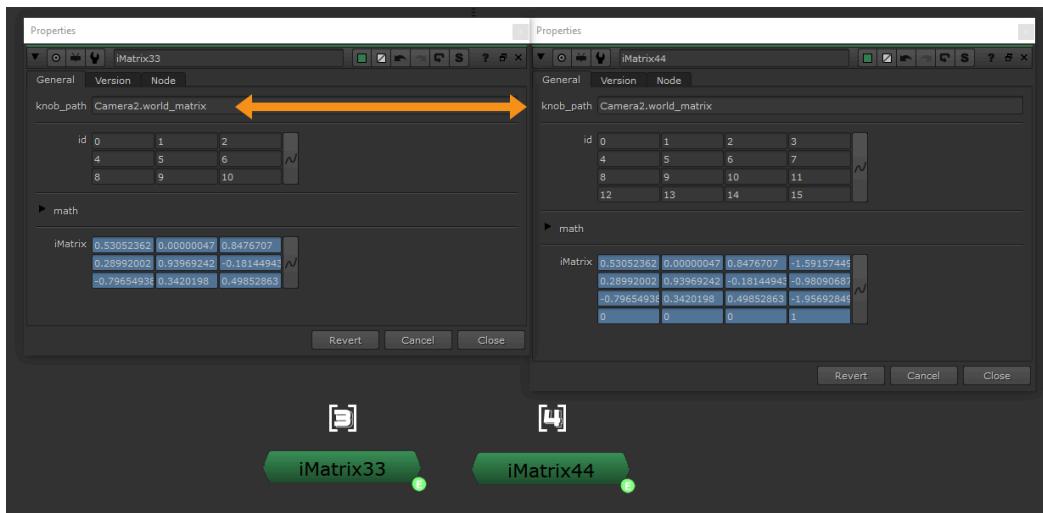
iMatrix33, inverse 3x3 matrix which I use the most in deep setup. Live inverse matrix using tcl.

How to use:

Fill in the "knob_path" and that's it. "id" section can be changed in case the matrix order is different than usual 4x4.

InverseMatrix44 MJT

Author: Mark Joey Tang - <https://www.facebook.com/MJTLab>



- https://github.com/xmjtx/MJTLab/tree/main/gizmo_library/Misc/iMatrix_v11
iMatrix44, inverse 4x4 matrix which is including translate. I will use this to update one of my old tools soon. Live inverse matrix using tcl.

How to use:

Fill in the "knob_path" and that's it. "id" section can be changed in case the matrix order is different than usual 4x4.

CardToTrack AK

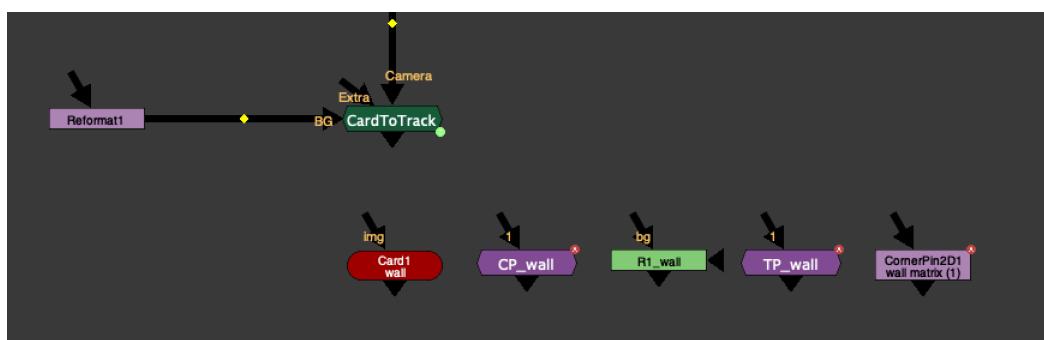
Author: Adrian Kiriel

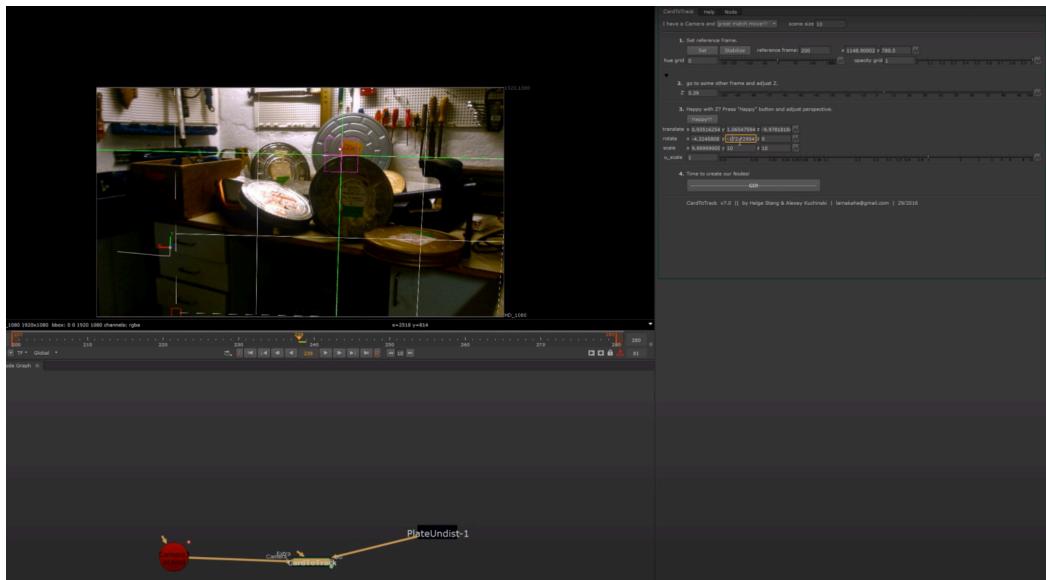
- <http://www.nukepedia.com/python/3d/cardtotrack>

Finding position in 3D space based on Geometry, World position pass, Deep or manual method. Reconcile 3D position to CornerPin, Transform and Roto nodes.

Features:

Calculation from an Axis: Many times we are provided with an animated Axis. In previous versions I was copying values from an Axis to the card and calculating, the problem is that if by default an axis had an unfortunate rotation like 90 degrees to the camera it was impossible to adjust it. With the Axis option you can connect a few Axeses together and Card to track will calculate the animation from the world matrix of the Axis you connected to with CardToTrack. (Supports animated Axeses) **Calculation from Deep:** Connect your Deep footage to the Extra input. (The position sampled on the reference frame and can not be animated) **UI changes:** Knob Groups are presented only if they are relevant.





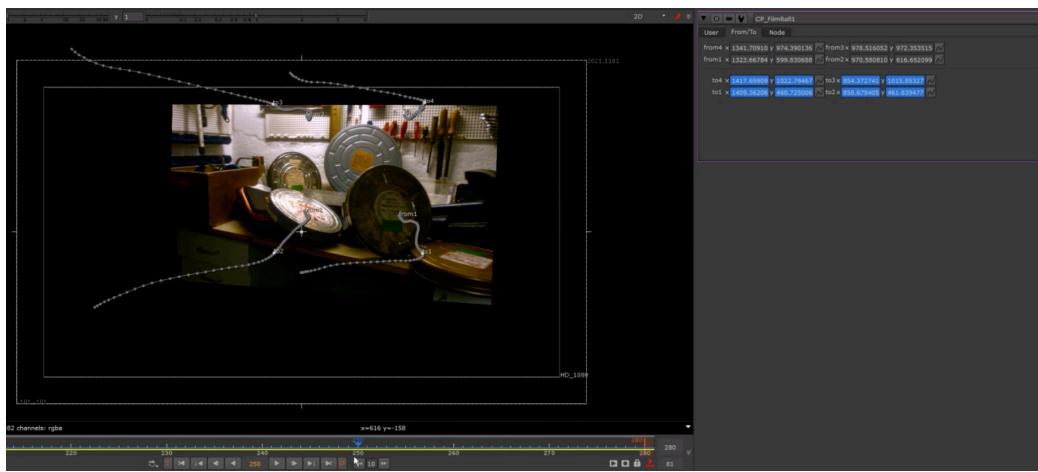
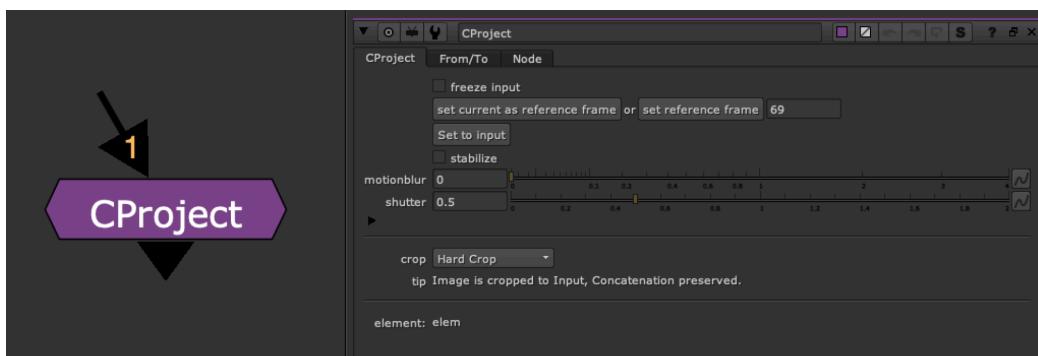
CProject AK

Author: Alexey Kuchinski

- <http://www.nukepedia.com/python/3d/cardtotrack>

CornerPin matchmove/stabilize meant to be used with CardToTrack tool.

Allows you to set frame, switch between stabilize and matchmove, add motion blur, and 3 different BBox management settings: - **Hard Crop** - (reformat node - concatenation is preserved) - **Adjustable crop** - breaks concatenation but allows for adjustable bbox - **No Crop** - no crop applied at all, concatenation preserved but bbox can get quite big **Set to input:** This will distort the image with the corner pin to fit the format, it is the same as projecting the image on a card and rendering in UV space.



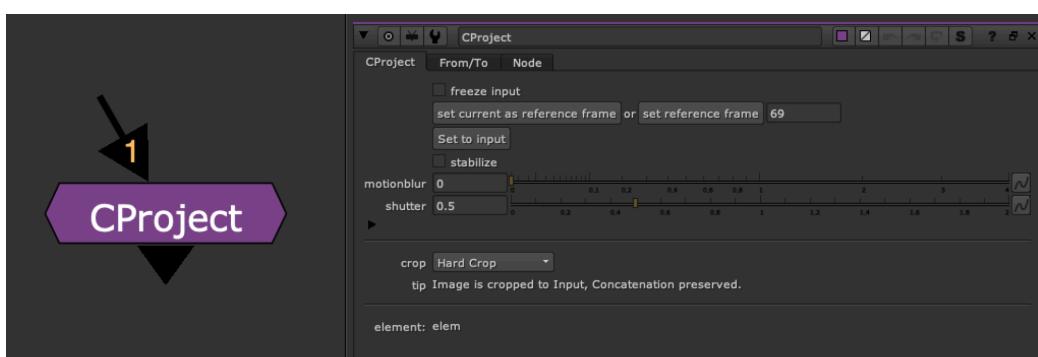
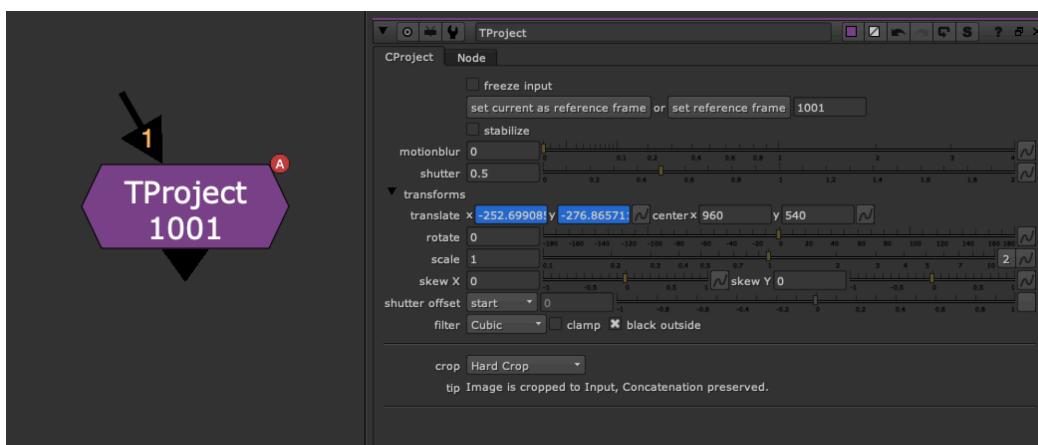
TProject AK

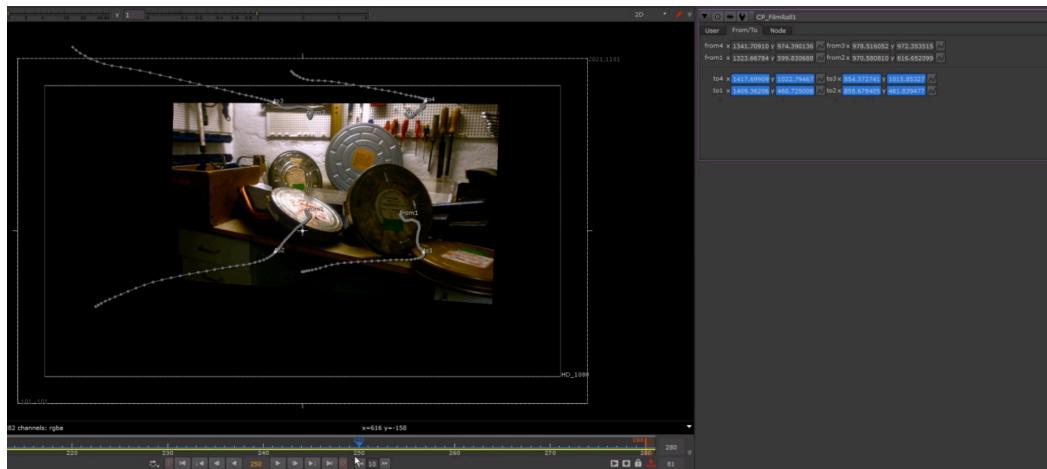
Author: Alexey Kuchinski

- <http://www.nukepedia.com/python/3d/cardtotrack>

TProject is similar to CProject but uses a Transform instead of a CornerPin to do a basic single point track.

Allows you to set frame, switch between stabilize and matchmove, add motion blur, and 3 different BBox management settings: - **Hard Crop** - (reformat node - concatenation is preserved) - **Adjustable crop** - breaks concatenation but allows for adjustable bbox - **No Crop** - no crop applied at all, concatenation preserved but bbox can get quite big **Set to input**: This will distort the image with the corner pin to fit the format, it is the same as projecting the image on a card and rendering in UV space.



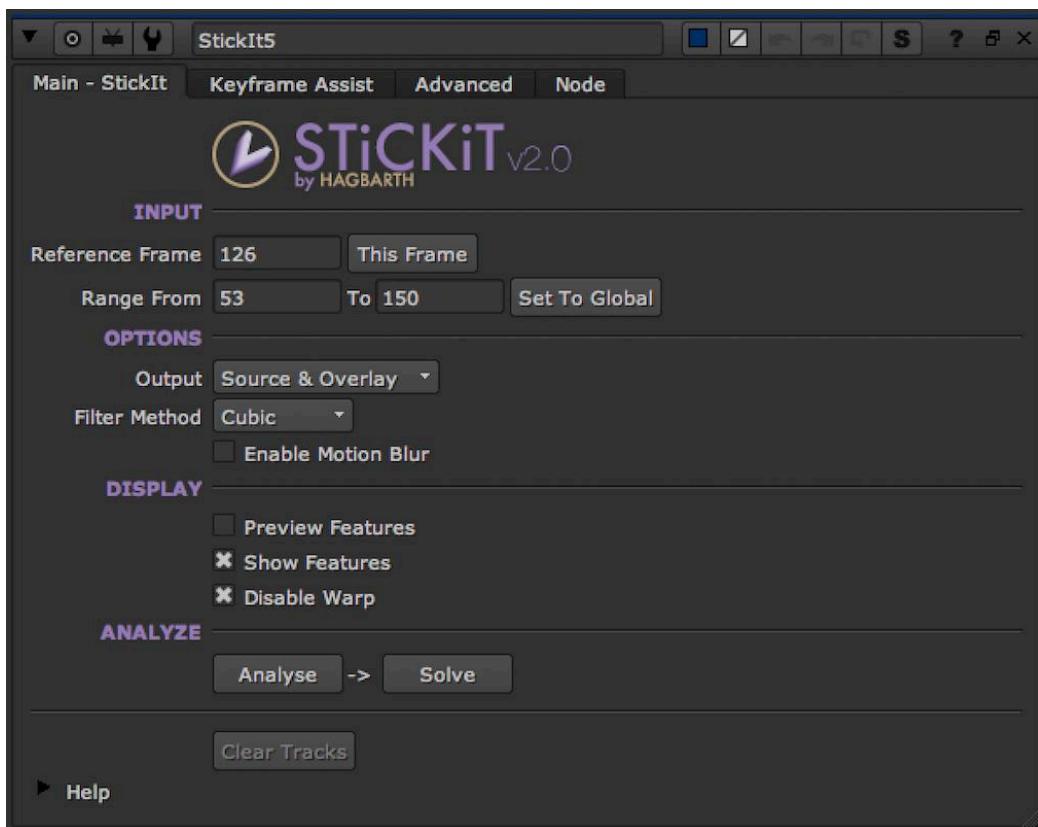


STICKiT MHD

Author: Mads Hagbarth Damsbo - <https://hagbarth.net/blog/>

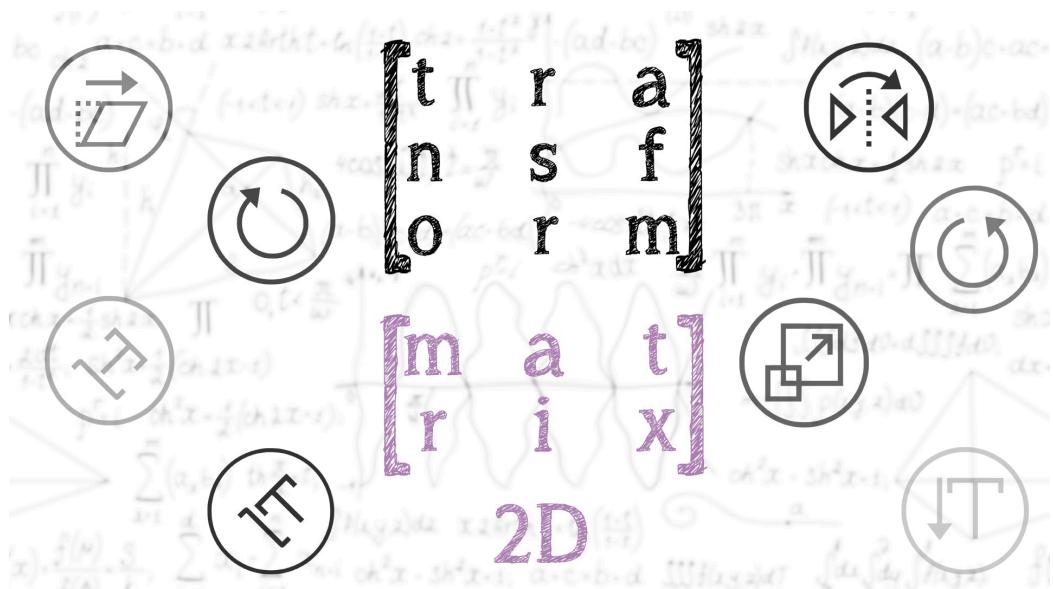
- <https://hagbarth.net/stickit-digital-makeup-gizmo-for-nuke/>
- <http://www.nukepedia.com/toolsets/transform/stickit-alpha>

StickIt V2 is a 2D Warp Match-Moving tool, for matchmoving on (from a 2D perspective) non-rigid surfaces.



TransformMatrix AG

Author: Andrea Geremia - <http://www.andreageremia.it/tutorial.html>



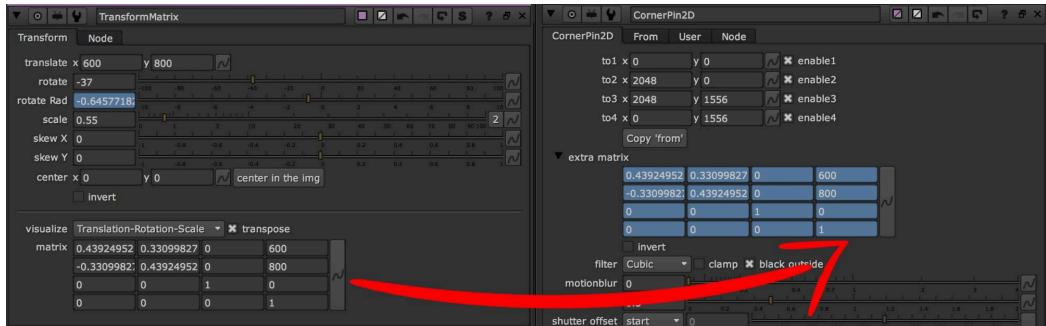
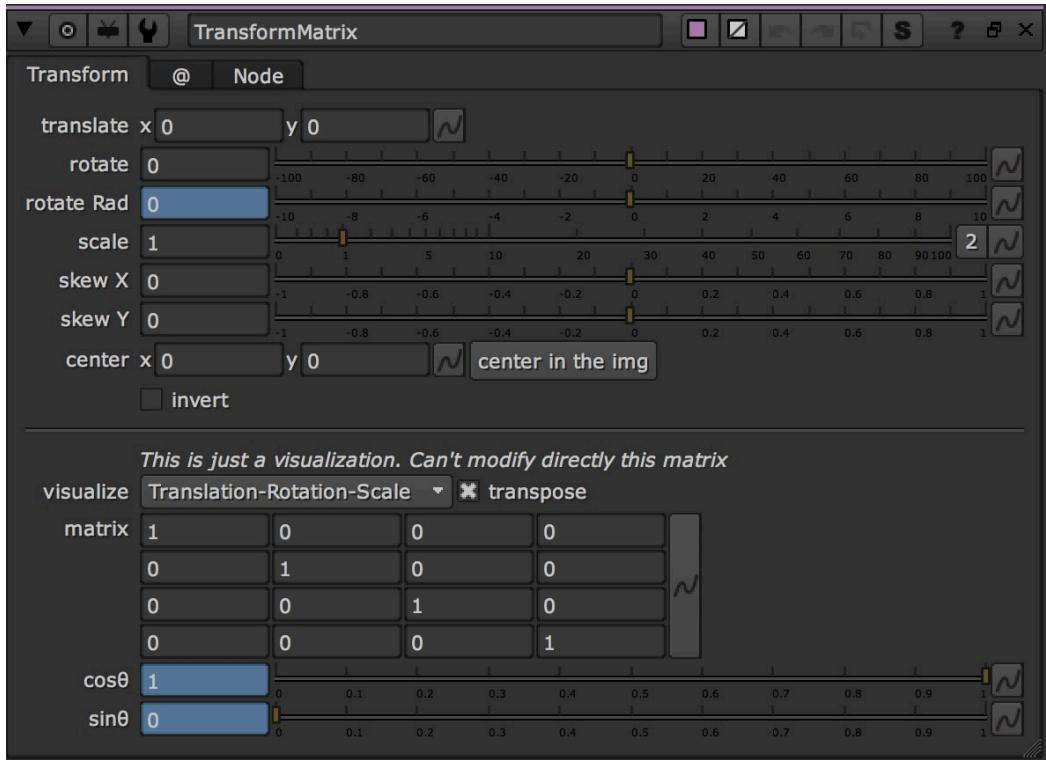
- <http://www.nukepedia.com/gizmos/transform/transform-matrix>
- http://www.andreageremia.it/tutorial_matrix_transform.html

Classic Transform node with a Matrix 4x4.

Modified the Transform node of Nuke, adding a Matrix 4x4.

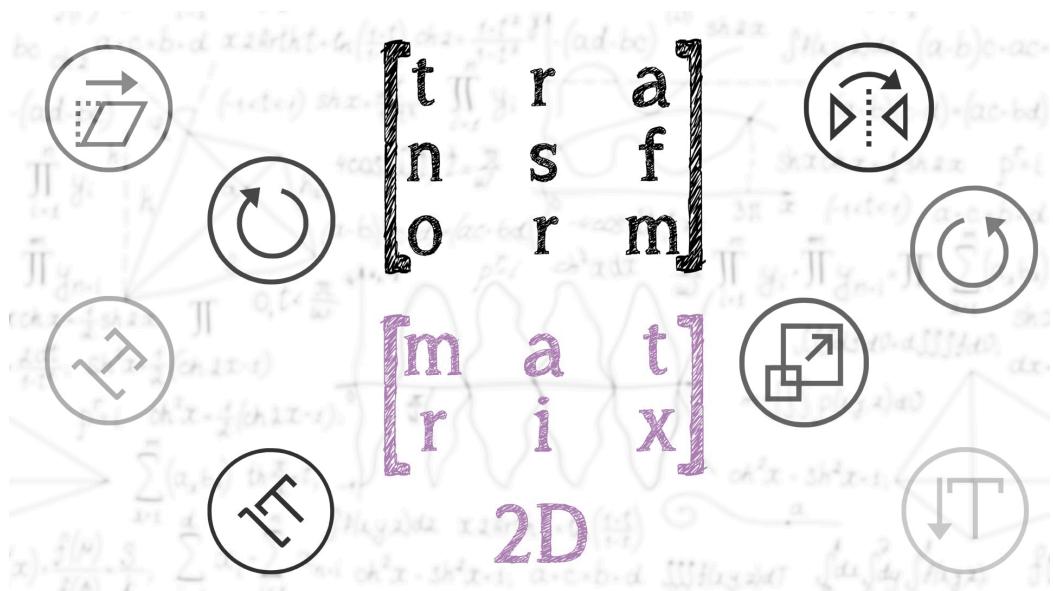
Now you can visualize the 2D Transformation with a Matrix.

This Matrix is good because you can understand how it works, but at the same time copy/paste the matrix to the extra_matrix knob in the CornerPin (for example).



CornerPin2D_Matrix AG

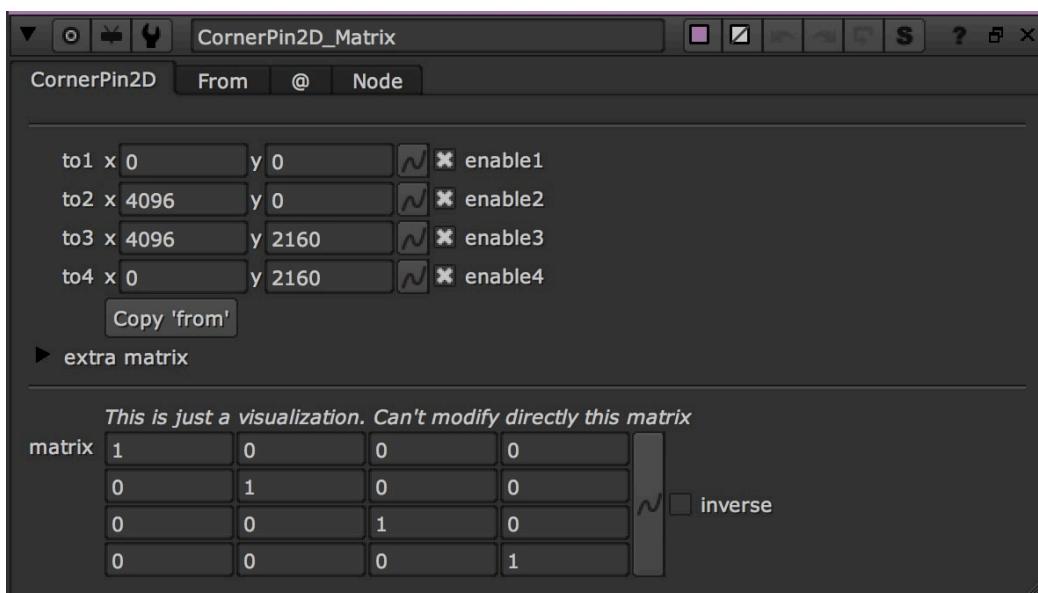
Author: Andrea Geremia - <http://www.andreageremia.it/tutorial.html>

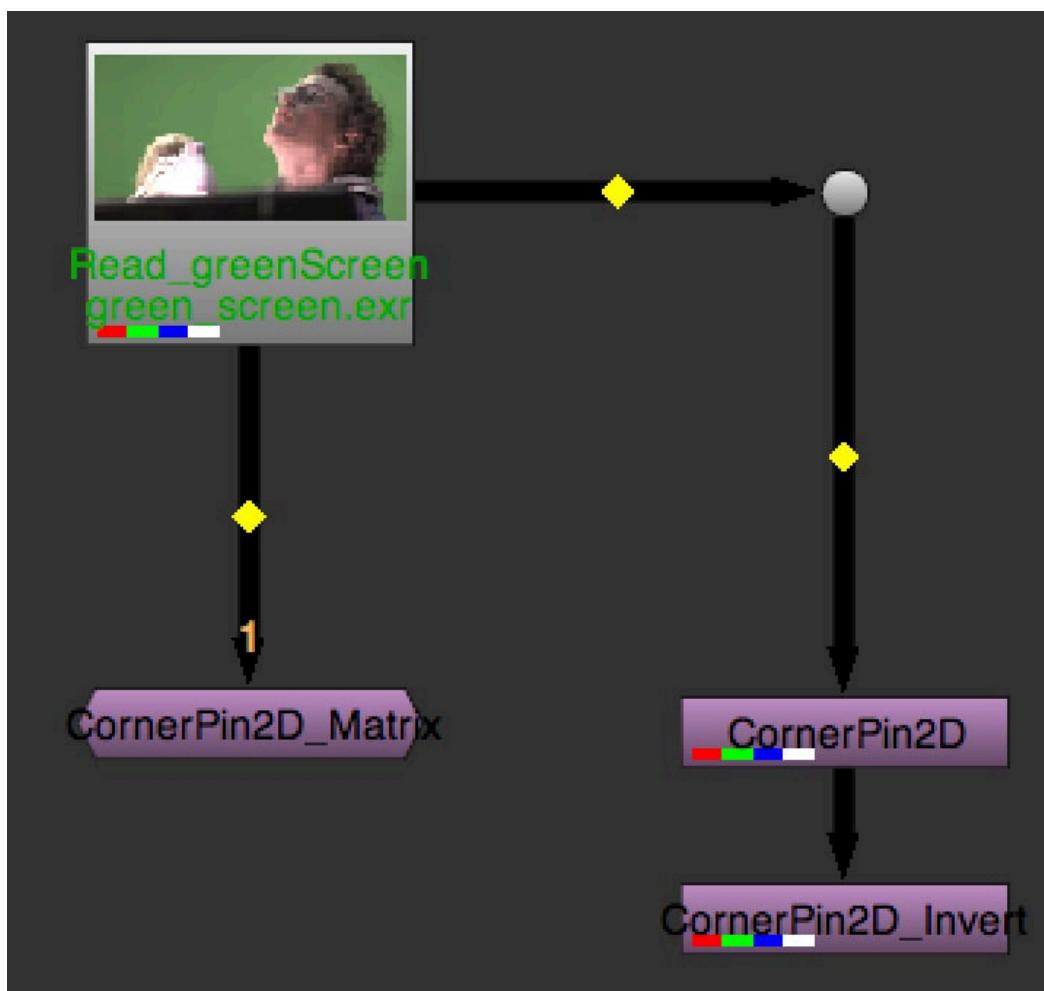


- <http://www.nukepedia.com/gizmos/transform/cornerpin-matrix>
- http://www.andreageremia.it/tutorial_matrix_transform.html

Get the classic CornerPin node in a Matrix 4x4.

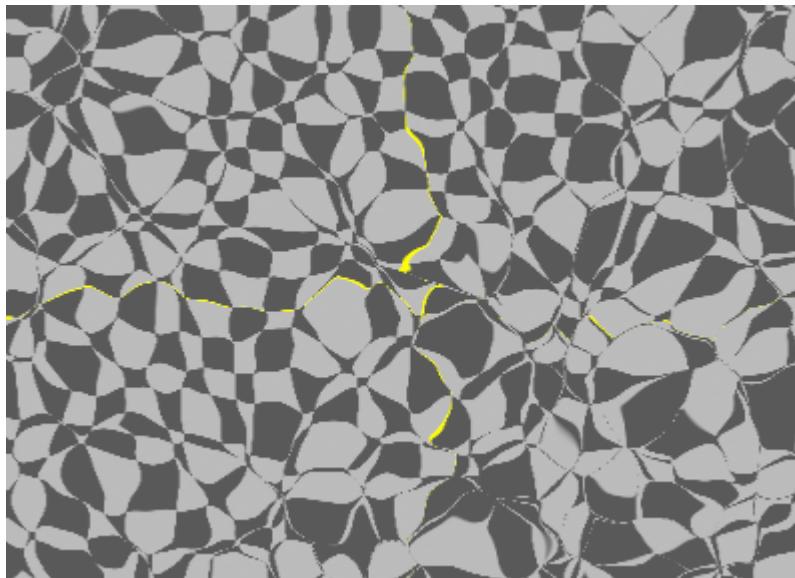
There is a checkbox useful to invert the Matrix. In this case we can copy the matrix in another CornerPin and the copy the inverse matrix in another CornerPin. The final result will be the original picture.





IIDistort EL

Author: Erwan Leroy - <http://www.erwanleroy.com>



- <http://www.nukepedia.com/blink/transform/iidistort>
- <https://github.com/mapoga/nuke-vector-matrix>

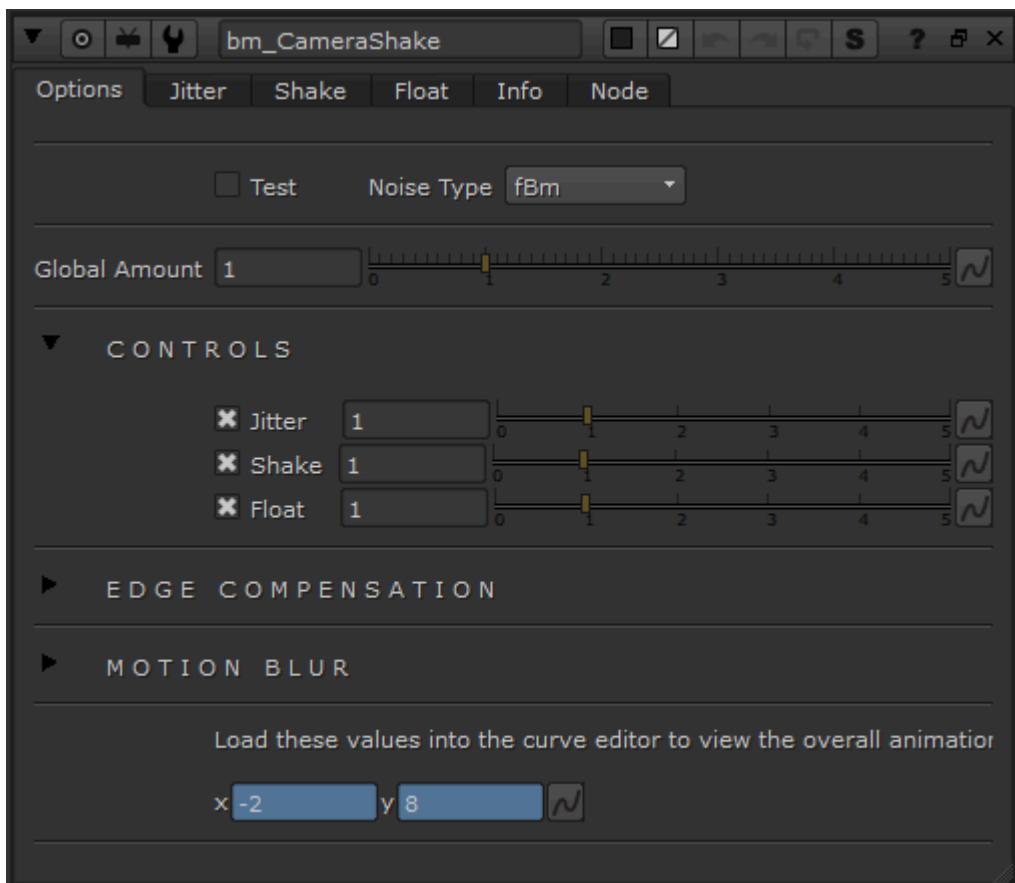
Recursive IDistort, produces similar results as Substance Designer's Vector Warp/Morph.

Built with Blinkscript, this is a very easy kernel to breakdown for beginners. The code is almost identical to Mads Hagbarth Damsbo's example code in his <https://www.youtube.com/watch?v=p3Lv7ThKbUk>.

I find the distortions created from it sometimes more interesting than from a regular IDistort. The tool will be included with the Nuke Vector Matrix toolset.

CameraShake BM

Author: Ben McEwan - <https://benmcewan.com/blog/>



- http://www.nukepedia.com/gizmos/transform/bm_camerashake/
- <http://benmcewan.com/nukeTools.html>

A replacement for Nuke's default camera shake node -- offers more control over 3 different frequencies of camera shake, and also shakes the centre-point, giving more detail to sub-frame motionblur. Also has options for how to deal with edge-of-frame pixels, so pushing in isn't always your best option anymore!

MorphDissolve SPIN

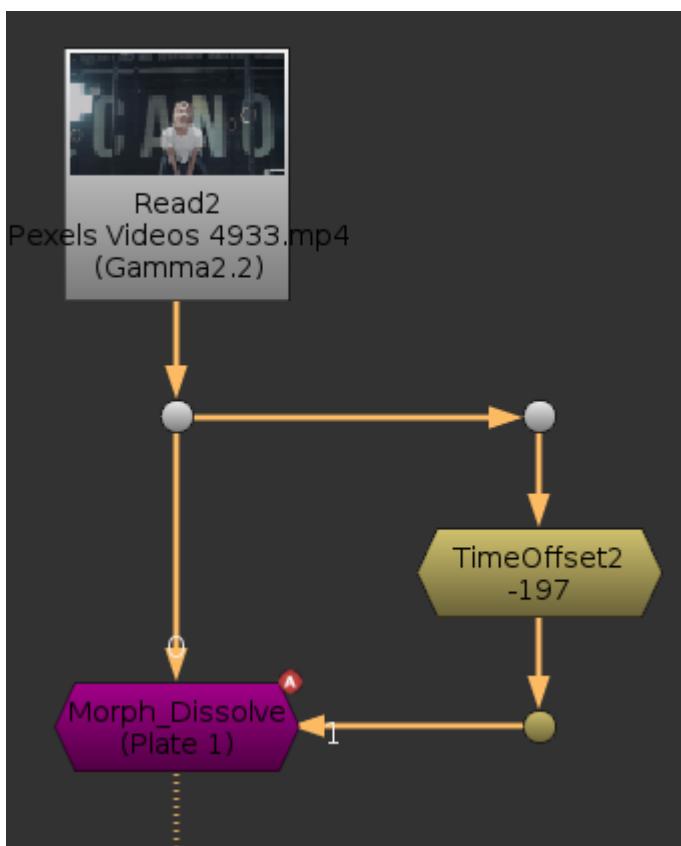
Website: <http://erwanleroy.com/blog/>

- http://www.nukepedia.com/gizmos/transform/morph_dissolve
- https://github.com/SpinVFX/spin_nuke_gizmos/blob/master/gizmos/spin_tools/Comp/Morph_Dissolve.gizmo
- http://erwanleroy.com/morph_dissolve-gizmo-for-nuke/

Allows to morph between two moving plates automatically, or can be used to improve manual Morphs. Inspired by Avid Fluid Morph or Adobe's Morph Cut.

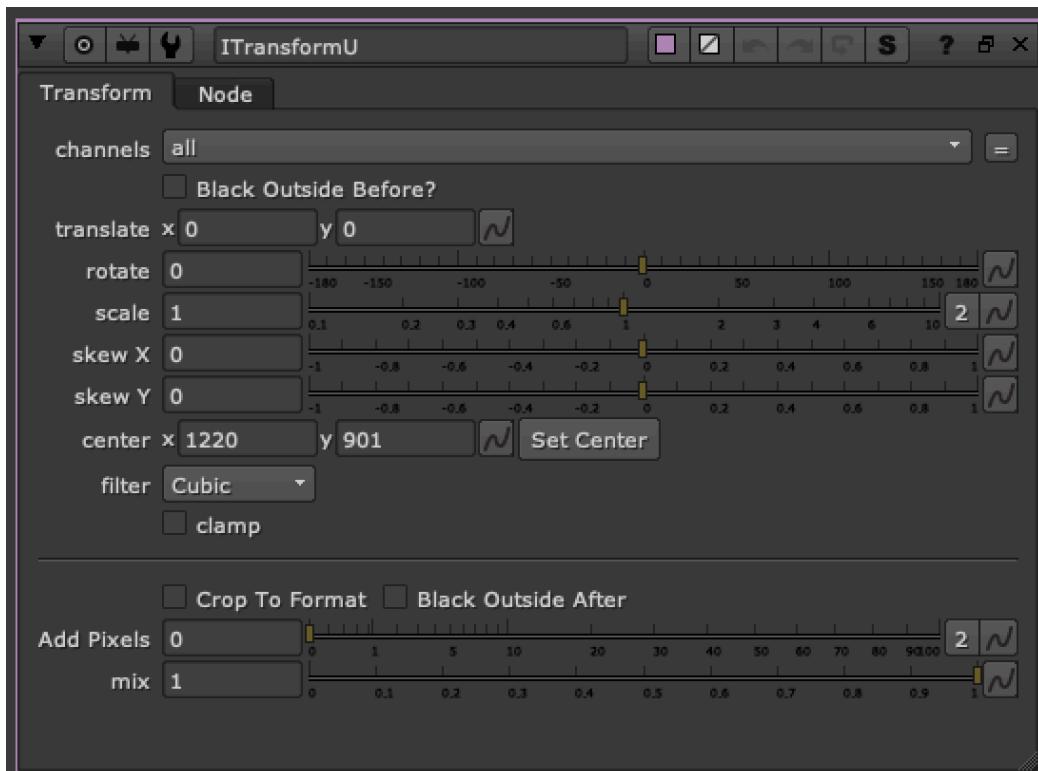
Will work best on visually similar plates or for invisible jump cuts. The more different the two plates to morph, the more artefacts will be present.

Can be used to improve manual Morphs (splineWarp or Gridwarp) by feeding the distorted A in one input and the distorted B in the other input. The Morph_Dissolve will look for the small details you may have missed or ignored with your manual morph.



ITransform FR

Author: Frank Rueter - <http://www.ohufx.com>



- <http://www.nukepedia.com/gizmos/transform/ittransform/>

Updated version of Frank Rueter's ITransform tool on nukepedia.

Mask based warper with transform controls.

Updates include:

- **Channels:** defaults to all channels but you can select channel to warp
- **Set Center Button:** Click to set to the center of the root.format or the input.format
- **Black Outside Before/After:** Click to apply a black outside before and/or after the warp, this can eliminate unwanted stretching edge pixels because of bounding box issues.
- **Crop To Format and Add Pixels:** More options for BBox management
- **Mix:** Using a transformMasked node instead of a transform, so the node is able to mix the warp effect Otherwise the node reacts the same way as the original ITransform node.



RotoCentroid NKPD

Author: Alister Chowdhury - <http://alisterchowdhury.co.uk/?page=vfx>

- <http://www.nukepedia.com/gizmos/transform/roto-centroid>

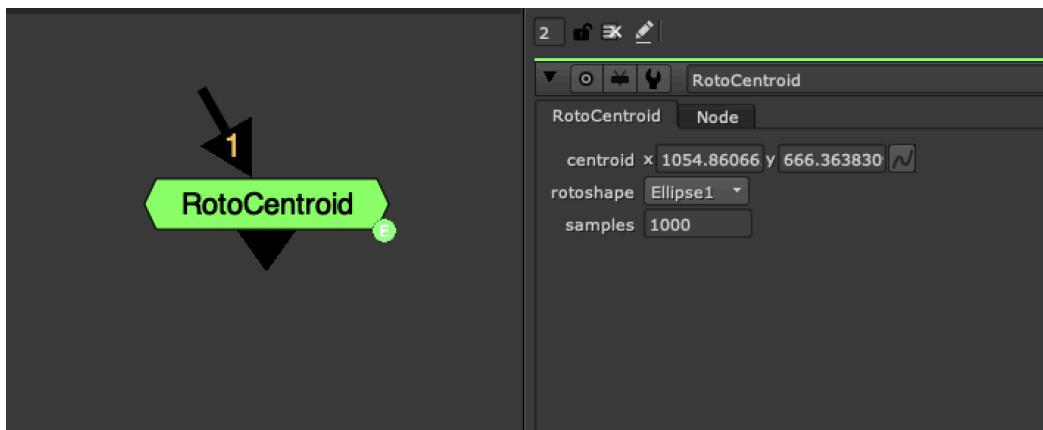
It tries to find out the centroid of a given rotoshape (based upon the area, NOT bounding box or average point values).

It does this using an algorithm I put together in python for finding the centroid of 2d shapes based upon their point locations.

This allows you to effectively find the center of mass of a Beziers etc.

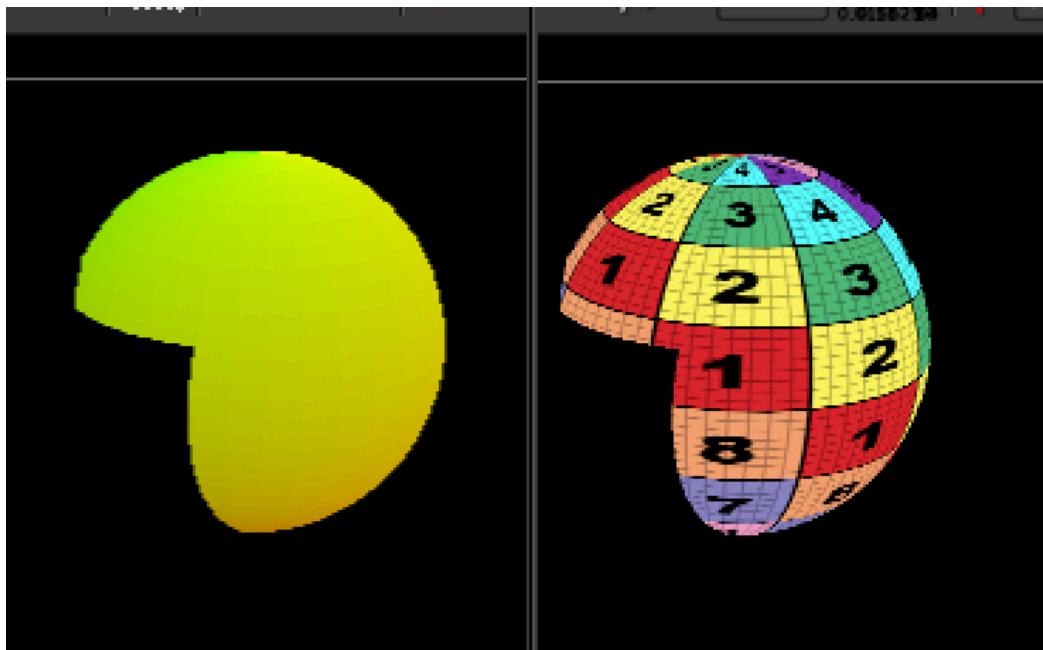
This differs from the center of the bounding box, or average point values in that it changes depending on how the shape is distributed, so it is unbiased on the amount of points you're using.

I made this because Houdini can do this, so I felt Nuke should be able to as well.



STMapInverse NKPD

Author: Luca Mignardi - <http://www.lookinvfx.com>



- http://www.nukepedia.com/gizmos/transform/in_inversestmap

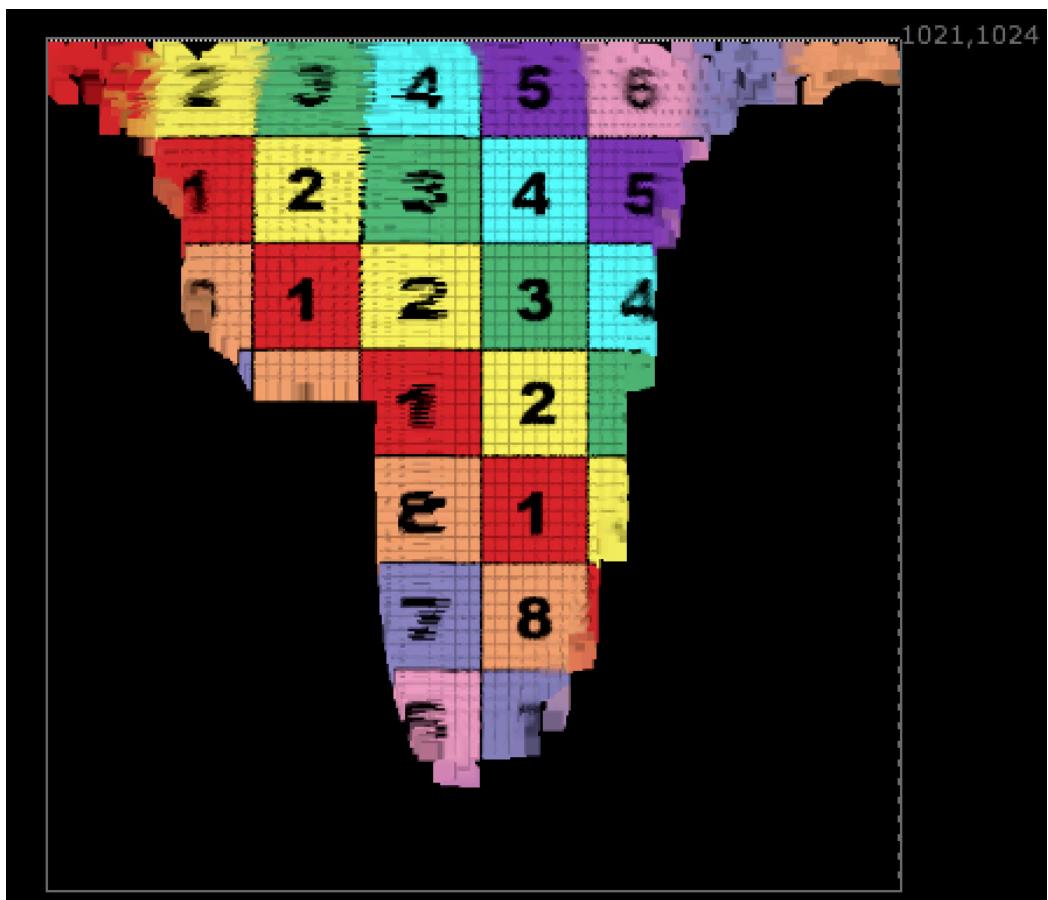
A simple and fast solution to Unwarp to UV space your CG render.

The Gizmo uses a simple PositionToPoint node to redistribute each pixel in its UV space position.

Works as the nuke default STMap but does exactly the opposite. Can be used in many different ways.

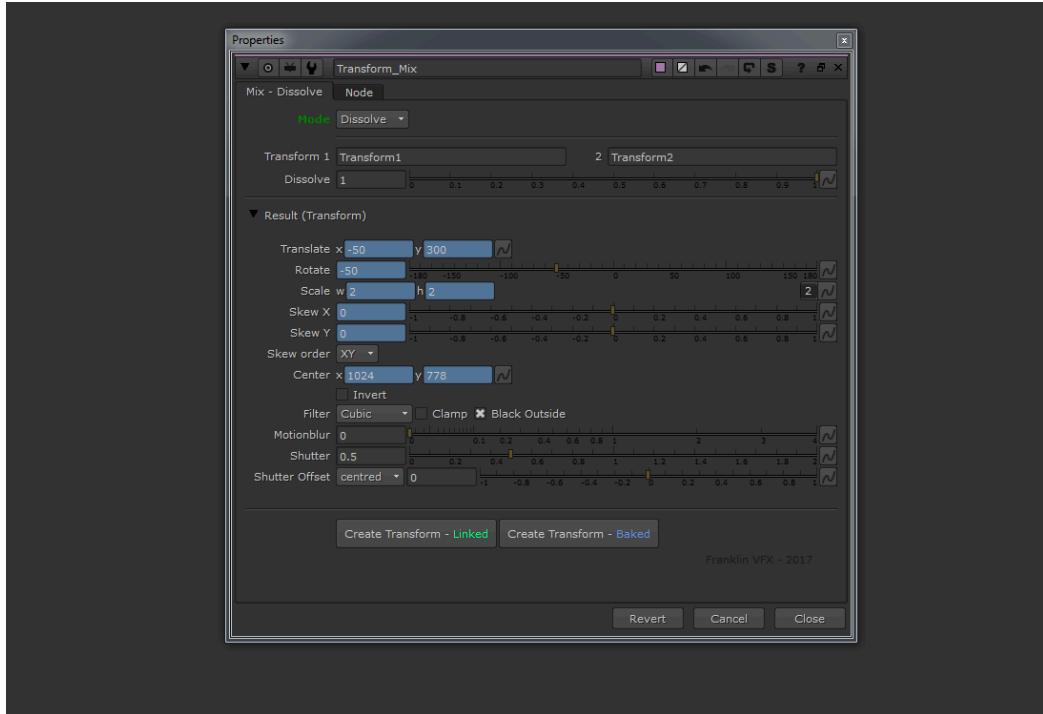
Very useful especially for reference to know where to draw a roto in UV space to be then distorted via STMap to mask a particular area of your CG render.

1021,1024



Transform_Mix NKPD

Author: Franklin Toussaint - http://franklinvfx.com/transform_mix-3/

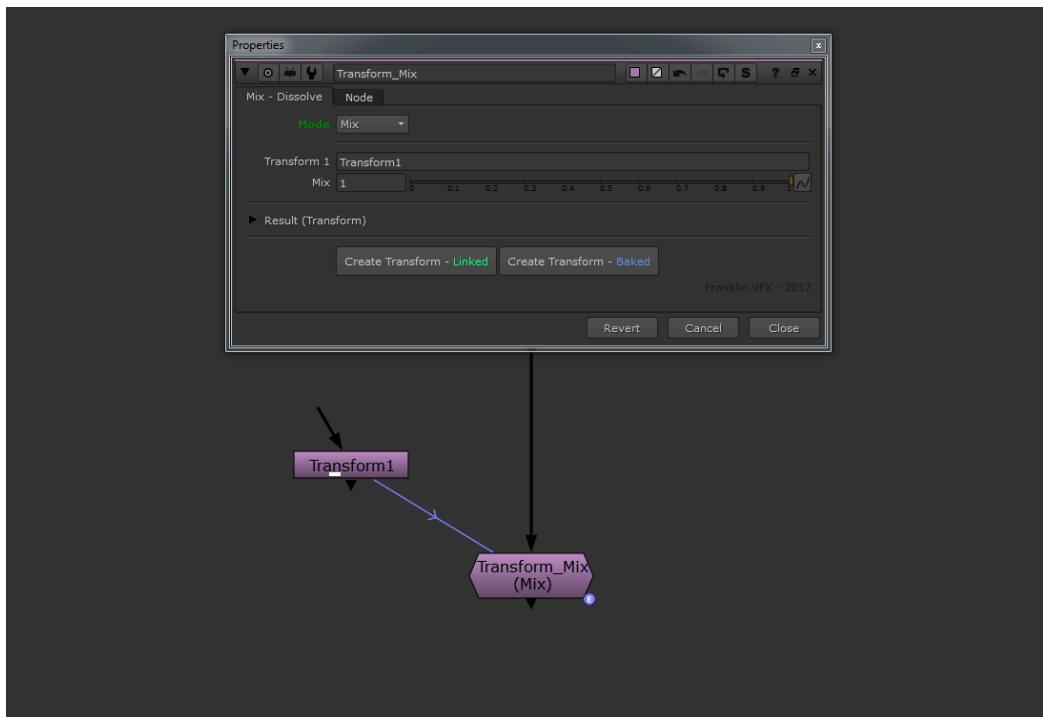
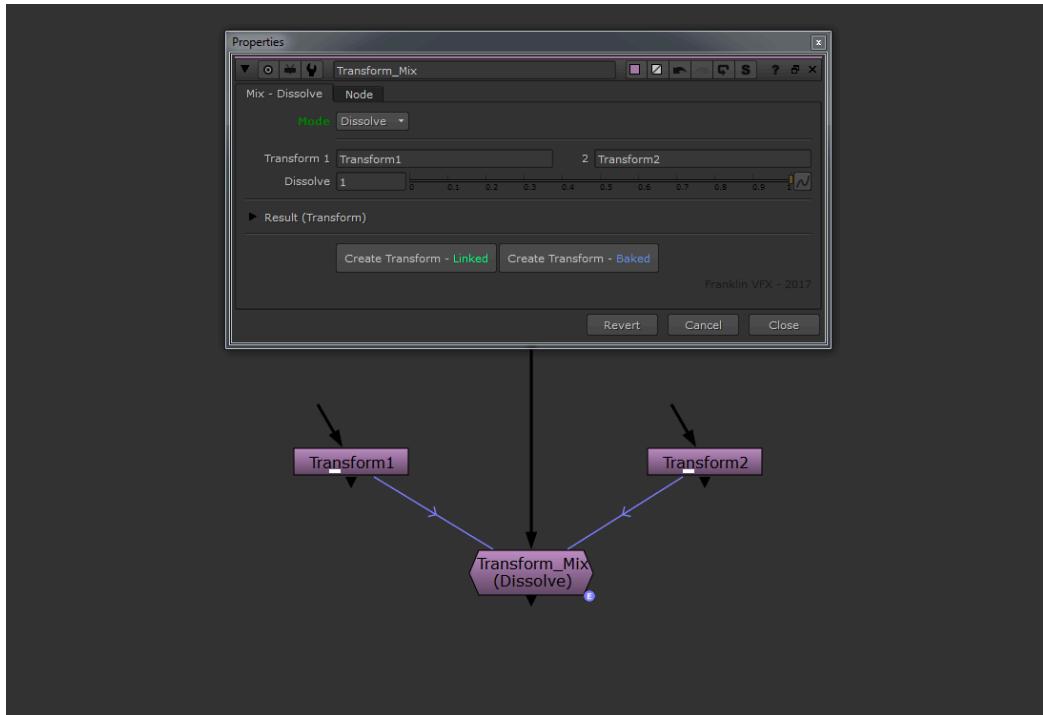


This tool has two functions: - **Mix mode** – To decrease the resulting value of another Transform node. - **Dissolve mode** – To mix two Transform nodes together with a slider.

Controls:

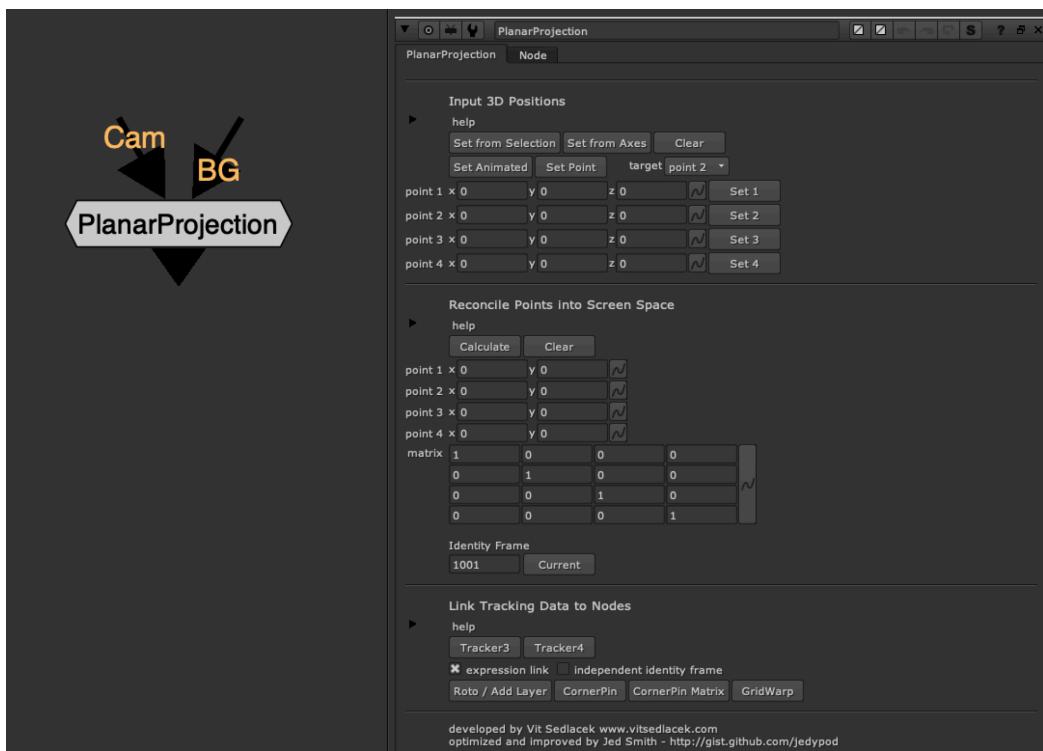
- **Mode:** To choose between "Mix" mode or "Dissolve" mode
- **Transform 1:** To create a link (enter the name of the Transform reference node)
- **Transform 2:** If on "Dissolve" mode enter the name of the second Transform reference node
- **Mix:**
 - 0 = all the knobs go to the default value of a native Transform node
 - 1 = the value of all the knobs becomes the value of the linked node (Transform 1)
- **Dissolve:**
 - 0 = the value of all the knobs becomes the value of the linked node (Transform 1)
 - 1 = the value of all the knobs becomes the value of the linked node (Transform 2)

- **Create Transform:** To create a new Transform node with the current transform value (linked or baked)



PlanarProjection NKPD

Author: Vit Sedlacek - <http://www.vitsedlacek.com>



- <http://www.nukepedia.com/gizmos/3d/vplanarprojection>
- <https://gist.github.com/jedypod/98dc18acd8008e7e5cbe>

Smart, better and faster Reconcile3D node. PlanarProjection generates 2D coordinates for points in 3D space. Works on 4 points at once, is instantaneous to calculate, and generates a 4x4 transform matrix for use in rotos.

This gizmo was initially developed as a tool for fixing drift in complex matchmove shots in post, rather than spending time to solve unsolvable shots, but during the time it served as a perfect tool for rotoscoping or cornerpinning (instead of using 3d cards).

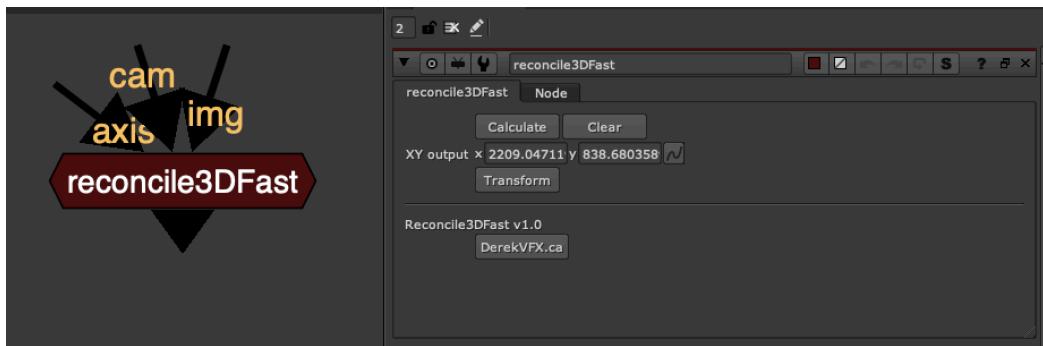
Workflow:

1. Connect the camera
2. Select the points in 3d viewport (you can use vertex selection mode, or move handles manually)
3. Generate 2D projection points

4. Generate matrix
5. Use inbuilt functions to generate Rotopaint/SplineWarp or GridWarp node, which is tracked with generated points

Reconcile3DFast DR

Author: Derek Rein - <https://derekvfx.ca/nuke/>



- <https://raw.githubusercontent.com/DerekRein/DerekVFX/master/ToolSets/reconcile3DFast.nk>

This gizmo is taking some of the python script from PlanarProjection NKPD node by Vit Sedlacek (optimized and improved by Jed Smith).

The planar projection tool is amazing and robust, but this one is simplified for just 1 axis, 2d point result and it is easy, fast, and simple.

3D Tools

3D compositing, geometry, camera, and projection tools.

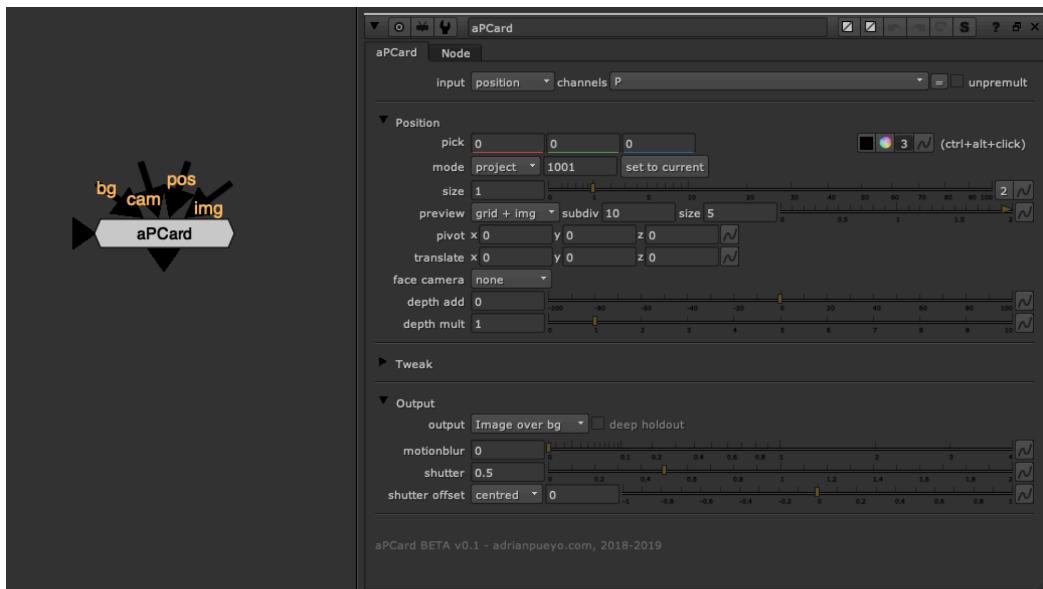
Tools in This Category

Tool	Author	Description
aPCard	Adrian Pueyo	Place 3D cards using render passes
DummyCam	Adrian Pueyo	Camera that grabs projection values from upstream
mScatterGeo	Mark Joey Tang	Scatter geometry on vertices, faces, or density maps
Origami	Mark Joey Tang	Build and animate geo patches
RayDeepAO	Mark Joey Tang	Render Ambient Occlusion from geo to deep
SceneDepthCalculator	Mark Joey Tang	Calculate depth value from camera to object
SSMesh	Mark Joey Tang	Convert position/depth to screen space mesh
Unify3DCoordinate	Mark Joey Tang	Unify 3D transformations into single coordinate
UVEditor	Mark Joey Tang	UV tile and UDIM setup editor
Distance3D	Falko Paeper	Measure distance between 3D objects
DistanceBetween_CS	Christian Kauppert	Calculate 2D/3D distance between objects

Tool	Author	Description
Lightning3D	Erwan Leroy	3D Lightning using Blinkscript
GeoToPoints	Mads Hagbarth Damsbo	Create point cloud from geo vertices
Noise3DTexture	Ben Sumner	3D world position noise as texture
GodRaysProjector	Chris Fryer	3D alternative to Godrays with GPU preview

aPCard AP

Author: Adrian Pueyo - <http://www.adrianpueyo.com/>



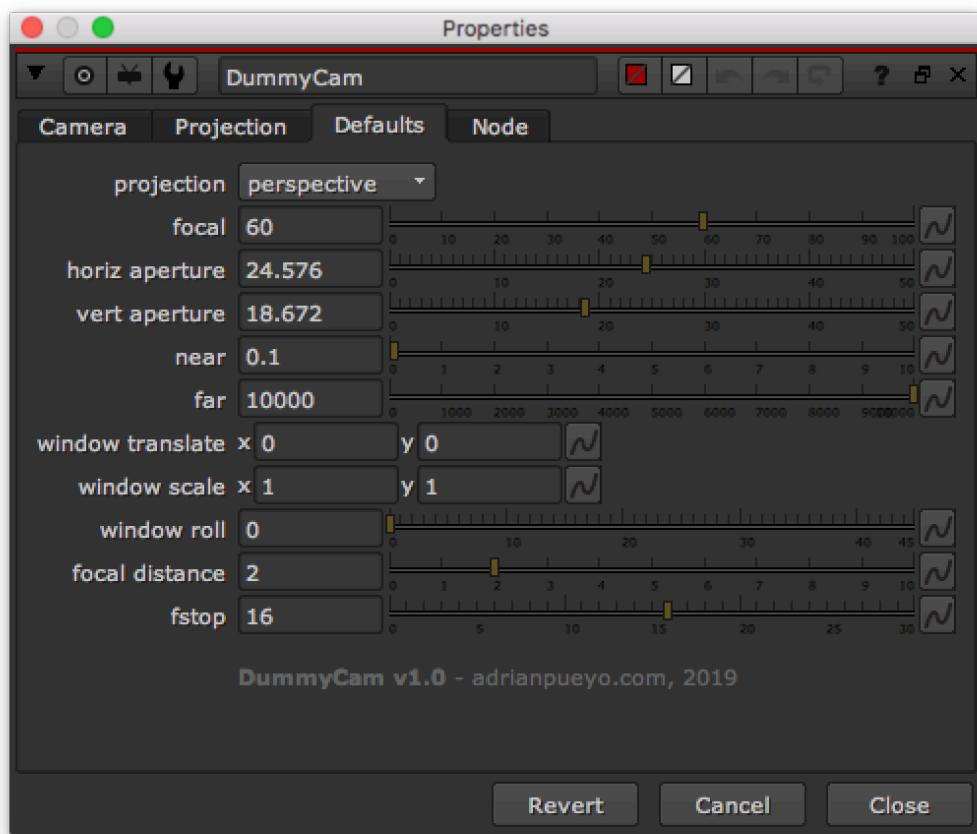
aPCard helps you quickly place a card using CG render passes. Use either: Position Pass, Depth pass, Deep data, or geometry. Ctrl+alt click to sample image data in order to place the 3d card. From there you can set a reference frame, face the card to the camera (on ref frame or permanently) and you can choose the mode of either projection or just place the card (so the texture will be in card UV space).

When you are previewing the card placement, it provides a handy grid for quick placement and size/orientation checking.

You can also use additional deep data to do a deep holdout of the card, in case it needs to go behind/between some 3d objects.

DummyCam AP

Author: Adrian Pueyo - <http://www.adrianpueyo.com/>



- <http://www.nukepedia.com/gizmos/3d/dummymcam>

DummyCam is a Camera that apart from the matrices also grabs all the 'Projection' values from the upstream camera that it's connected to. Has a 'Defaults' tab with the knob values to use if there's no Camera connected. It can also be used inside of groups, as many levels deep as you want. All using live and super fast TCL.

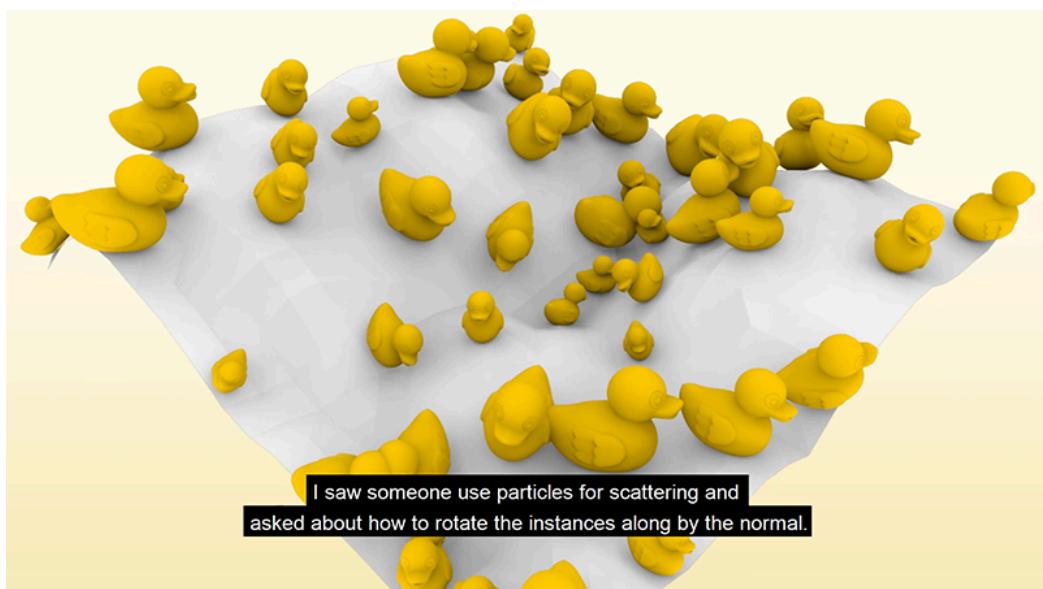
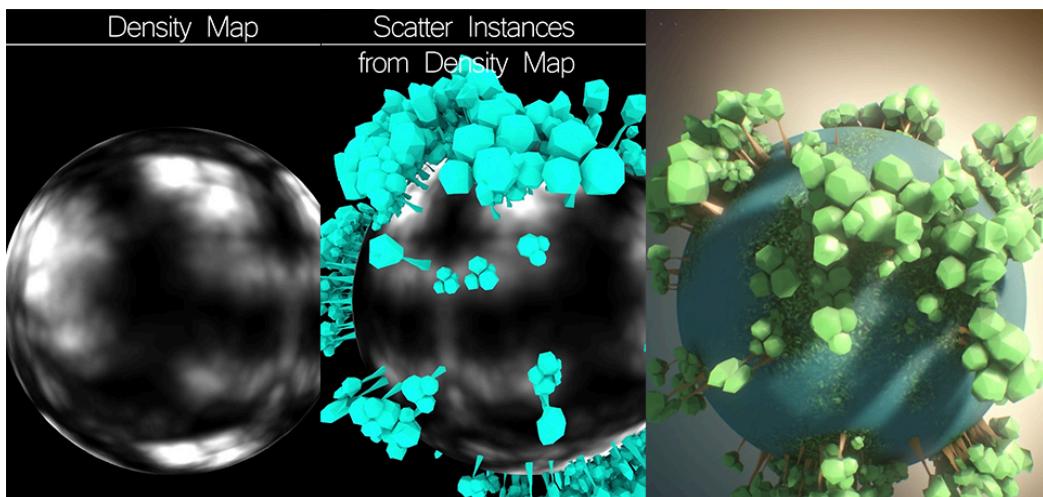
DummyCam is mainly meant for making gizmos that require a Camera input, as there is currently no other way to look for the Projection values upstream, and it is usually solved with ugly callbacks, with a Python button, or looking for the topnode, which only works as long as you don't plug an axis to the top camera, etc. Simply put it inside the Group, plugged to the cam Input node, and voilà. *Special thanks to Ernest Dios, we decyphered the undocumented parts of the code together.*

mScatterGeo MJT

Author: Mark Joey Tang - <https://www.facebook.com/MJTLab>

- <http://www.nukepedia.com/gizmos/3d/mscattergeo>
- <http://bit.ly/menupy>

mScatterGeo supports scattering on geo's vertices, faces and density map in nuke. 2 rotation types available, 'look At' and 'normals'. Variation of size, rotation, texture and instance geo can be set.





Origami MJT

Author: Mark Joey Tang - <https://www.facebook.com/MJTLab>

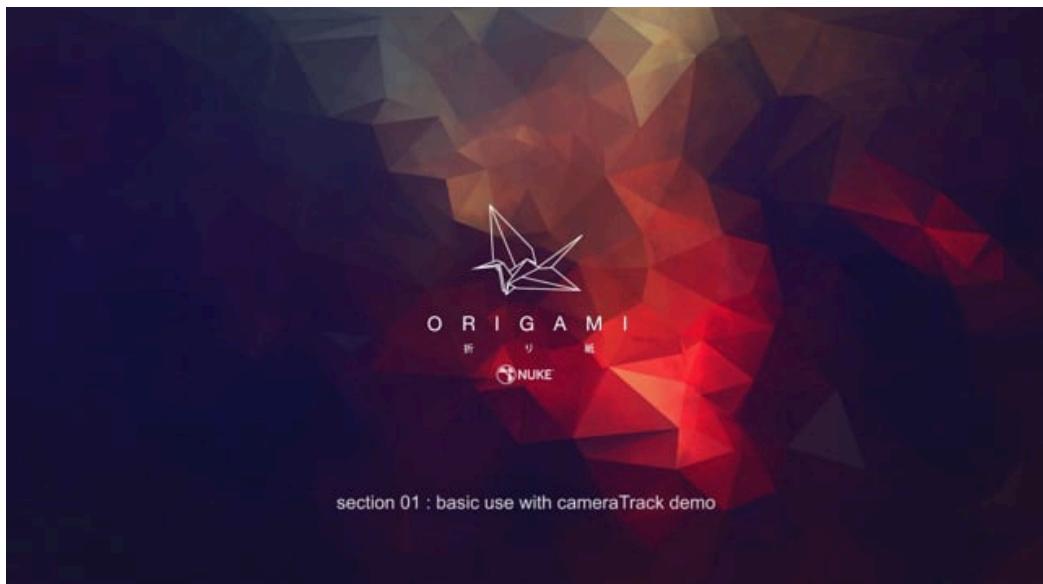
- <http://www.nukepedia.com/gizmos/3d/origami>
- <http://bit.ly/menupy>

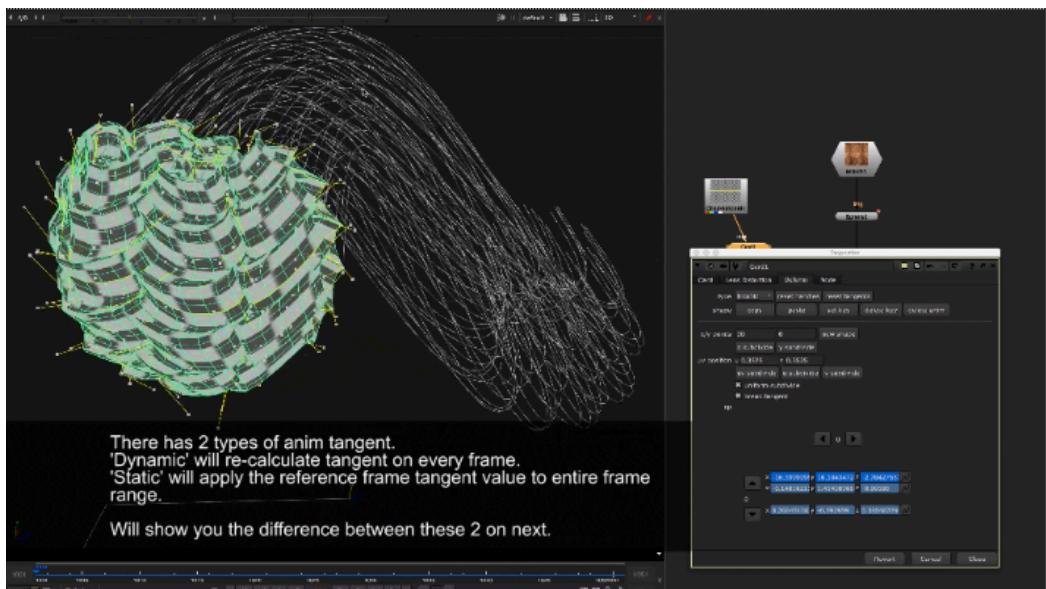
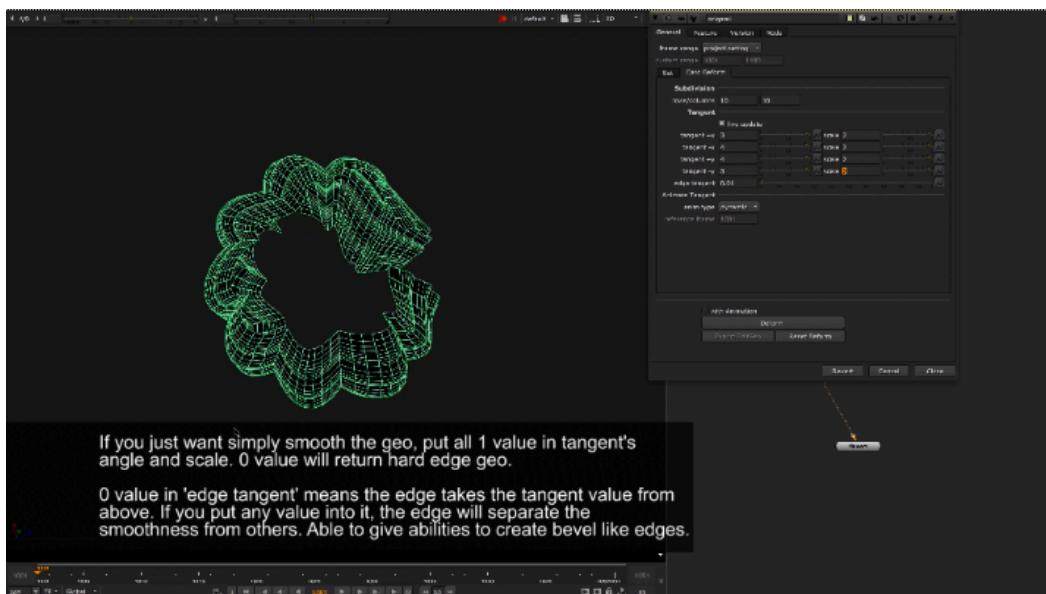
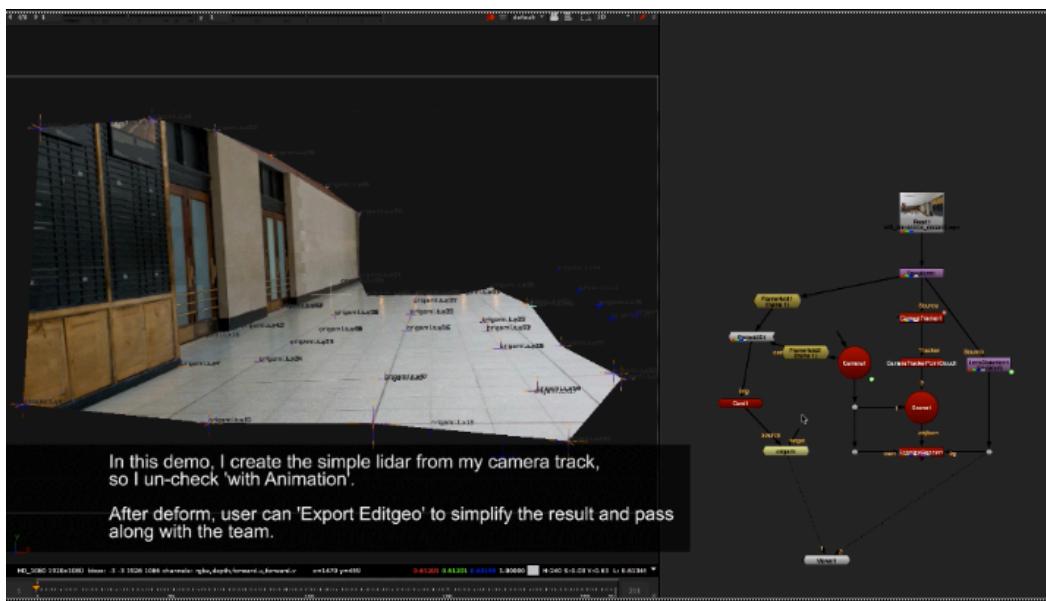
Initial intention of 'Origami' is a *just for fun* tool. Since the tool involved many setup. Then I start to build it for practical usage. It helps to build geo patch for scatter objects or form a new UV, re-build a messy wireframe photoscan geo, clone a high-end geo to low-end geo for patch or 3D reference, and also able to create interact animation. v1.2 added tangent for geo smoothness.

Example case of using Origami:

Create fake new UV for texturing in nuke:

https://www.facebook.com/pg/MJTLab/photos/?tab=album&album_id=415866105661883



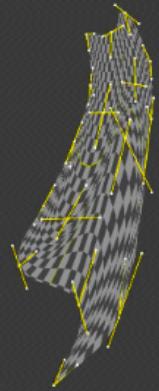


Anim type of tangent comparison

Each type of tangent anim can apply in different cases. Depends on the situation.

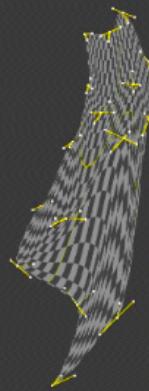
Dynamic

Calculate tangent value
on every frame according
position change on each
points.



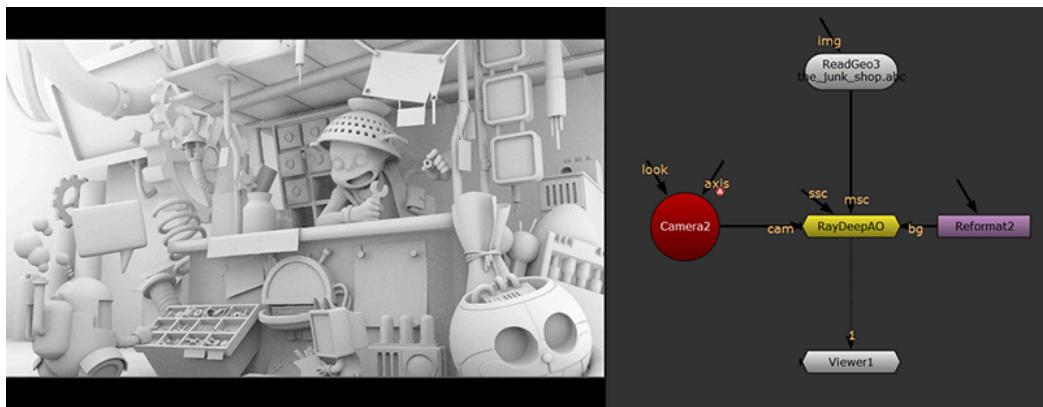
Static

Apply the tangent value
from reference frame to
entire frame range.



RayDeepAO MJT

Author: Mark Joey Tang - <https://www.facebook.com/MJTLab>



- <http://www.nukedocs.com/gizmos/3d/raydeepao>
- <http://bit.ly/menupy>

A setup to render Ambient Occlusion from Geo to deep format, able to set non-renderable objects.

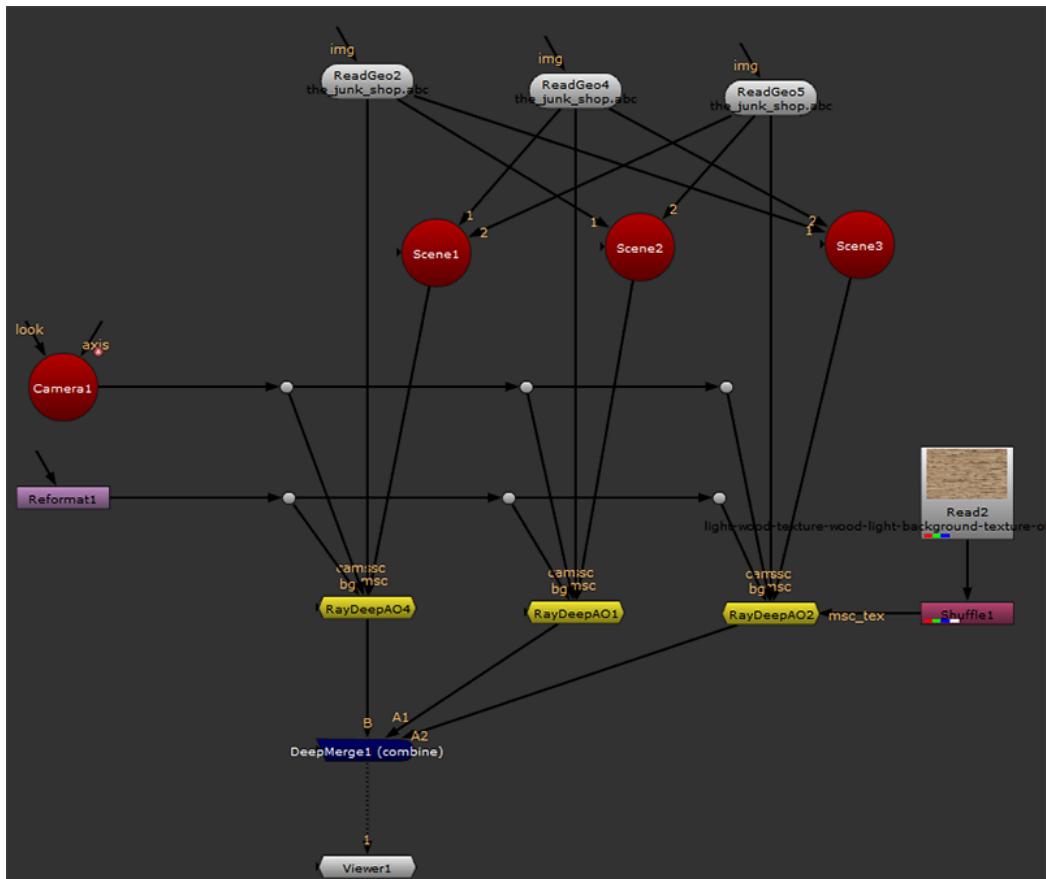
Create all in layers, so the main scene can interact with other geos but not holdout by them.

Inputs:

- **cam:** connect with camera node
- **bg:** define the output resolution
- **msc:** stand for 'main scene', which is the primary geo(s) to render AO. Input can be a single geo or a scene node connected to multiple geos.
- **ssc:** stand for 'sub scene', which is setup non-renderable geo(s) but they interact with the primary geo(s). Input can be a single geo or a scene node connected to multiple geos.
- **msc_tex:** stand for 'main scene texture'. This input will be used when 'use texture' is checked. Texture required in UV space.

Output:

Output is in deep format. If output vector is checked, position and normal data is also in deep format.

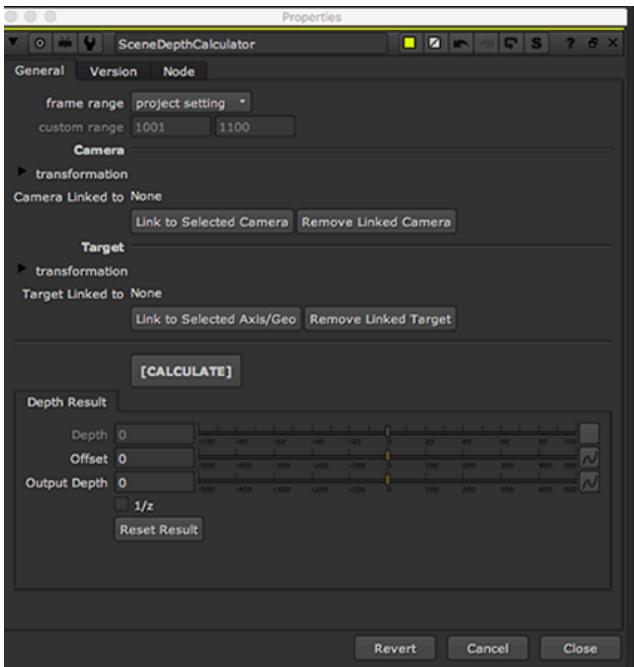


SceneDepthCalculator MJT

Author: Mark Joey Tang - <https://www.facebook.com/MJTLab>

- <http://www.nukepedia.com/gizmos/3d/scenedepthcalculator>
- <http://bit.ly/menupy>

SceneDepthCalculator for calculate the depth value from camera to object. It useful for any depth tool, mostly common for rack defocus. I am also using this to drive all 2D nodes while setup template. Use lidar and camera to calculate the shot scale, and use the scale ratio to drive all 2D nodes in template base on the key shot. So it will get the consistent look from the key shot.



SceneDepthCalculator 1.7

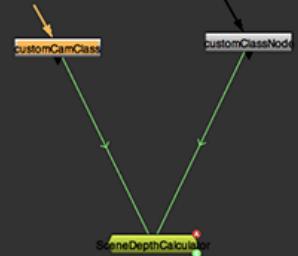
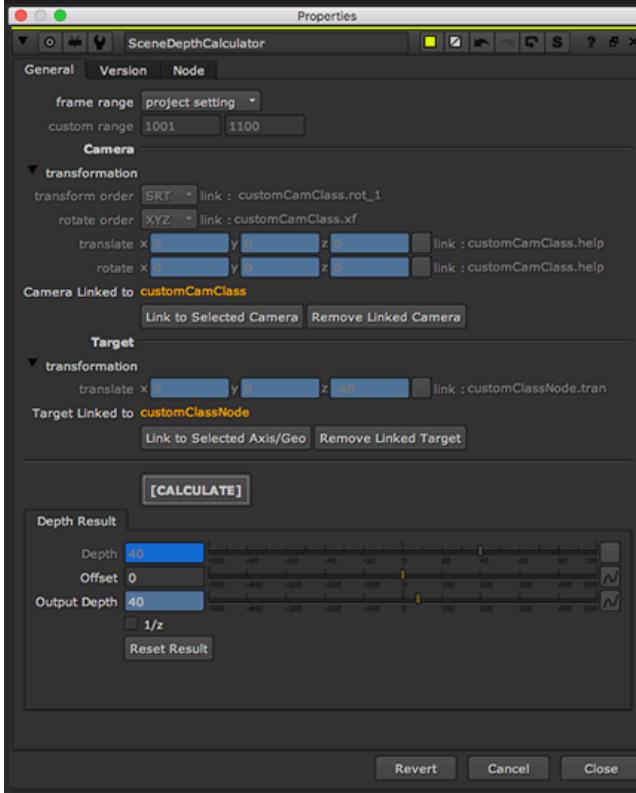
1.7

- removed node class restriction
 - * Because some companies are using their own camera/axis class nodes. So it supported any type of nodes

- can use any nodes' knob value
 - * if detected missing default knob to link, user can set another knob manually or even use the custom data in 'NoOp' .

- show linked expression of camera and target

- frame range added 'current frame' option. For 1 frame calculation.

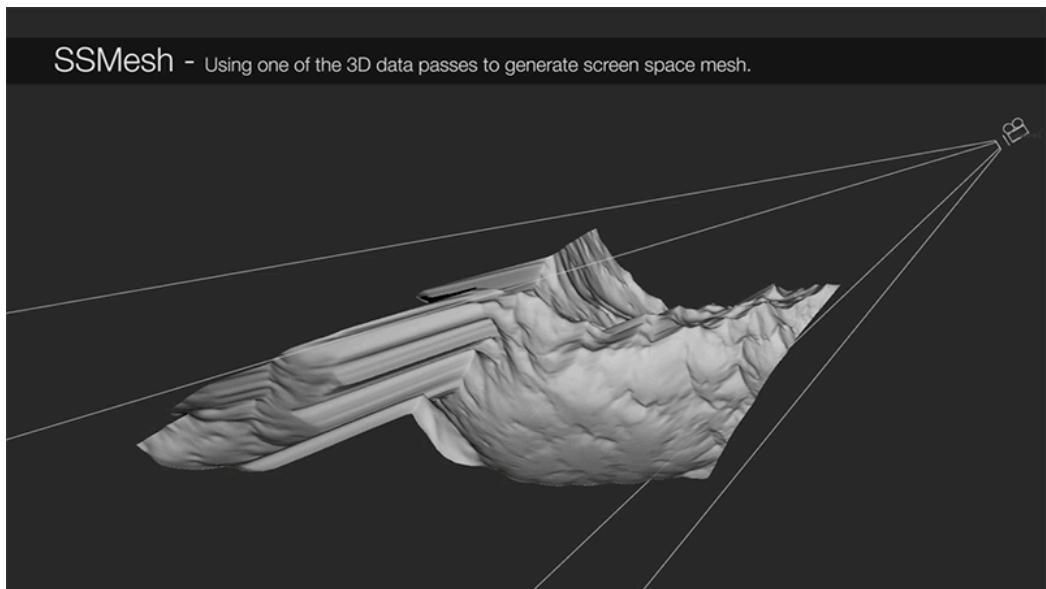


SSMesh MJT

Author: Mark Joey Tang - <https://www.facebook.com/MJTLab>

- <https://www.nukepedia.com/gizmos/3d/ssmesh>
- <http://bit.ly/menupy>

Using Position, depth or deep data to convert screen space mesh. Since pointcloud is pixel base 3D coordinate data, and it changes on every frame. So SSMesh helps to convert those data to vector data and process any vector tools.



Unify3DCoordinate MJT

Author: Mark Joey Tang - <https://www.facebook.com/MJTLab>

- <http://www.nukepedia.com/gizmos/3d/unify3dcoordinate>
- <http://bit.ly/menupy>

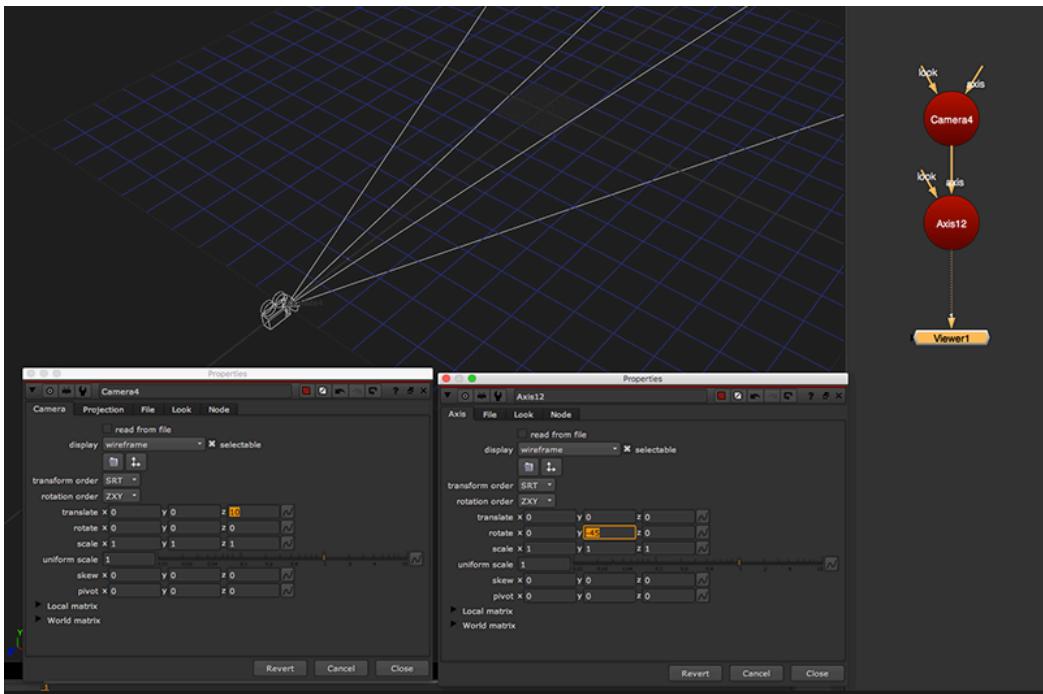
Unify all the 3D transformation nodes into one single coordinate value. Snap vertex supported animation, shifted pivot, and able to export translation and rotation.

Solve complicated 3D transformation setup and tricky snap vertex, return in one single coordinate value.

Video content:

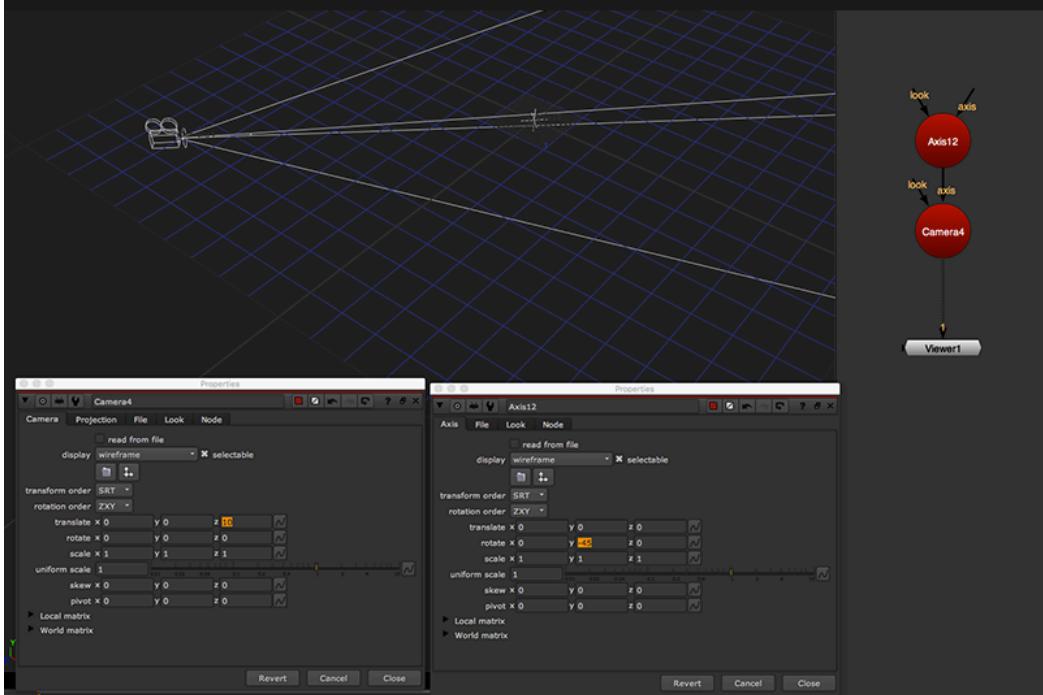
- Part01 - introduction & camera demo
- Part02 - geo demo
- Part03 - light demo
- Part04 - snap vertex on readGeo demo





What is non-reverse node in Unity3DCoordinate ?

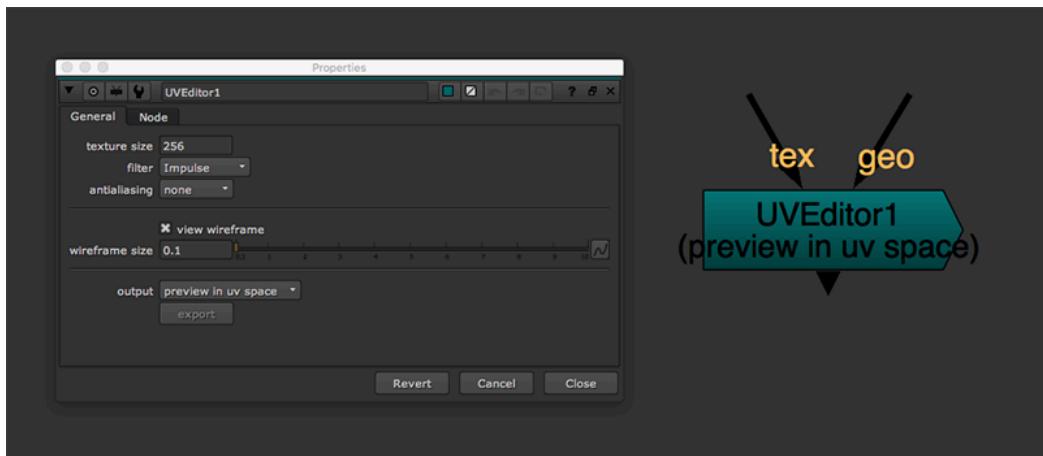
An example above, when camera connected to Axis, but the rotation in Axis doesn't apply on the camera position.



When swap the Axis to Camera's upstream, the rotation applied to the camera. Then the Camera Class (Camera2) should be on 'filterNonReverse' list for Unity3DCoordinate to process.

UVEditor MJT

Author: Mark Joey Tang - <https://www.facebook.com/MJTLab>



- <http://www.nukepedia.com/gizmos/3d/uveditor>
- <http://bit.ly/menupy>

UVEditor simplifies the steps of creating UV tile or UDIM setup in nuke, provides the visual of UV tile in UV space of the geo, exports UDIM texture, extracts mattepainting projection in UDIM, paint fix the texture and map it back to the geo.

For what is UV tile / UDIM and how to get it works in nuke, please check here:

https://www.facebook.com/pg/MJTLab/photos/?tab=album&album_id=348648709050290 Download zip included this tool in gizmo and group format, UVEditor_demo.nk, demo geo (please re-link the geo file).

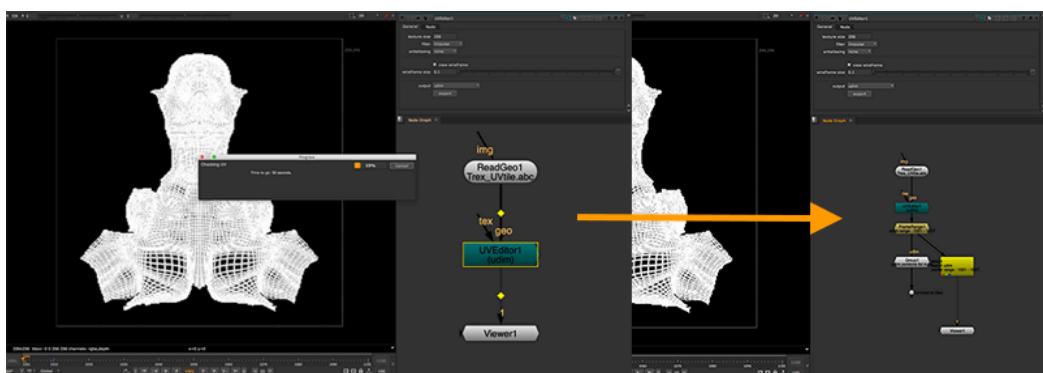
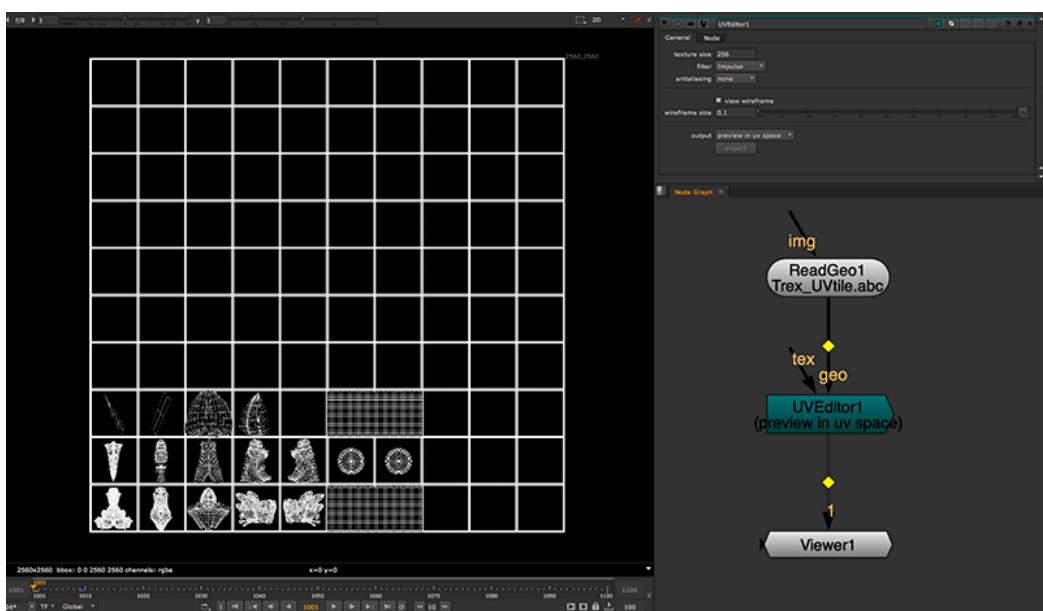
Controls:

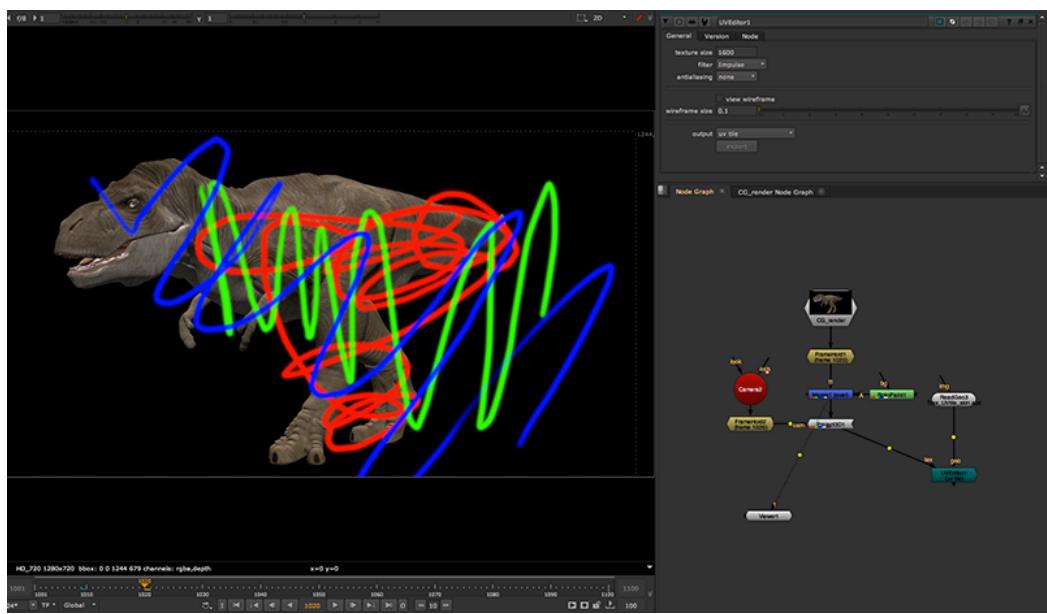
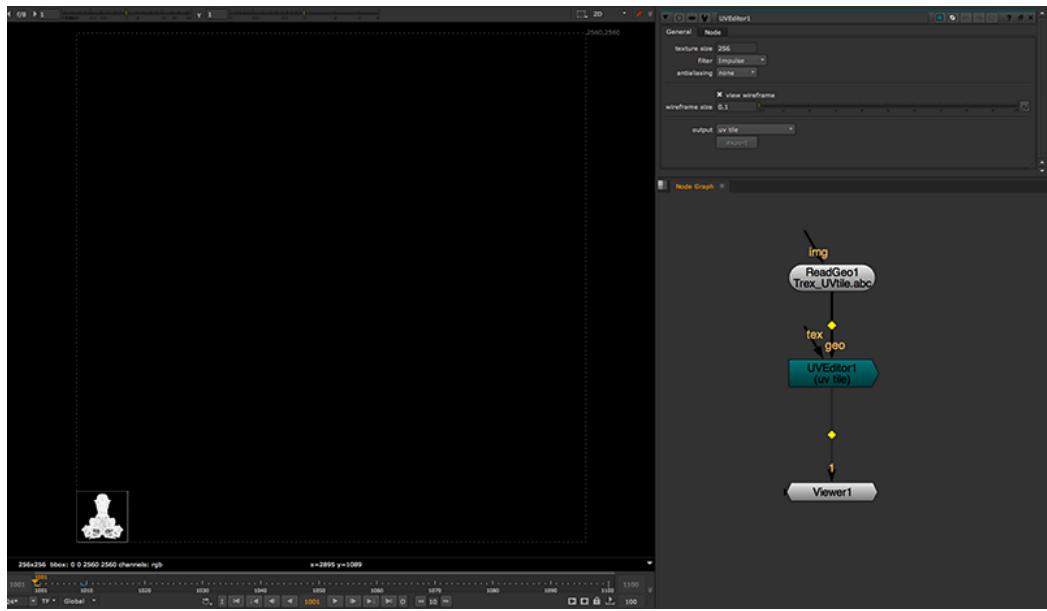
texture size - Define the texture resolution in here. **filter** - UV output has to go through scanlineRender, this filter is same as all the transformation pixel filter
antialiasing - UV output has to go through scanlineRender, this antialiasing is same as antialiasing setting as scanlineRender **show tile number** - Show the number of tile, helps for indicate UDIM frame. **view wireframe** - Enable this wireframe option will preview UV in wireframe instead of texture. Give user an idea of how the look of geo in UV space. **wireframe size** - The thickness of wireframe to show. Only enable when view wireframe is checked.

Output modes:

preview in UV space - This will display UV tile in UV space. For preview purpose.

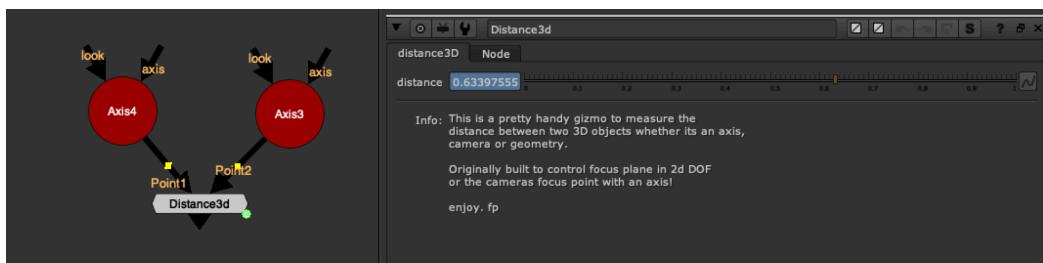
UDIM - This will separate UV tile in UDIM format (based on frame number start from 1001). When selected UDIM as output, 'export' button will enable. That will scan through all available UDIM and return the frame range of the UDIM. It will generate a group with all UDIM combined for nuke to work with, and also a write node to show where should render if UDIM need to be export as texture sequence.
uvtile - Output the UV in tile format, can map to the geo directly without any process. If user work with uvtile for texture modification, user need to work with overscan size manually. **uv pass** - Output UV data as texture, same as 3D software will provide in render. Since the tool is working in 10x10 UV tile, so the UV pass will also support 10.0x10.0 UV data. Then user can use this to work with STMap for texture mapping.





Distance3D NKPD

Author: Falko Paeper



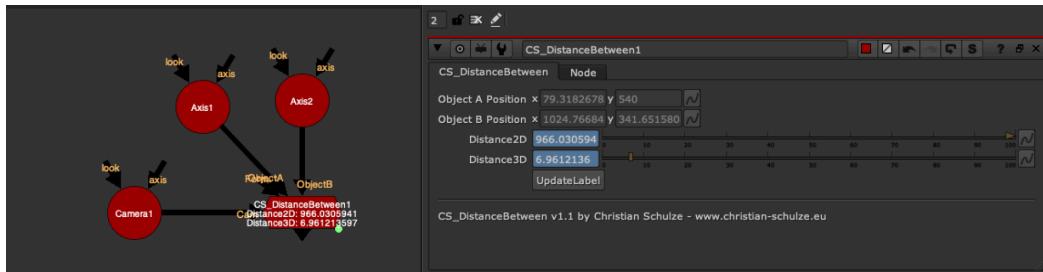
- http://www.nukepedia.com/gizmos/3d/distance3d_v02_fp

This is a pretty handy gizmo to measure the distance between two 3D objects whether it's an axis, camera or geometry.

Originally built to control focus plane in 2D DOF or the camera's focus point with an axis!

DistanceBetween_CS NKPD

Author: Christian Kauppert



- <https://gist.github.com/kpprt/a86e5c8a3a181c89e24cc45281c6d1d3>
- <https://gist.github.com/kpprt>

Calculate the distance between two 3D objects (Camera, Axis) in Nuke. 3D distance needs the two objects, 2D distance also needs a Camera input and an optional format when different from the root format.

Lightning3D EL

Author: Erwan Leroy - <http://erwanleroy.com/blog/>

- <http://erwanleroy.com/making-3d-lightning-in-nuke-using-blinkscript/>
- https://github.com/herronelou/nuke_stuff/blob/master/toolsets/blinkscript/lightning_generator.nk

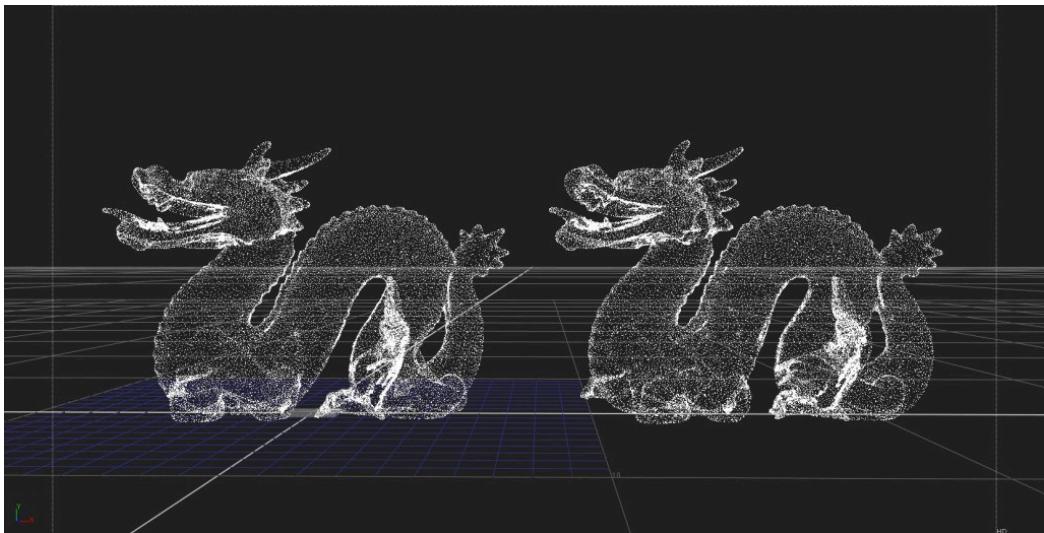
Making 3D Lightning in Nuke using Blinkscript.

Needs to be used with the HigX particle renderer by Mads Hagbarth. 3D lightning, similar to the X_tesla node, settings for look and animation of 3D lightning.



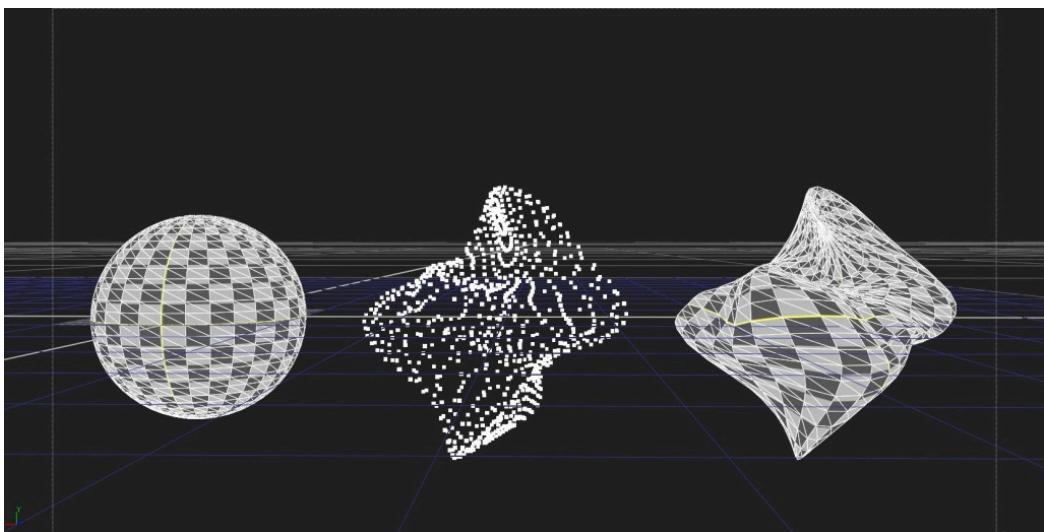
GeoToPoints MHD

Author: Mads Hagbarth Damsbo - <https://hagbarth.net/blog/>



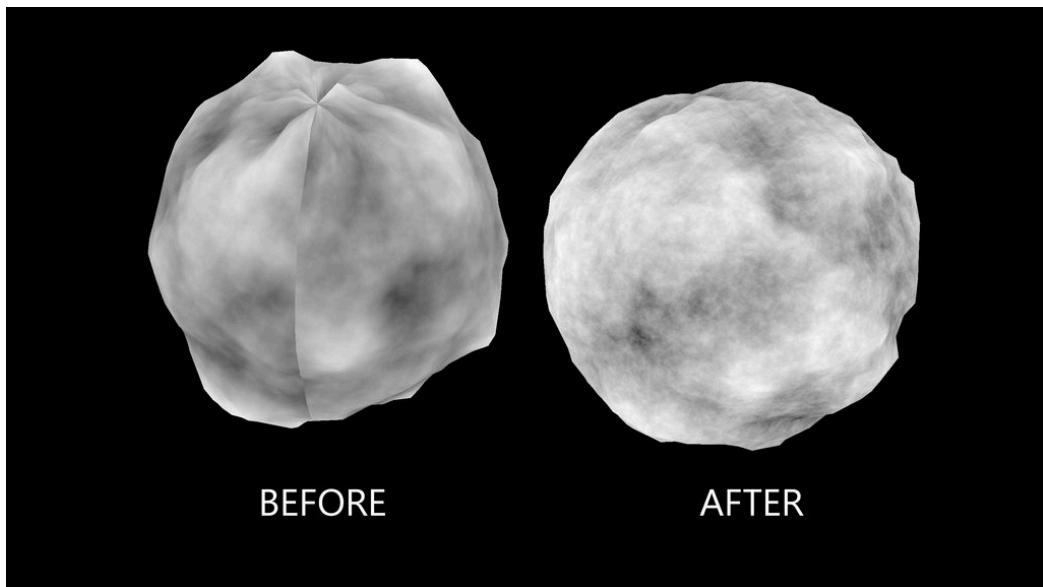
- <https://hagbarth.net/major-bug-in-nukes-particle-system/>
- <http://www.hagbarth.net/nuke/GeoToPoints.nk>

Creates a point cloud based on input Geo vertices.



Noise3DTexture NKPD

Author: Ben Sumner



- http://www.nukepedia.com/gizmos/3d/bs_noise3d

This Gizmo outputs either the input geometry with a 3D world position noise applied as a texture, or it can output the texture itself in the UV space of the model. **Your model must have UVs!** You can output noise or textured model, either with the originally applied alpha, solid white alpha, or with the generated noise in the alpha channel.

This node is a good way to get seamless noise textures on your 3D models, or to export a texture to be used for seamless displacement.

GodRaysProjector CF

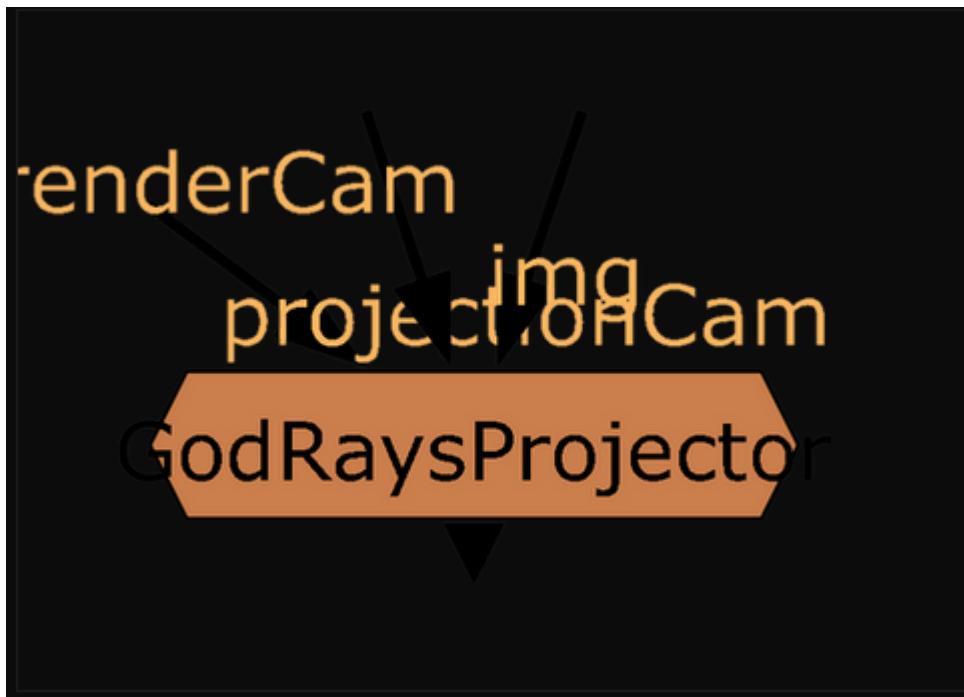
Author: Chris Fryer - <https://www.chrisfryer.co.uk/blog>

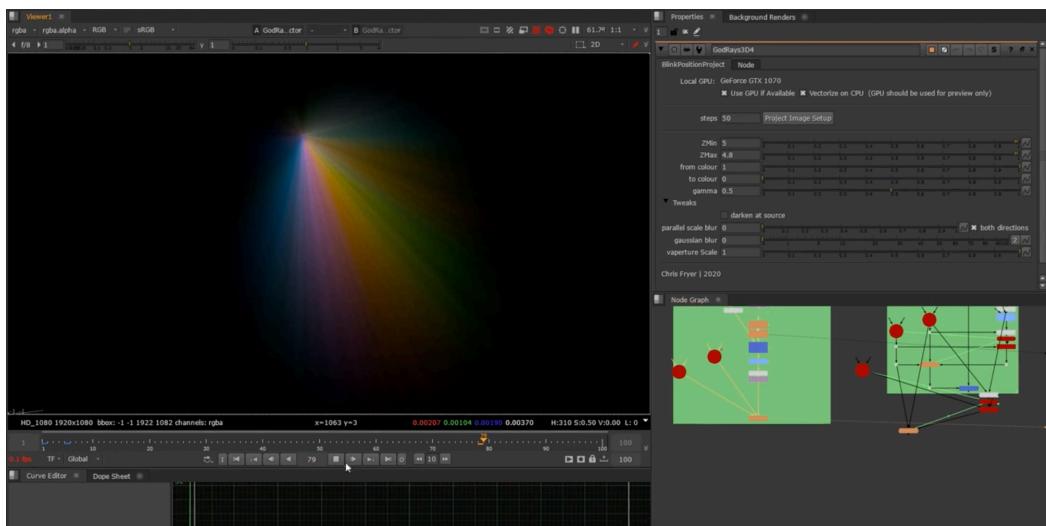
- <https://www.chrisfryer.co.uk/post/godraysprojector>
- <https://www.chrisfryer.co.uk/post/godraysprojector-shadows-and-a-total-rebuild>

GodRaysProjector is a 3D alternative to the generally 2D Godrays node. By connecting a renderCamera, projectionCamera and an image to project. Thanks to the wonders of BlinkScript it also has a wicked-fast GPU preview!

I decided to completely rebuild GodRaysProjector and clean up a lot of the bugs and quirks. This also gave me a chance to make the code super-readable for people who are starting out with Blinkscript and want some easy to read examples.

The biggest feature of this update is the shadow functionality, this uses a couple neat tricks to produce a 2D shadow solution, with the information we'd generally have for a shot.





Particles

Tools for creating and manipulating particle effects in Nuke.

Tools in this Category

Tool	Author	Description
WaterSchmutz	Derek Rein	Quick particle box for floating particles
Sparky	Dimitri Breidenbach	Easy particle setup to create sparks
RainMaker	Matt Richardson	Adds rain/water droplets to lens
ParticleLights	Mads Hagbarth Damsbo	Custom relight node for particles
ParticleKiller	Wouter Gilsing	Kill specific particles by ID

WaterSchmutz [DR]

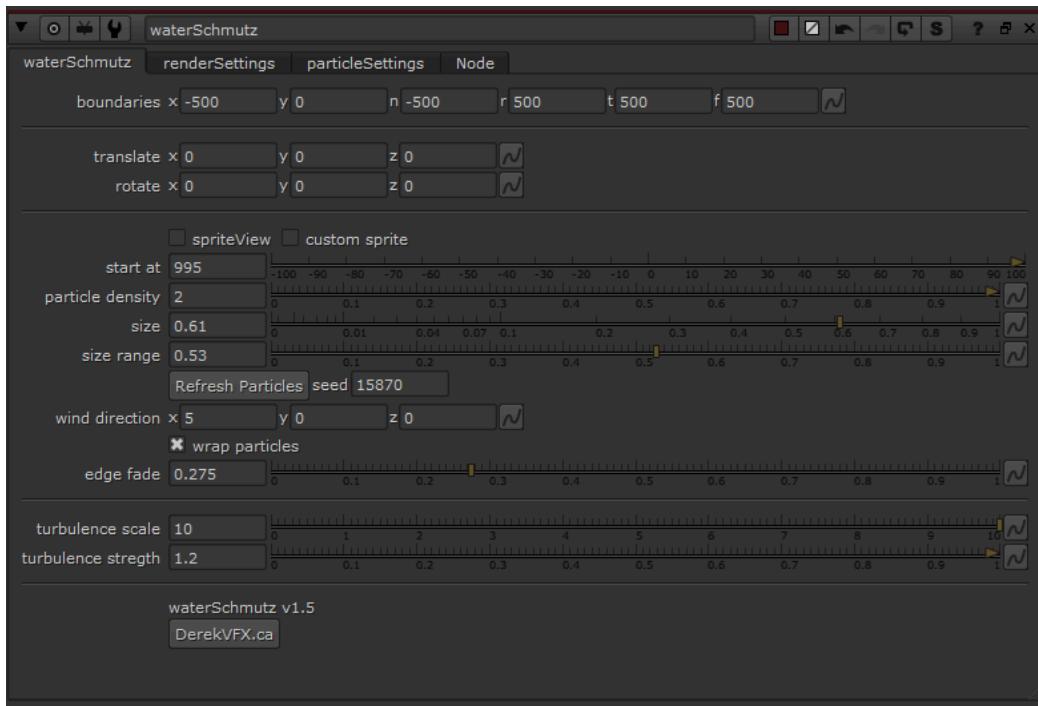
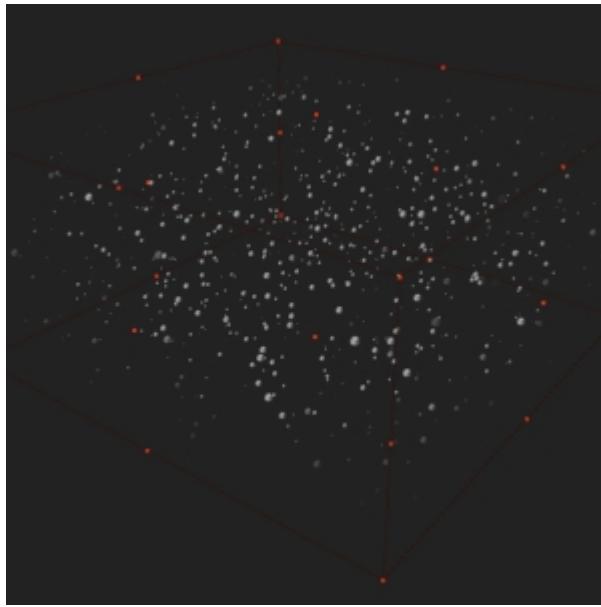
Author: Derek Rein - <http://derekvfx.ca/nuke/>



- <https://raw.githubusercontent.com/DerekRein/.nuke/master/ToolSets/schmutz.nk>

WaterSchmutz is a quick and easy particle box to create floating (or static) particles with some built-in variation settings such as size and color.

Plug in a camera and an optional customSprite input.



Sparky [NYPD]

Author: Dimitri Breidenbach

- http://www.nukepedia.com/gizmos/particles/db_sparky

Easy to use particle setup to create sparks. Comes with a few animation presets.

Sparky is a pretty clean and simple setup to add sparks in your shot. It is a particle setup that is rendered through a ScanlineRender. The idea is that you can use it like a simple pre-rendered 2D Element coming from your favorite library, but, the main difference being that you can rotate the sparks, and give them the exact orientation you need.

This tool is delivered with an example .nk scene to see both 2D and 3D workflows.

Features

Axis and Cam input: While the main goal is to be a 2D pre-rendered option, you can also select to use a 3D camera to track properly with your shot. In this case, you'll have to plug your Camera and an Axis to move the sparks in the 3D space.

Presets: While the look of the particles is very important, the emission rate is definitely a huge part of selling the sparks look. That is why, I decided to add 6 presets that can be loaded from the second tab. These presets will ask you to provide an initial frame and will then apply an animation to the 'Emission Amount' setting. *Warning: Presets don't work in Nuke Non-Commercial due to some Python Limitation*

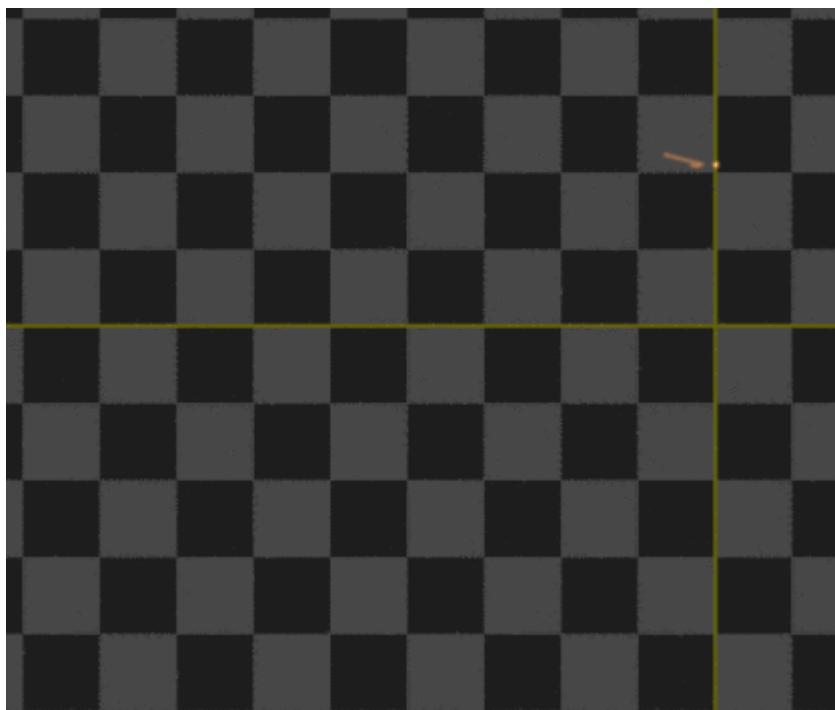
Preset Types

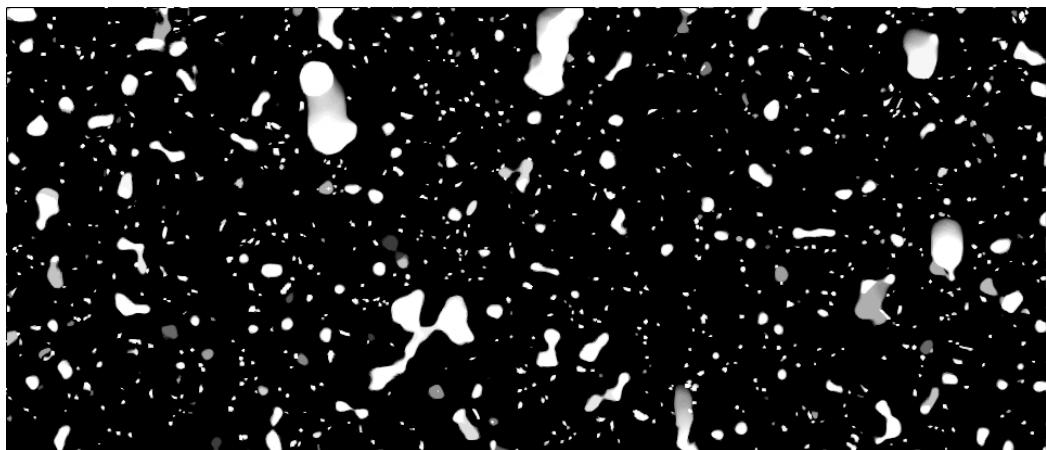
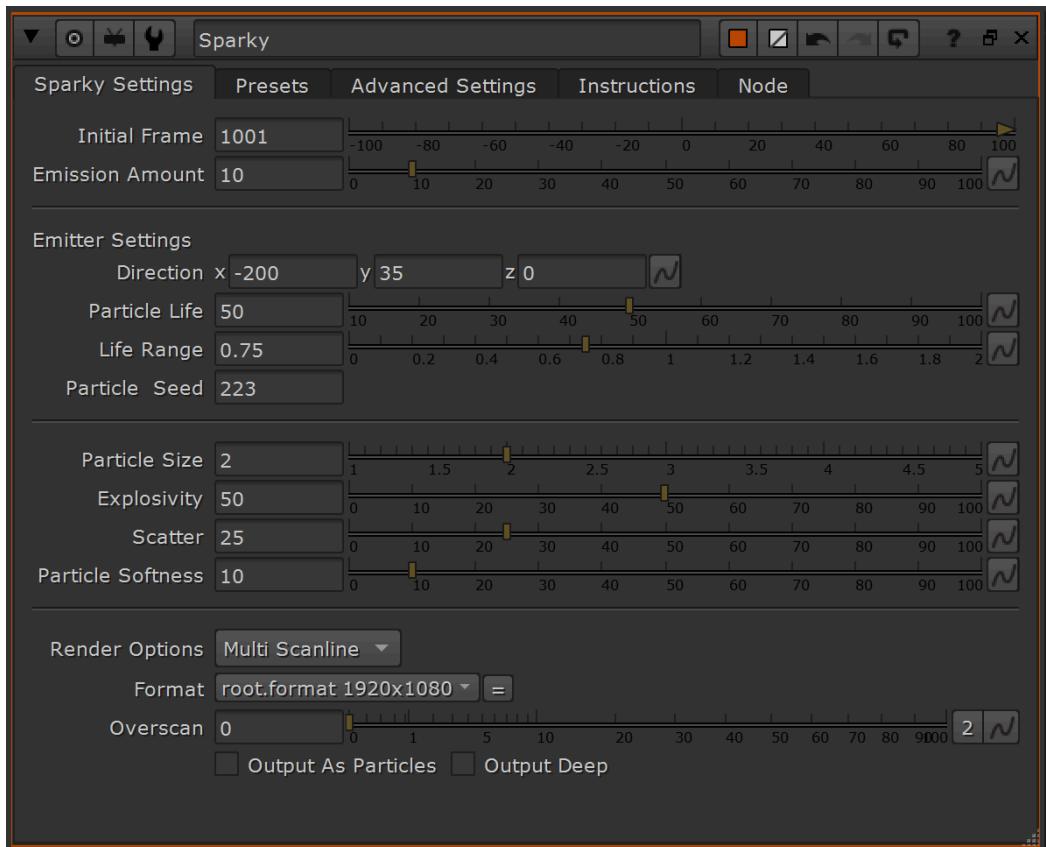
- **Single Hit Heavy:** Heavy hit with a double pop
- **Single Hit Light:** Light pop of sparks
- **Welding:** Expression that will mimic a natural welding feeling
- **Wavy:** Constant sim with some strong variation in birth rate
- **Constant:** Softer variation than the Wavy preset
- **Loopy:** Loops the same pop animation of Sparks **Output As Particles:** This will allow you to plug the particles into a Scene node. It will therefore not render any 2D preview anymore. If Sparky doesn't render anything, verify that you didn't check this box by error. **Advanced Settings:** If you wish to have a wider spread of

sparks, or if you decide to animate the Axis to which the sparks are attached, you can access a few settings that may interest you here.

The node is deep compatible if you keep it in MultiScanline mode (the default one), but if you want to be 200% sure you are in the right setting, you can check the 'Output Deep' option.

While this tool will never replace the real thing, it will definitely be more than enough when chucked in some background scene, or with some DoF or motionblur. Hopefully you will find some use for it and maybe even learn a little bit more about particles.







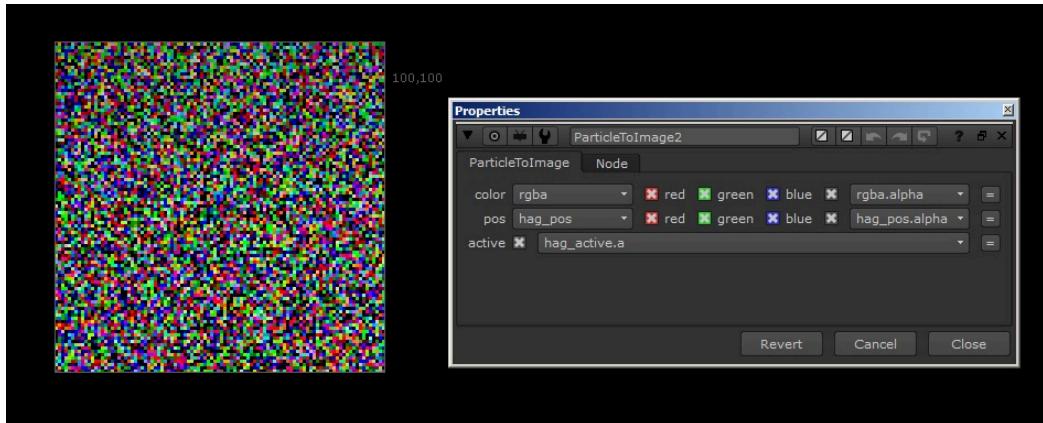
RainMaker v1.1
NUKE

RainMaker [NKPD]

Author: Matt Richardson

-
- <http://www.nukepedia.com/gizmos/particles/rainmaker>

Adds Rain/water Droplets to lens.



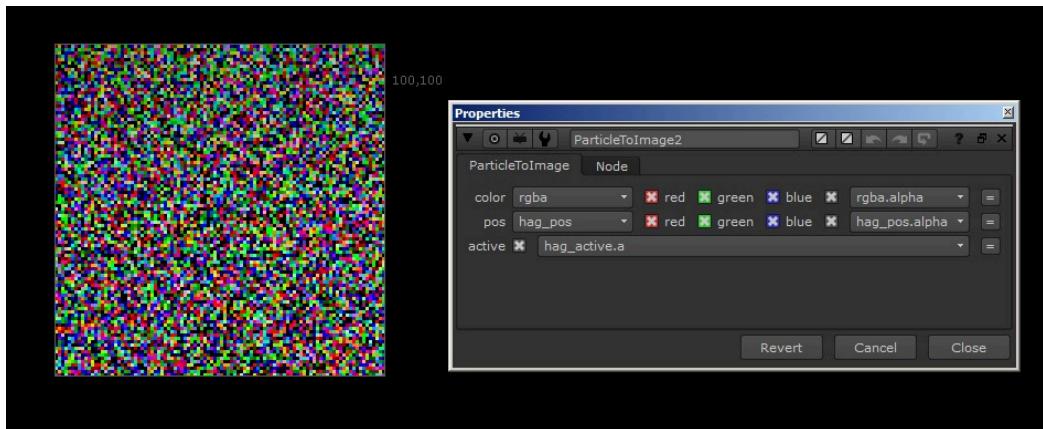
ParticleLights [MHD]

Author: Mads Hagbarth Damsbo - <https://hagbarth.net/blog/>

- <http://www.nukepedia.com/blink/particles/particle-lights>
- <https://hagbarth.net/project/particle-lights/>

Particle Lights is a custom relight node that enables particles to cast lights into a scene.

Using the new node "ParticleToImage" introduced in Nuke8 to relight a scene using particles.



ParticleKiller [NYPD]

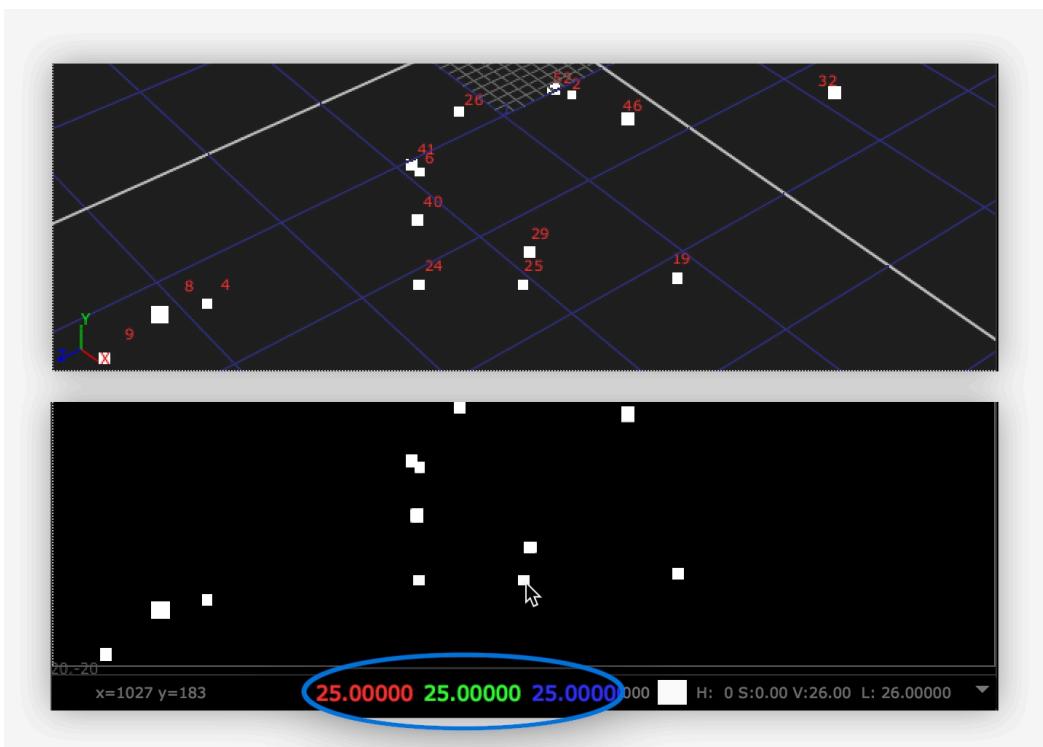
Author: Wouter Gilsing - <http://www.woutergilsing.com>



- <http://www.nukepedia.com/gizmos/particles/particlekiller>

A tool to kill specific particles based on their id.

Options to make identifying individual particles easier.



Deep

Tools for working with deep compositing data in Nuke.

Tools in this Category

Tool	Author	Description
Deep2VP Suite	Mark Joey Tang	Complete deep to position toolset
DeepFromDepth	Andrea Geremia	Creates deep data from depth pass
DeepToPosition	Tony Lyons	Convert deep to WorldPosition pass
DeepRecolorMatte	Tony Lyons	Deep holdout matte workflow tool
DeepMerge_Advanced	Ben McEwan	Advanced deep merge with soft blend
DeepCropSoft	Wouter Gilsing	DeepCrop with soft falloff
DeepKeyMix	Luc Julien	Keymix for deep input
DeepHoldoutSmoother	Denis Scolan	Smooth harsh holdout intersections
DeepCopyBBox	Denis Scolan	Copy BBox for deep streams
DeepBoolean	Mark Joey Tang	Boolean operations for deep
DeepFromPosition	Mark Joey Tang	Convert position data to deep

Tool	Author	Description
DeepSampleCount	Mark Joey Tang	Visualize deep sample counts
DeepSer	Mark Joey Tang	Manage and optimize deep samples

Deep2VP Suite Sub-nodes

The Deep2VP Suite includes the following specialized nodes:

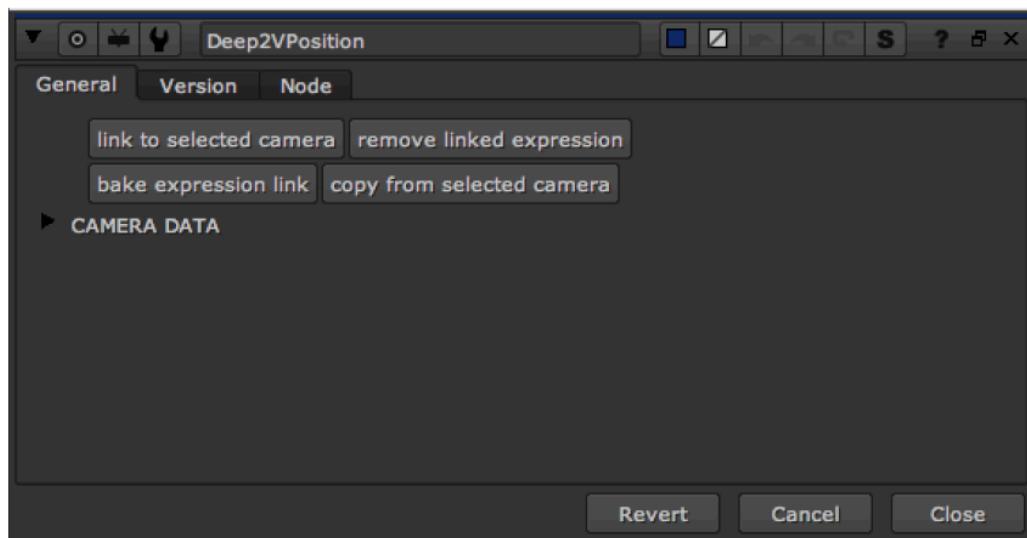
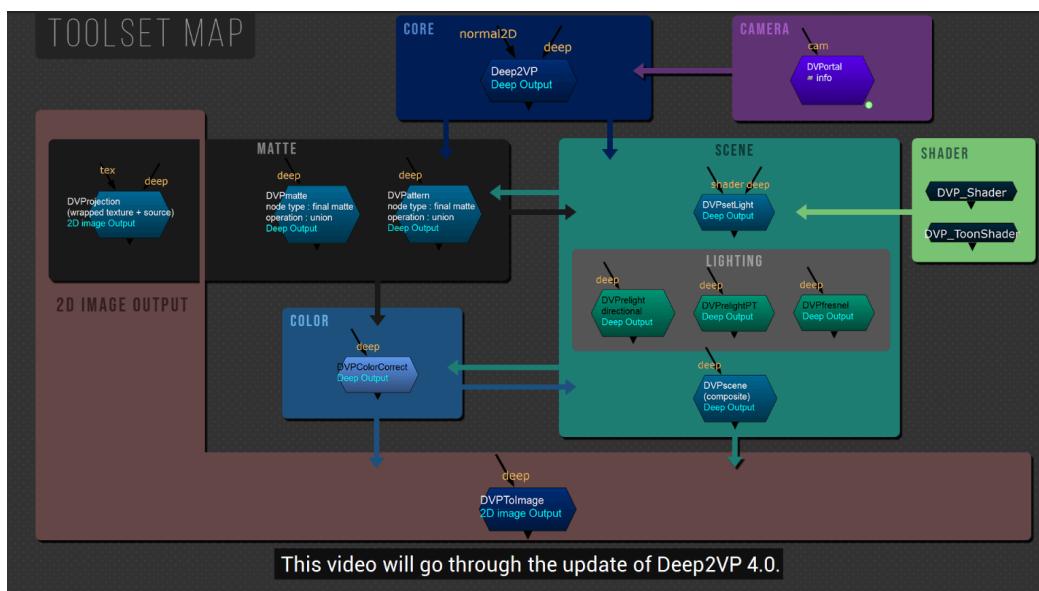
Node	Description
DVPTolImage	Output deepPosition to 2D
DVPortal	Centralize camera data
DVPmatte	Position matte in deep space
DVPattern	Position patterns in deep
DVPColorCorrect	Color correct in deep stream
DVProjection	Camera projection on deep
DVPsetLight	Setup for deep relighting
DVPfresnel	Fresnel/facing ratio in deep
DVPrelight	Relight with multiple lights
DVPrelightPT	Point light relight
DVPShader	Shader controls for relighting
DVPToonShader	Toon shader for relighting
DVPscene	Composite relight in deep

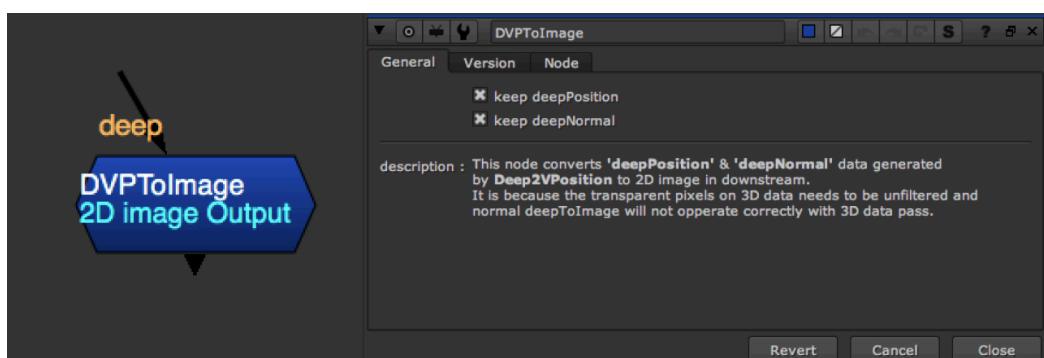
Deep2VP Suite [MJT]

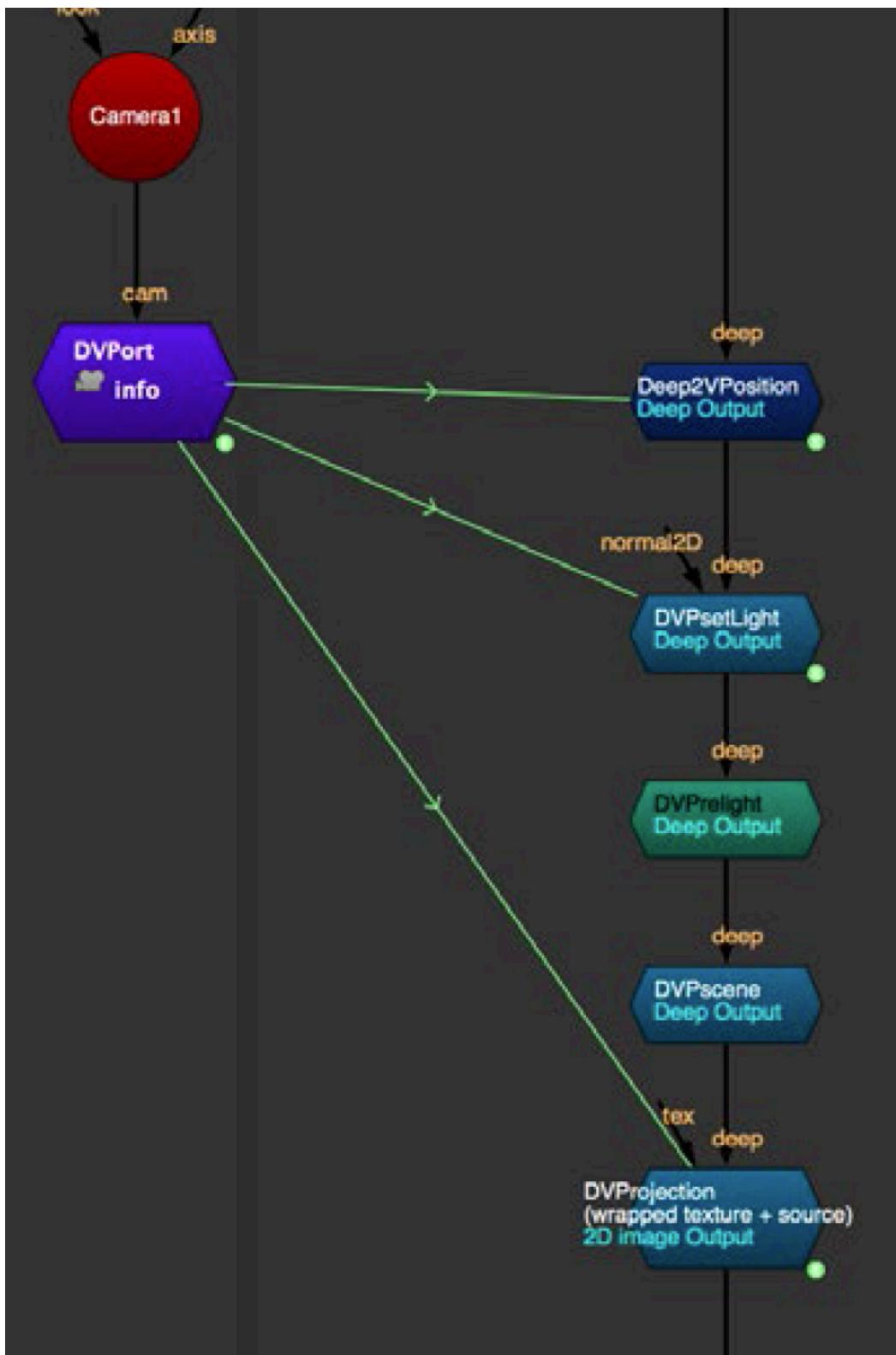
Author: Mark Joey Tang - <http://www.facebook.com/MJTLab>

- <http://www.nukepedia.com/gizmos/deep/deep2vp>
- <http://bit.ly/menupy>
- https://github.com/xmjtx/MJTLab/tree/main/gizmo_library/Deep/Deep2VP_v40

Deep2VP suite is a toolset to convert deep data to world space position, and process with all the possibilities of this deepPosition data.







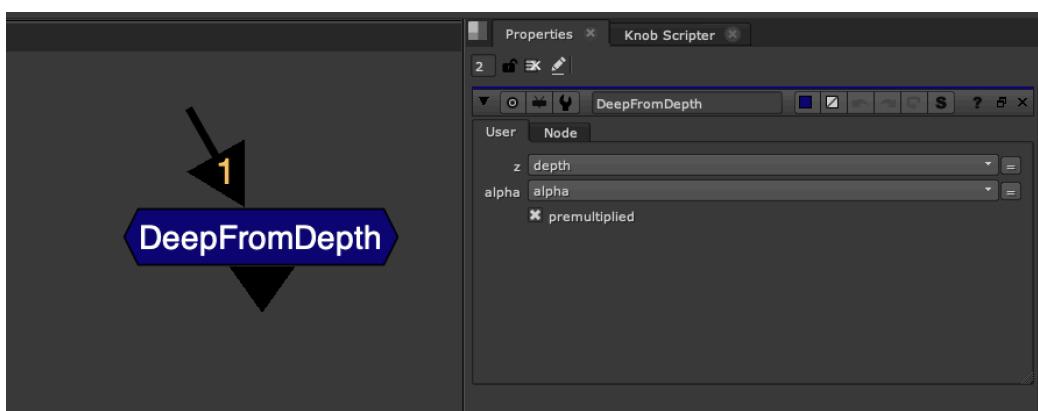
DeepFromDepth [AG]

Author: Andrea Geremia

- http://www.andreageremia.it/tutorial_expression_node.html
- <http://www.nukepedia.com/gizmos/other/expression-node-collection-for-nuke>

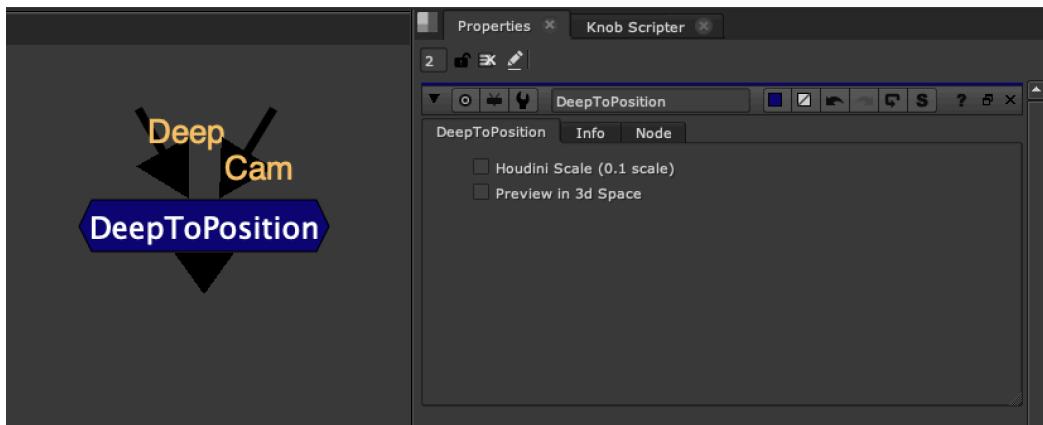
From Expression AG menu.

Creates deep data from the depth pass.



DeepToPosition [TL]

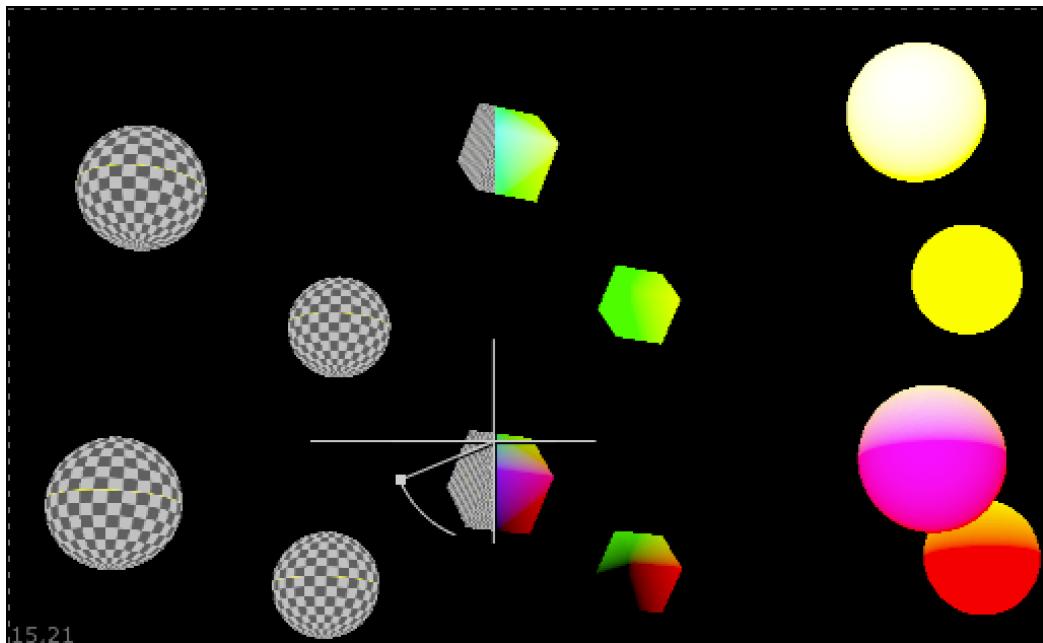
Author: Tony Lyons - <http://www.CompositingMentor.com>

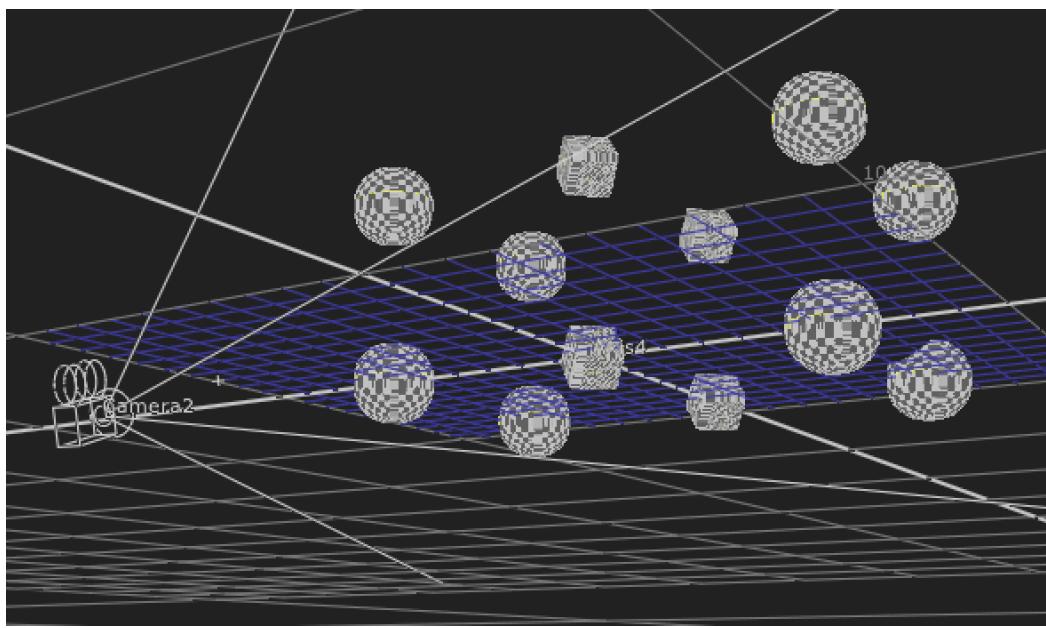


Plug in your deep render and your camera and this node will convert the deep into a WorldPosition pass.

There was an option when using Houdini renders that the scale was off, so there is a Houdini scale compensation checkbox.

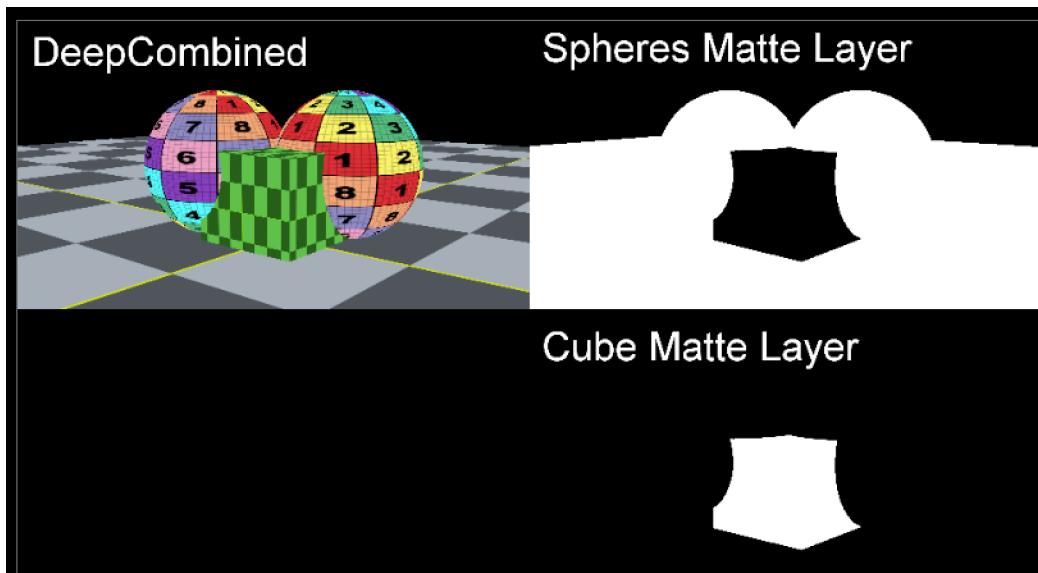
There is also a preview in 3D space option for seeing where your deep exists in Nuke's 3D viewer.





DeepRecolorMatte [TL]

Author: Tony Lyons - <http://www.CompositingMentor.com>



There is a popular deep workflow used in production where you deep combine many elements together, and have to make deepHoldouts for each layer, usually pre-rendering out the alpha channel for each individual layer, to use later, in order to reduce heaviness.

A great article is written about this method from Boris MC: <http://boris-mc.com/?p=2700> There is also a nice video explaining the workflow: <https://vimeo.com/429161580> This workflow can often get chaotic quite quickly with lots of objects holding out each other.

How It Works

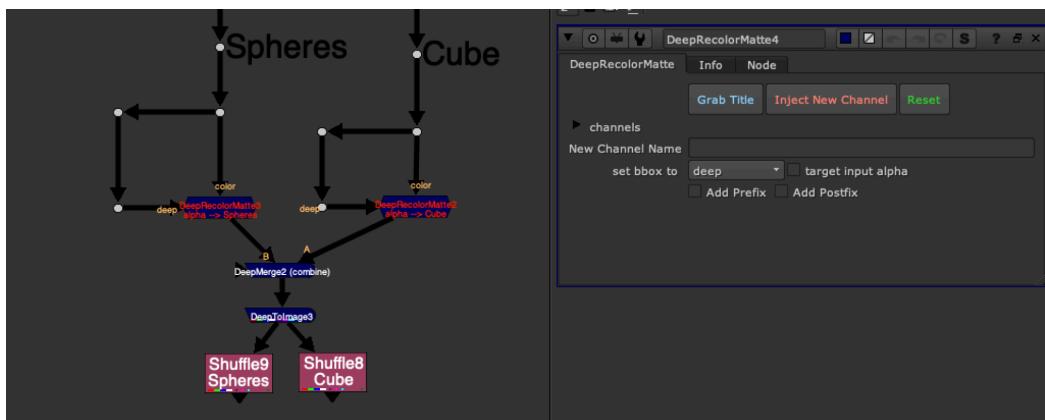
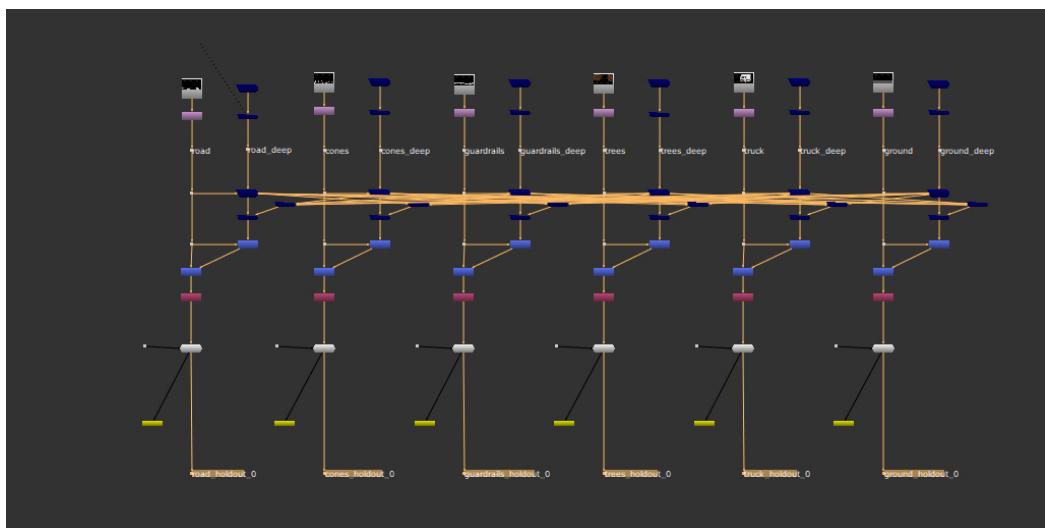
This tool aims to speed up and simplify this workflow even further. It creates a new layer with the alpha channel of the element and a custom name.

Using additional channels and deepMerging all of the elements together into 1 big scene, you can later pull out the mattes from each individual element, giving you the matte of that element, held out by all other elements in the scene. This is a custom holdout matte for that object.

The goal would be to prerender just 1 render with all channels, and simply shuffle out the deep holdout mattes for any element you need.

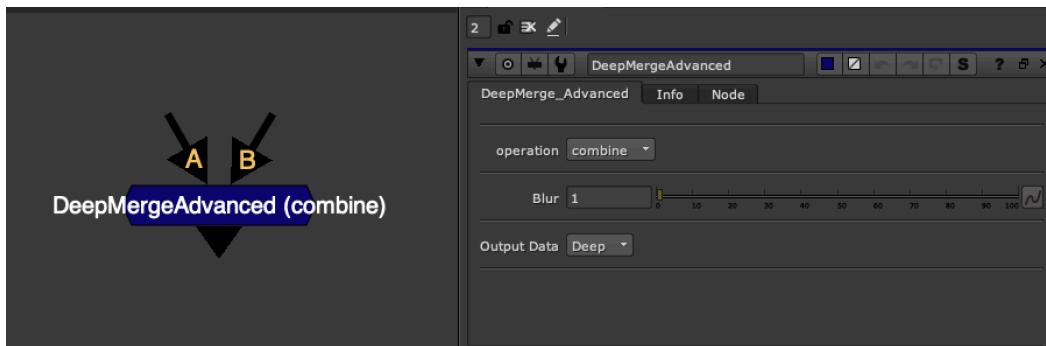
Features

- **Grab Title button:** Uses functions from Adrian Pueyo's stamps plugin to try and predict the layername from the deep input
- **Prefix/Postfix options:** Add "ID" prefix for "ID_newLayer" or "matte" postfix for "newLayer_matte"
- **Inject New Channel:** Click to inject - the node's text will turn red and label will change
- **Reset:** Restore default state of the node
- **Target Input Alpha:** Use if your alpha from color input is different than the alpha from deep input All channels are just a single .red channel to save time during the deep merge process, since each layer and each channel must be calculated.



DeepMerge_Advanced [BM]

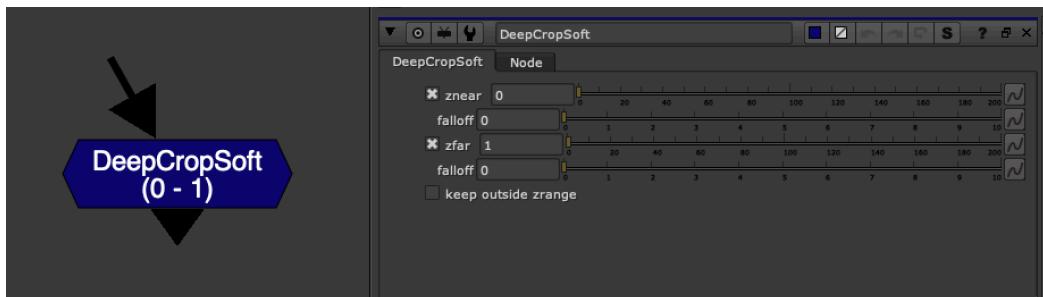
Author: Ben McEwan - <https://benmcewan.com/nukeTools.html>



- https://github.com/BenMcEwan/nuke_public/tree/master/gizmos
- Merges all channels from A and B in deep
- Fixes issue with DeepMerge's holdout operation which exists in Nuke 11
- Choose between a Deep or 2D output
- Soften/Blur slider which helps blend the 2 deep renders using a DeepExpression and deep.front and deep.back

DeepCropSoft [NKPD]

Author: Wouter Gilsing - <http://www.woutergilsing.com>

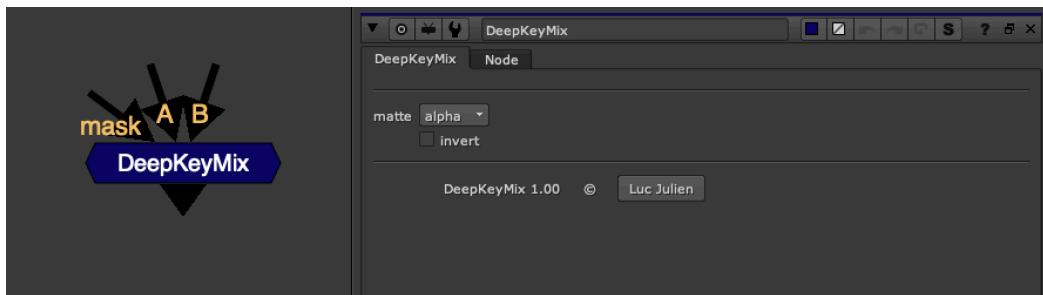


- <http://www.nukepedia.com/gizmos/deep/deepcropsoft>

A version of the DeepCrop node that allows the user to set a falloff for a soft transition. Can be used to gradually fade off anything that reaches a specific distance from the camera (like anything super close). This can for example be useful to prevent visible 'popping' when a camera moves through geometry. *Minor tweaking of the original knob positions to make it slightly easier to use.*

DeepKeyMix [NKPD]

Author: Luc Julien



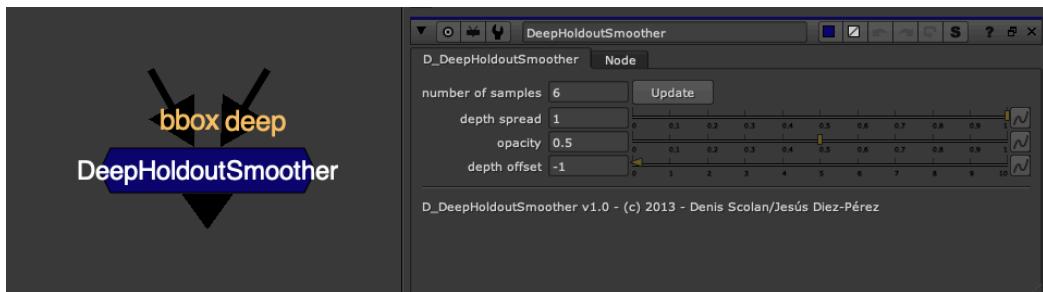
- <http://www.nukepedia.com/gizmos深深/DeepKeyMix>

Same basic function as the original keymix but for deep input.

It enables you to copy deep channels from A to B only where the mask input is non-zero. The mask input uses standard channels.

DeepHoldoutSmoother [NKPD]

Author: Denis Scolan + Jesús Diez-Pérez



- http://www.nukedpedia.com/gizmos/deep/d_deepholdoutsmoother

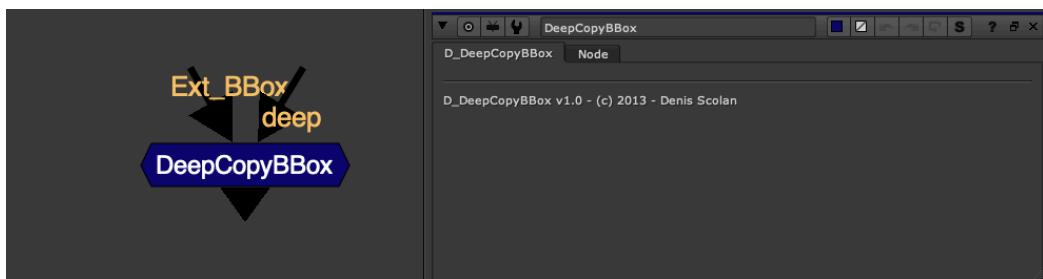
Smoothing the harsh holdout intersection that occurs when the holdout itself doesn't have enough samples (coming from a standard Z pass for instance).

The D_DeepHoldoutSmoother is meant to be inserted in your tree on the holdout stream and before the DeepHoldout/DeepMerge(holdout mode) node.

Keep in mind that the holdout will expand slightly and also the more you increase the samples the heavier your comp will get. *Thank you to Jesús Diez-Pérez for the Python script.*

DeepCopyBBox [NKPD]

Author: Denis Scolan



- http://www.nukepedia.com/gizmos/deep/d_deepcopybbox

CopyBBox for deep image stream.

This gizmo helps you carry the BBox of your 2D stream onto your deep image stream.

It's useful for reintroducing the BBox after a DeepMerge in 'holdout' mode. Note:
You can only copy the BBox from a 2D stream, it doesn't work with a deep stream yet.

DeepBoolean [MJT]

Author: Mark Joey Tang - <http://www.facebook.com/MJTLab>

- <http://www.nukepedia.com/gizmos深深/DeepBoolean>
- <http://bit.ly/menupy>

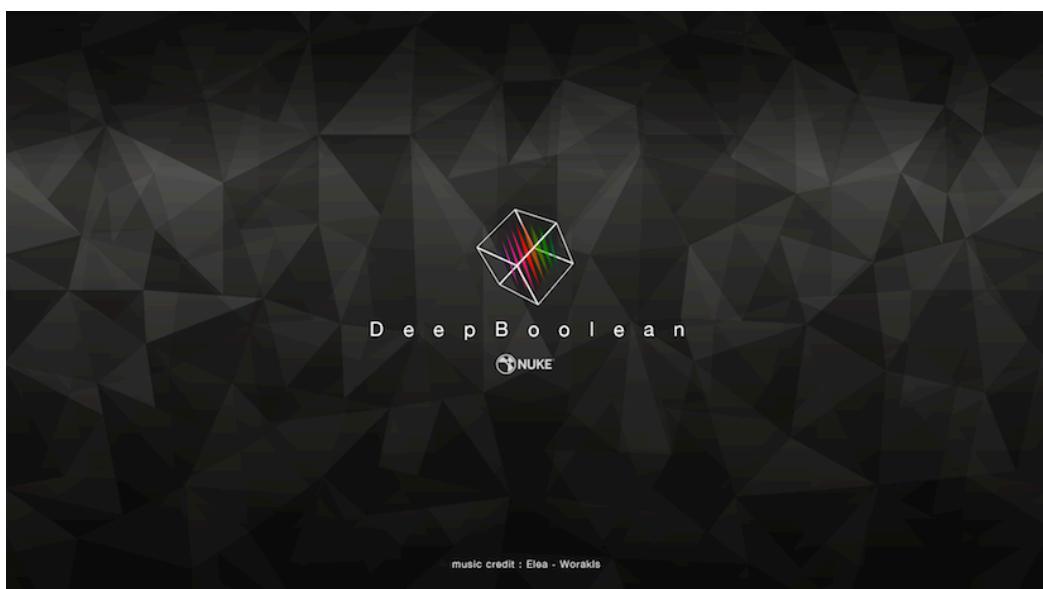
DeepBoolean works like Maya's boolean tool, but for deep in Nuke. It works like deepHoldout but with more function than that.

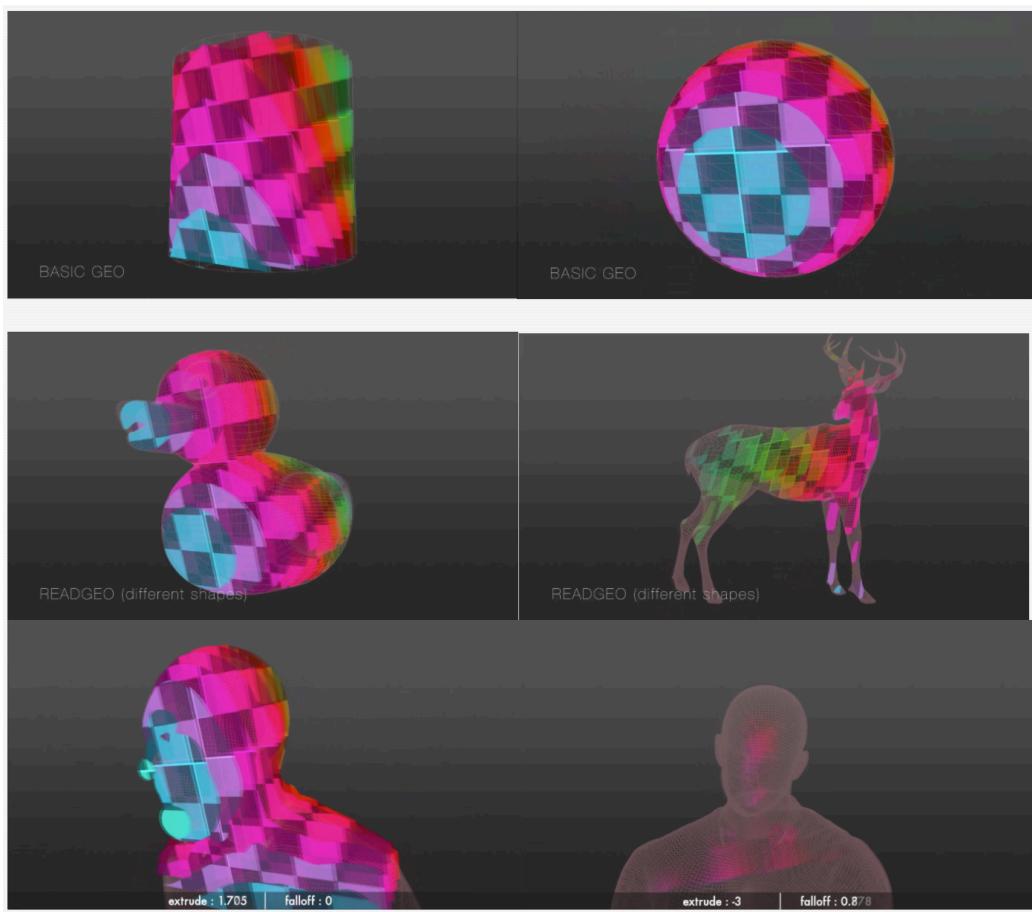
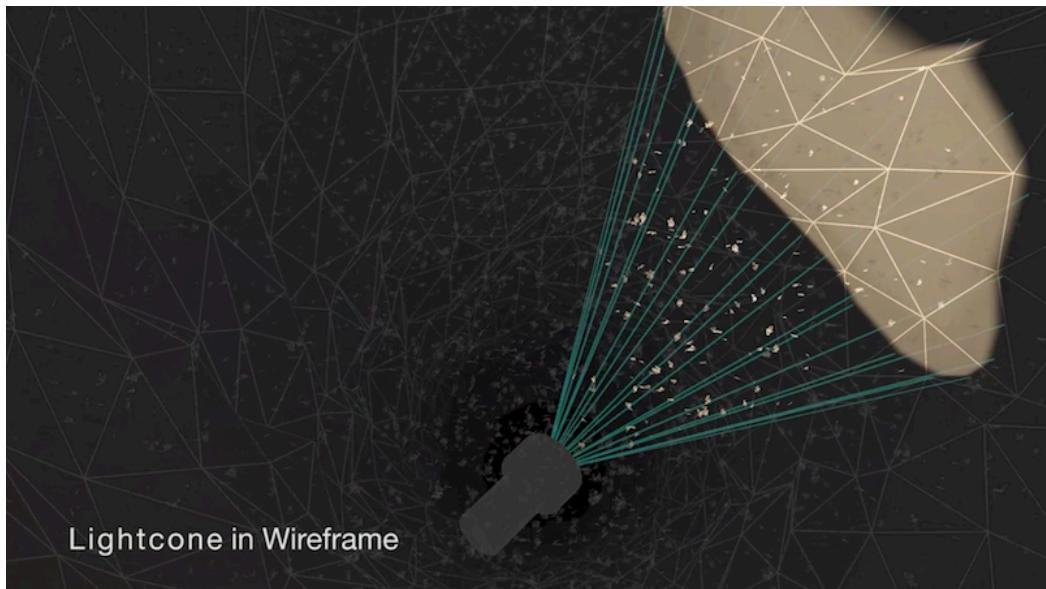
Modes

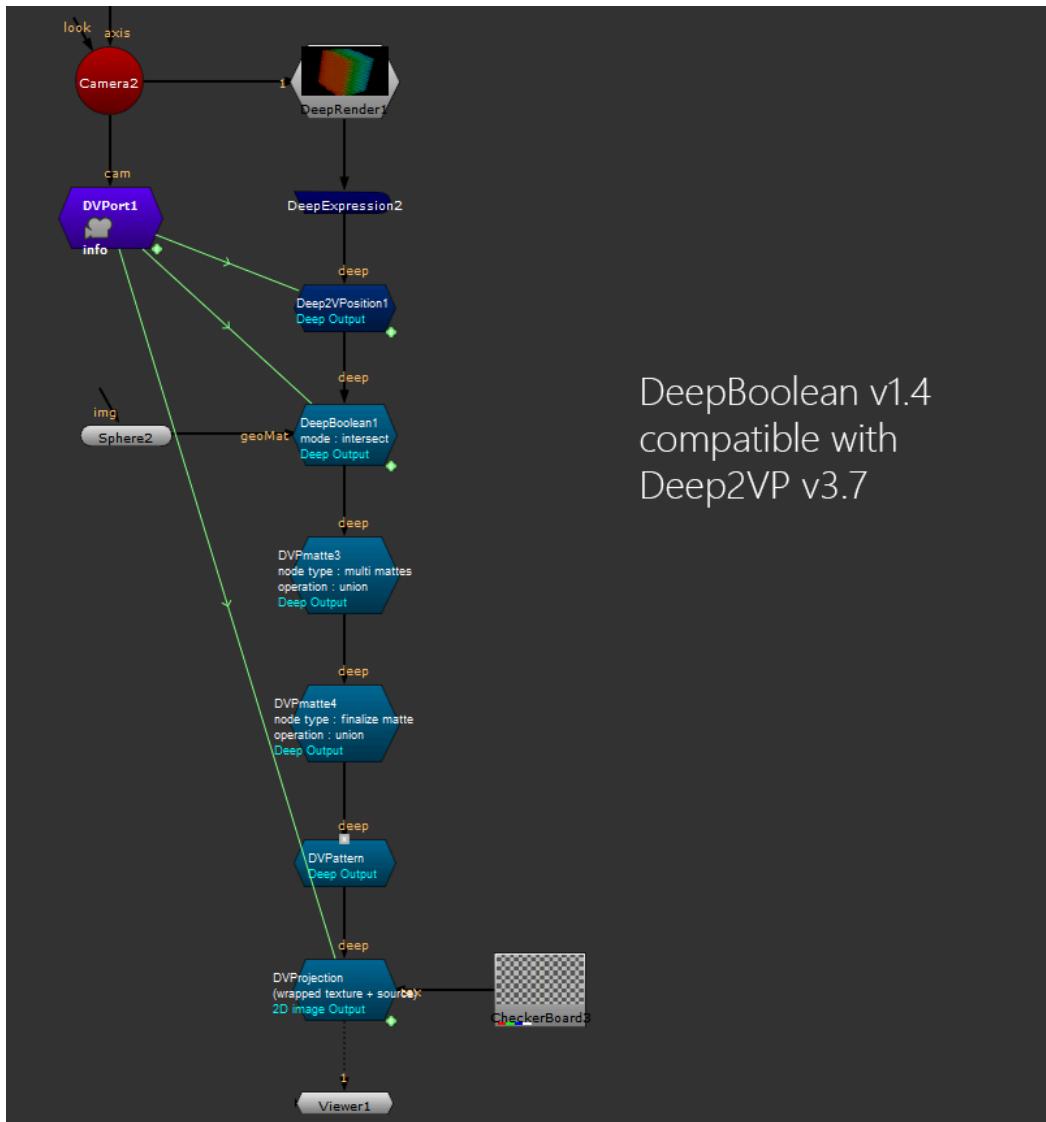
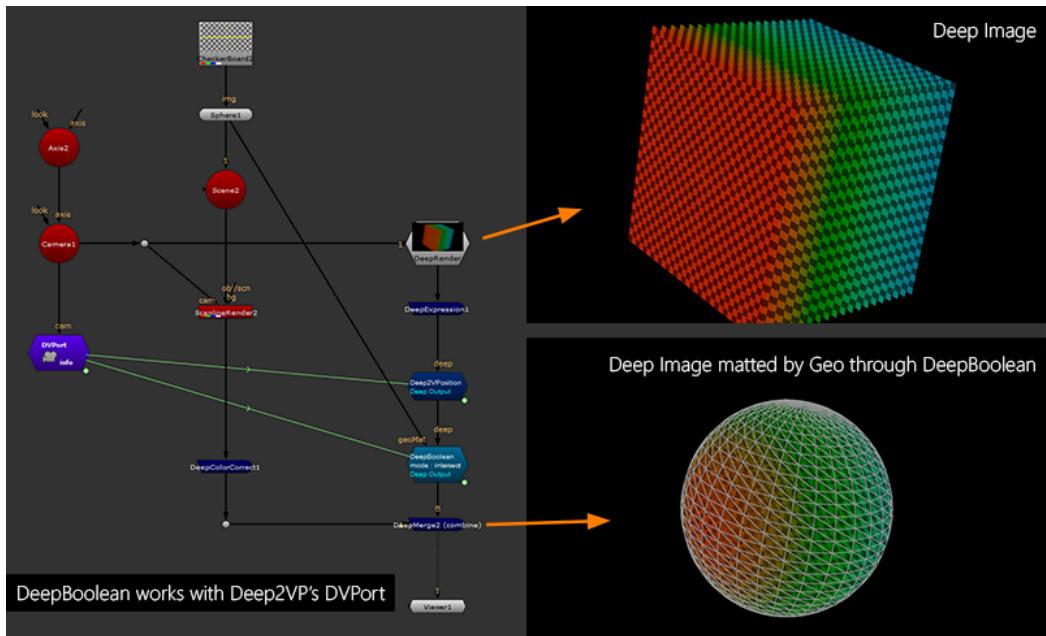
- **Intersect mode:** Keep the deep data inside the geo matte
- **Subtract mode:** Holdout the deep data outside of the geo matte Both support geo matte extrude (erode in Nuke terms) and falloff in 3D space.

Any geo needs to be closed face because this tool uses camera space Normal deep matte.

It works with any kind of ReadGeo or basic geo in Nuke (cube might have a bit strange behavior on extrude because of separate faces). *Note: Before Nuke11, DeepExpression had some strange behavior, which Foundry fixed in Nuke11. So this tool only works and is tested in Nuke11. If you are using a lower version, this tool will not work properly.* Works with Deep2VP v3.7+, can link the camera data through DVPort and stack with DVPmatte.

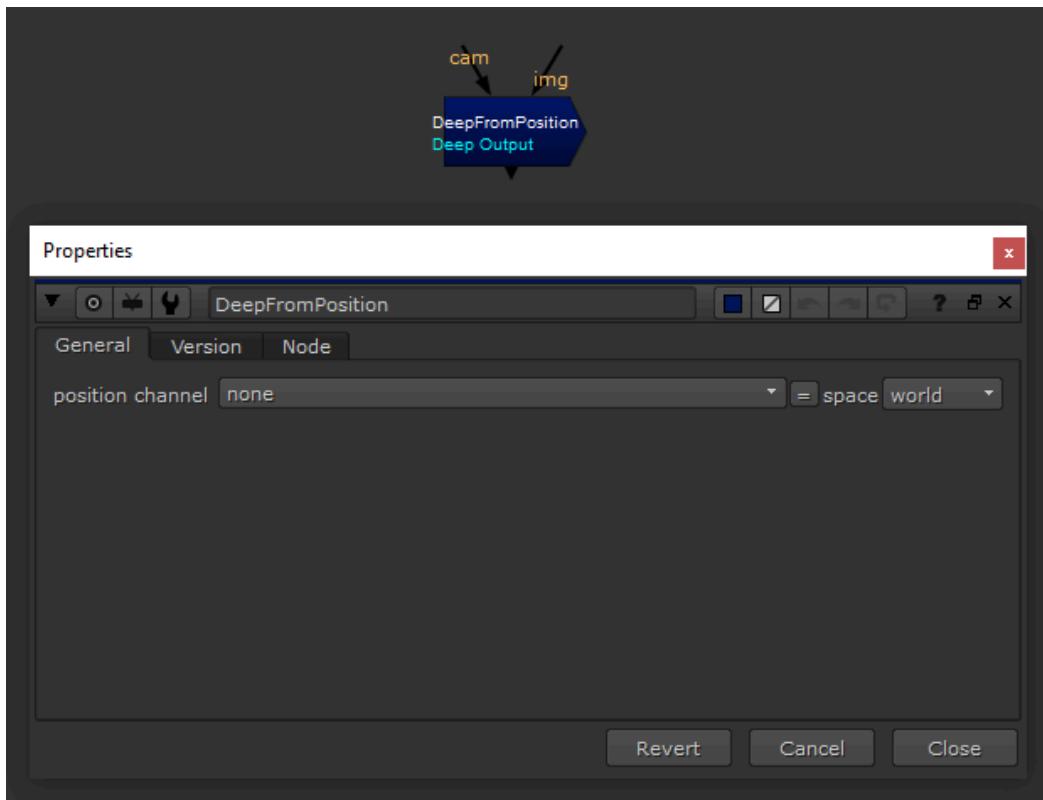






DeepFromPosition [MJT]

Author: Mark Joey Tang - <http://www.facebook.com/MJTLab>



- <https://www.nukepedia.com/gizmos/deep/deepfromposition>

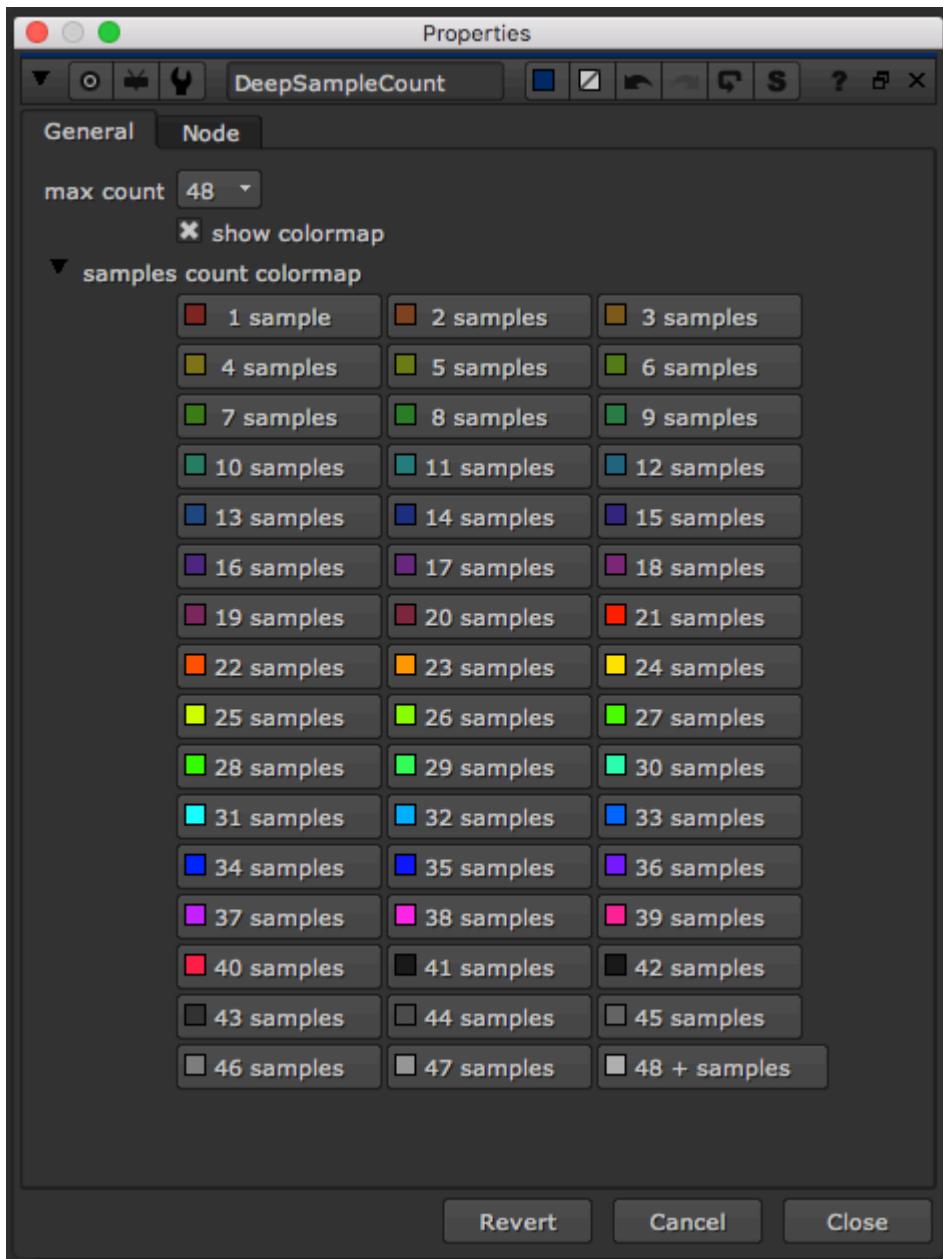
Convert position data to deep.

How to use:

1. Connect comp tree
2. Connect camera
3. Select the channel and what space of your position data
4. Then downstream will be deep

DeepSampleCount [MJT]

Author: Mark Joey Tang - <http://www.facebook.com/MJTLab>

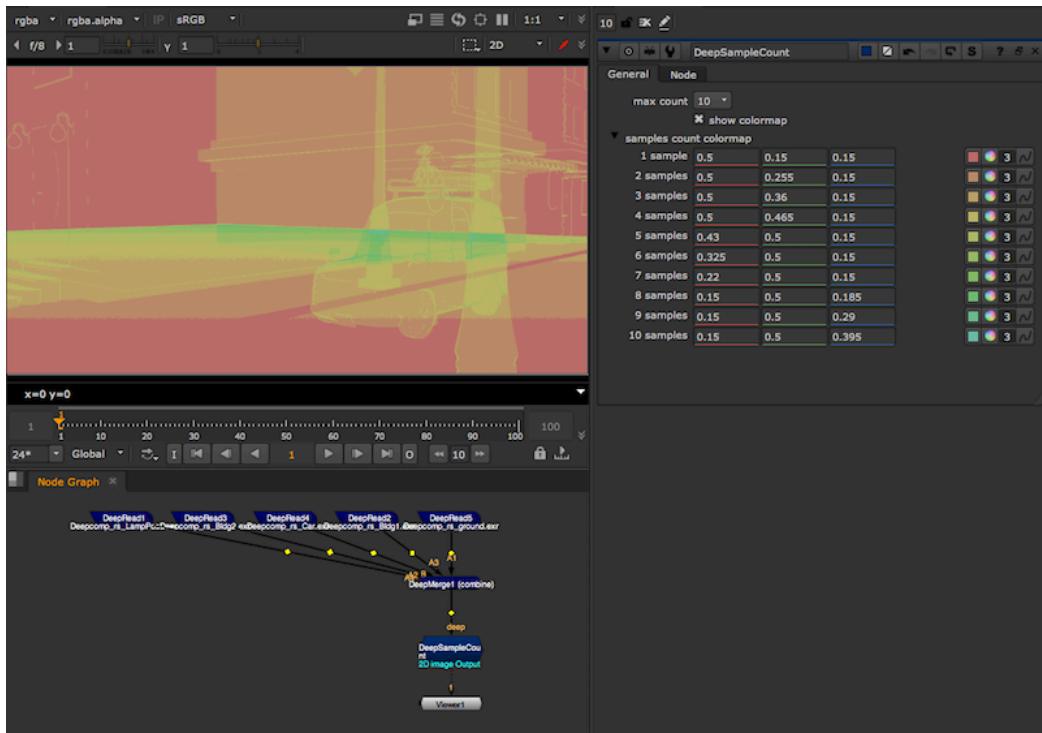


- http://www.nukepedia.com/gizmos深深samplecount_v11

Convert the amount of samples per pixel into colormap visual. Helps for troubleshooting, investigating the cause of slow deep trees, or tool development.

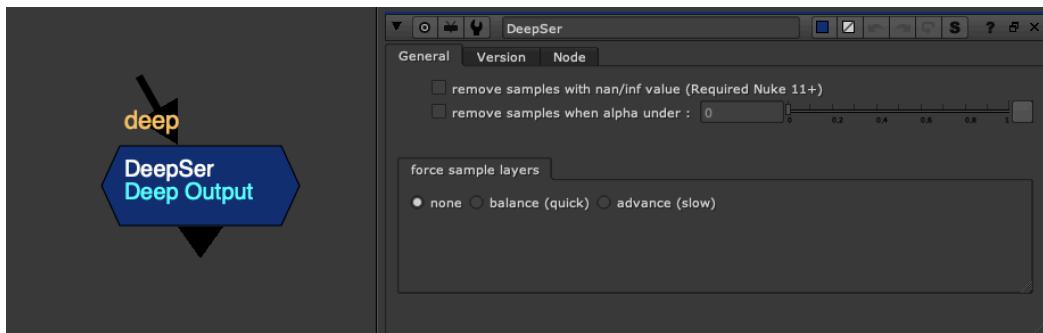
The setup runs by some math & TCL expression, able to run in realtime with fast feedback.

It will create a channel called 'deepSample.count', which stores the total samples per pixel. *Supports detecting up to 48 samples per pixel on v1.2+*



DeepSer [MJT]

Author: Mark Joey Tang - <http://www.facebook.com/MJTLab>

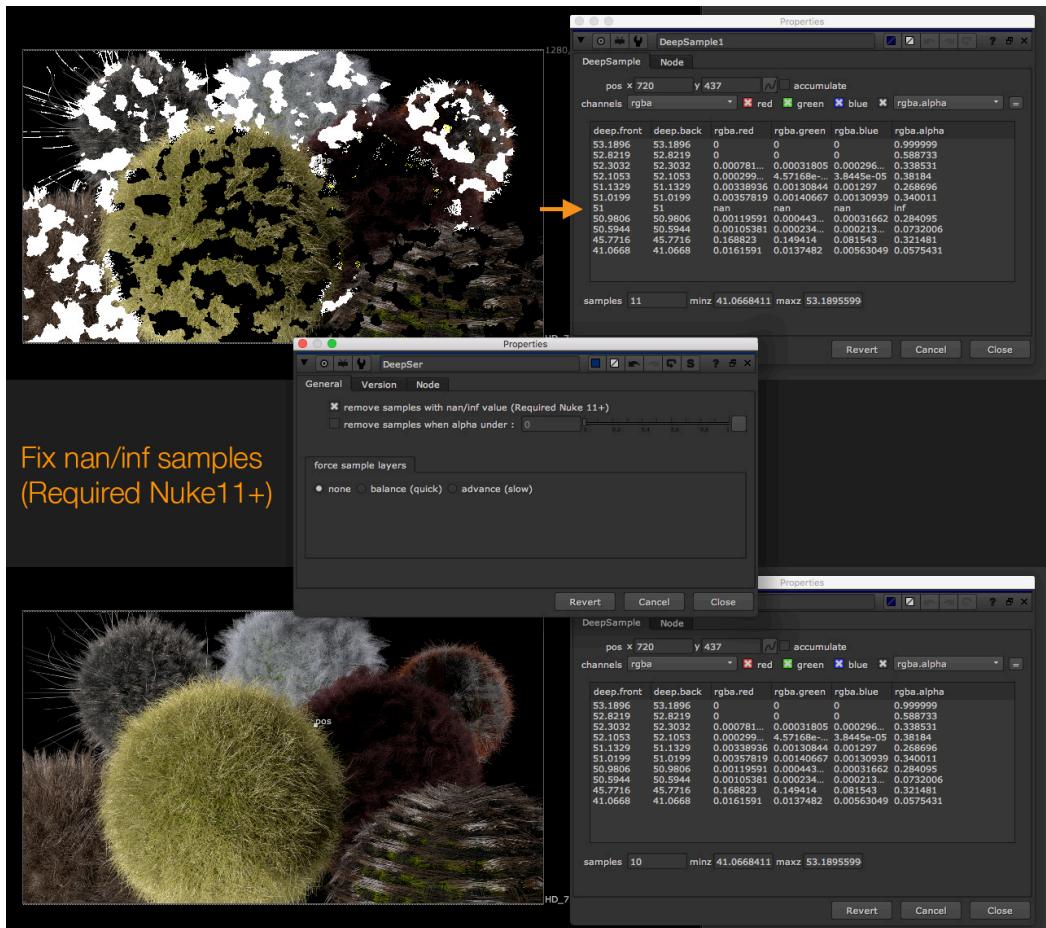


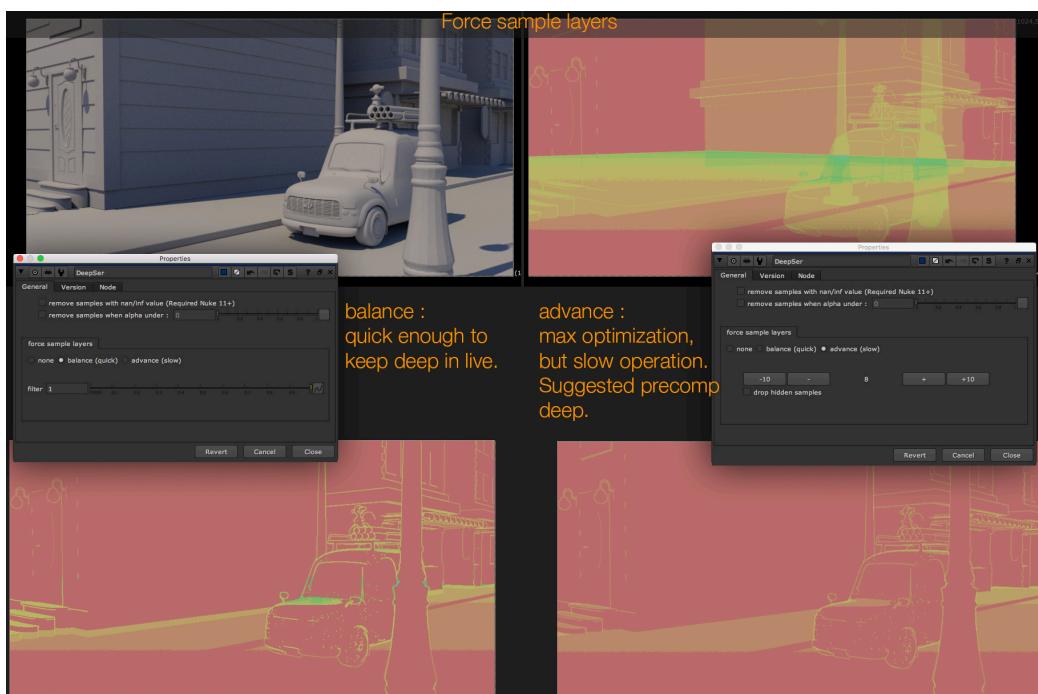
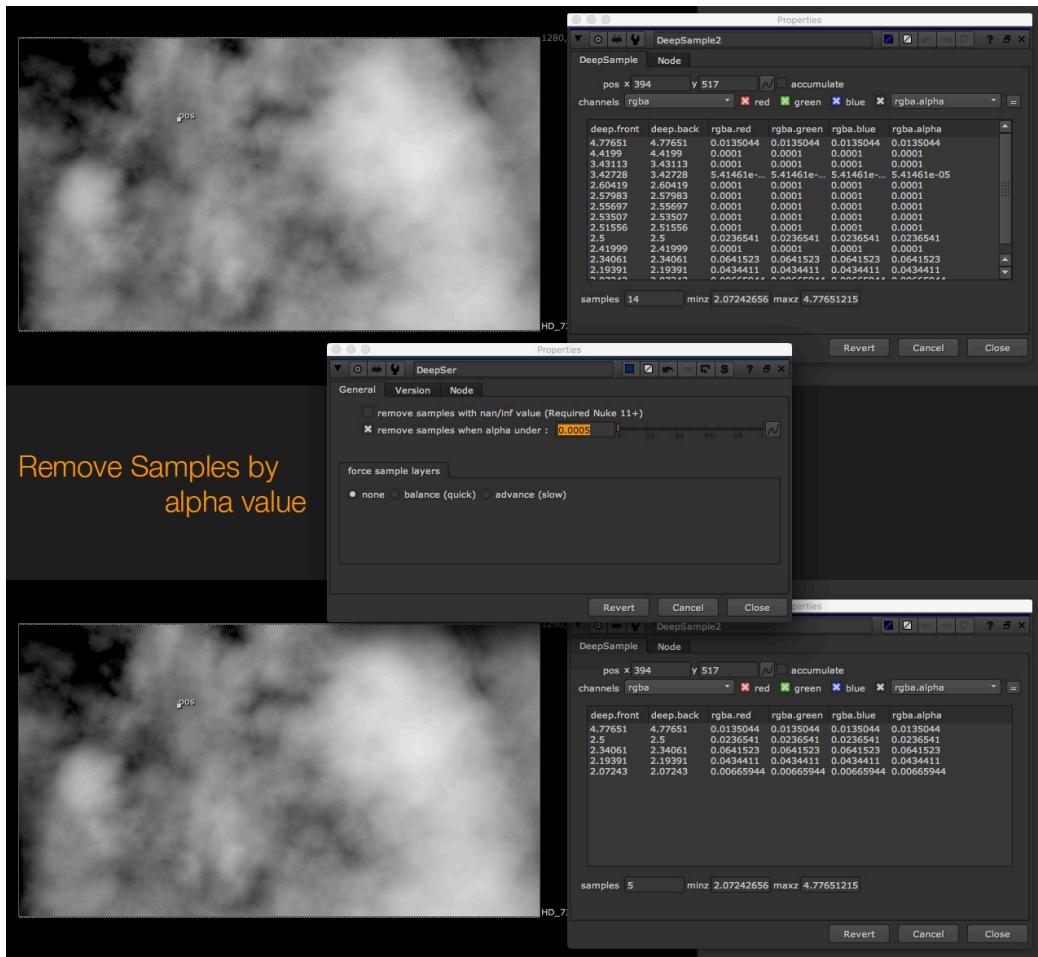
- <http://www.nukepedia.com/gizmos深深/deepser>

A tool to manage/remove/optimize deep samples.

Features

- Remove NaN/Inf samples
- Remove samples by alpha value
- Remove samples by layer in pixel *Deep sample colormap can be generated by DeepSampleCount*





CG

Tools for CG compositing, position passes, normals, and relighting.

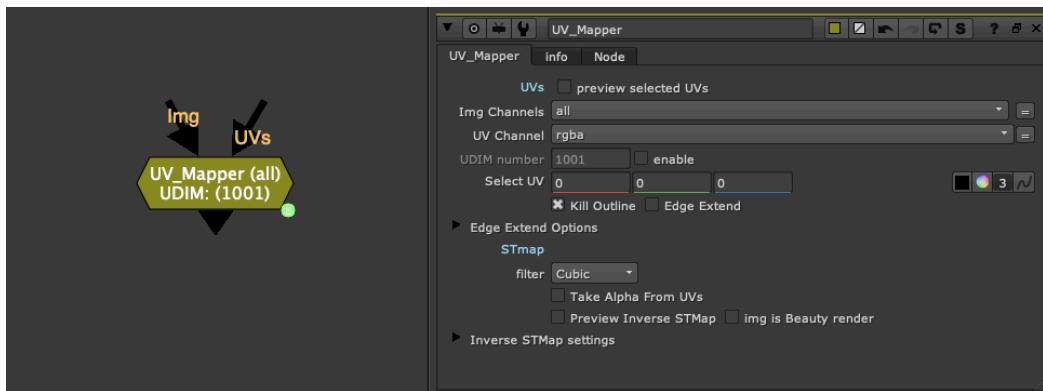
Tools in this Category

Tool	Author	Description
UV_Mapper	Tony Lyons	Map textures on UV pass with multiple UDIMs
PNZ Suite	Mark Joey Tang	Convert between Position, Normal, and Depth
Pos Toolkit	Mark Joey Tang	Position-based tools for 2D compositing
Noise3D	SPIN FX / Erwan Leroy	3D noise from position passes
Noise4D	Mads Hagbarth Damsbo	4D simplex noise generator
Relight_Simple	SPIN FX / Erwan Leroy	Simplified relight node
Reproject3D	SPIN FX / Erwan Leroy	Camera projection using position pass
C44Kernal	Adrian Pueyo	4x4 Matrix color multiplication
apDirLight	Adrian Pueyo	Directional light through normals
apFresnel	Adrian Pueyo	Fresnel pass from normals
CameraNormals	Nikolai Wüstemann	World to camera space normals

Tool	Author	Description
NormalsRotate	Wes Heo	Rotate normals for matte creation
EnvReflect_BB	Bastian Brenot	Fake environment reflections
Relight_BB	Bastian Brenot	2D based relighting tool
N_Reflection	Chetal Gazdar	Fake reflection from normals
SimpleSSS	Mads Hagbarth Damsbo	Simple subsurface scattering
aMatte	Adrian Pueyo	Position matte generator
P_Project	Franklin Toussaint	Camera projection with position
GlueP	Lewis Saunders	Glue image to position pass
P_Ramp	Franklin Toussaint	Ramp using position data
P_NoiseAdvanced	Riley Gray	Advanced 3D noise on position pass

UV_Mapper [TL]

Author: Tony Lyons - <http://www.CompositingMentor.com>



UV_Mapper is for mapping textures on a UV pass with multiple UDIMs in the render. Sometimes for creature or other assets, the CG department breaks up the texture passes into multiple UDIMs. This means there are multiple UV sections in the render. Frequently they render this UV pass with each UDIM offset by 1. So you would have 0.5, 1.5, 2.5 for UDIM 1001, 1002, 1003 for example.

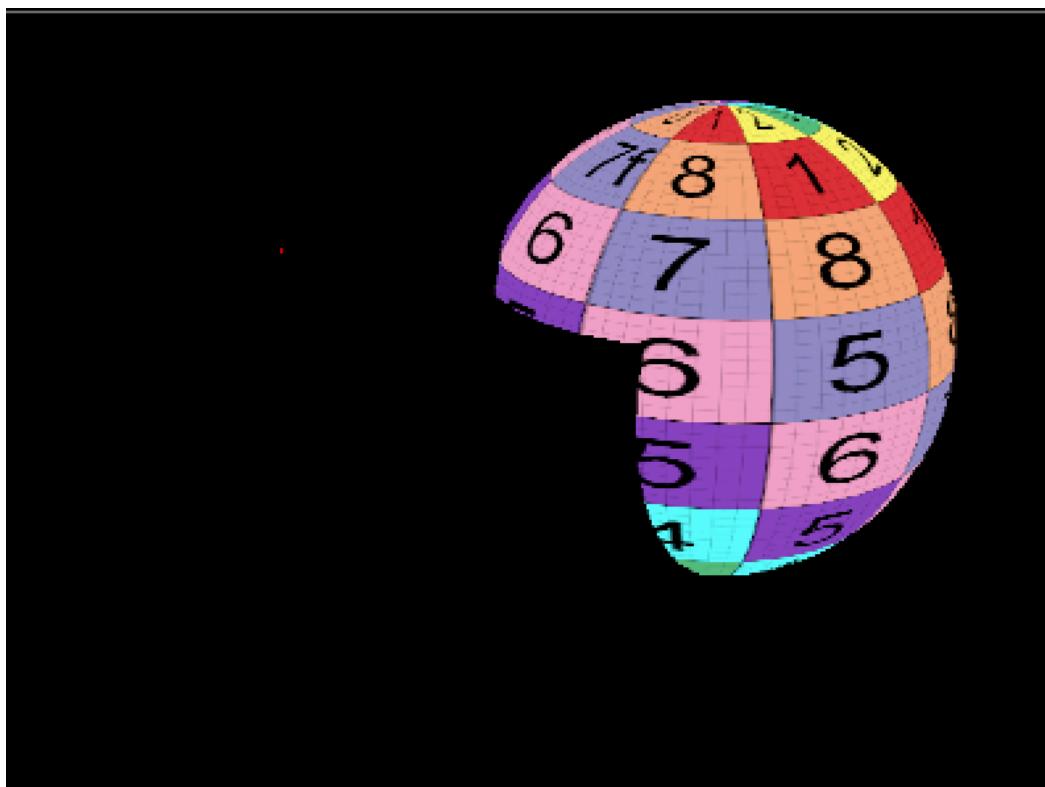
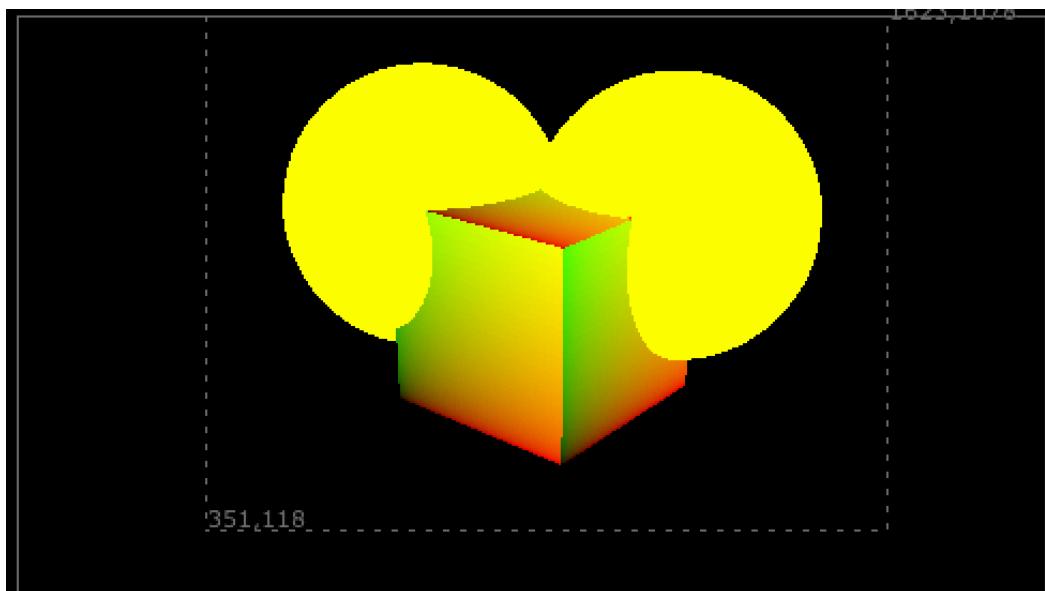
How to Use

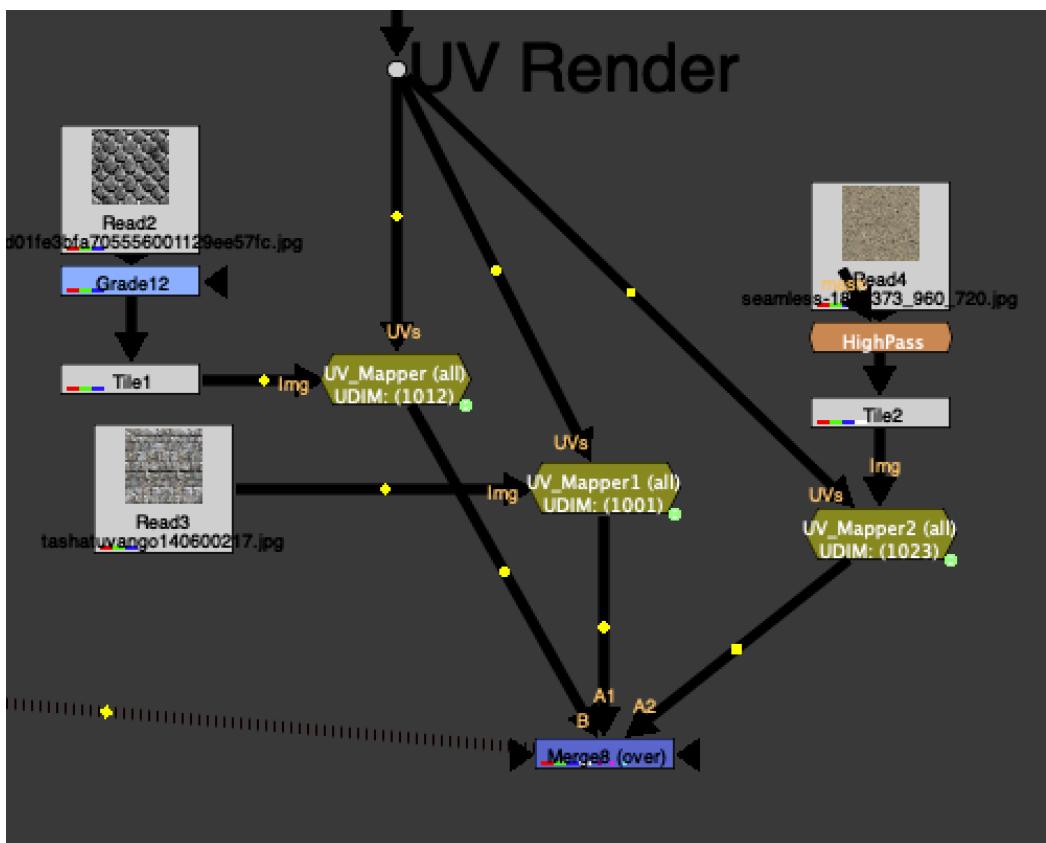
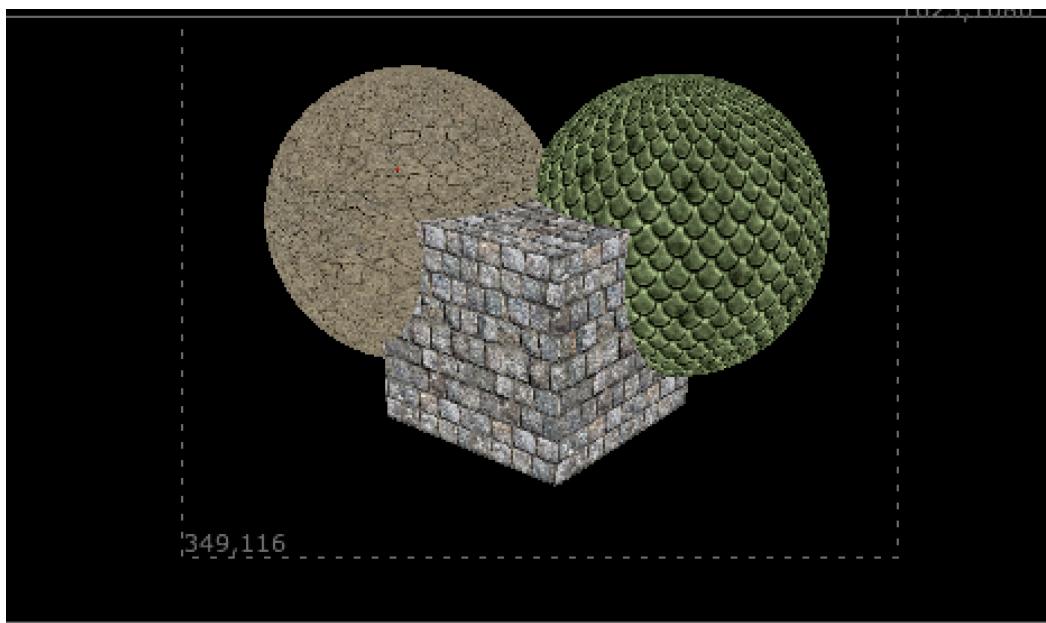
1. Plug your UV pass render into the UV_Mapper in the UVs input
2. Use the select UV color picker to isolate which of the UDIM UVs you'd like to use
3. By default, when there is no image plugged into the img input, there is a UV grid preview as a placeholder for you to see which UDIM you have selected
4. Once you plug an image into the img input, it will replace this placeholder. You can create multiple UV_Mappers and grab a few textures, and with a simple setup you can retexture parts of your image.

Features

- **Kill outline:** Erodes in a bit to handle anti-aliased UV passes
- **Edge extend option:** Push some UV color value to reduce artifacting
- **Take alpha from UVs:** Use the alpha from the input image, remapped in UV space, instead of the CG render alpha
- **Preview STMap:** See what part of UV space the texture occupies when "unwrapped"

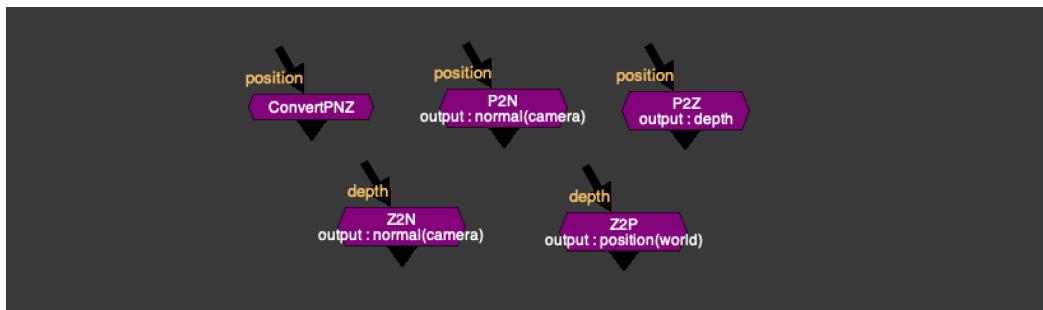
- **Img is beauty render:** Isolate the area of the beauty render where the UDIM is selected and unwrap in UV space *Thanks to Luca Mignardi and his inverseSTMap gizmo for the STMap preview functionality.*





PNZ Suite [MJT]

Author: Mark Joey Tang - <http://www.facebook.com/MJTLab>



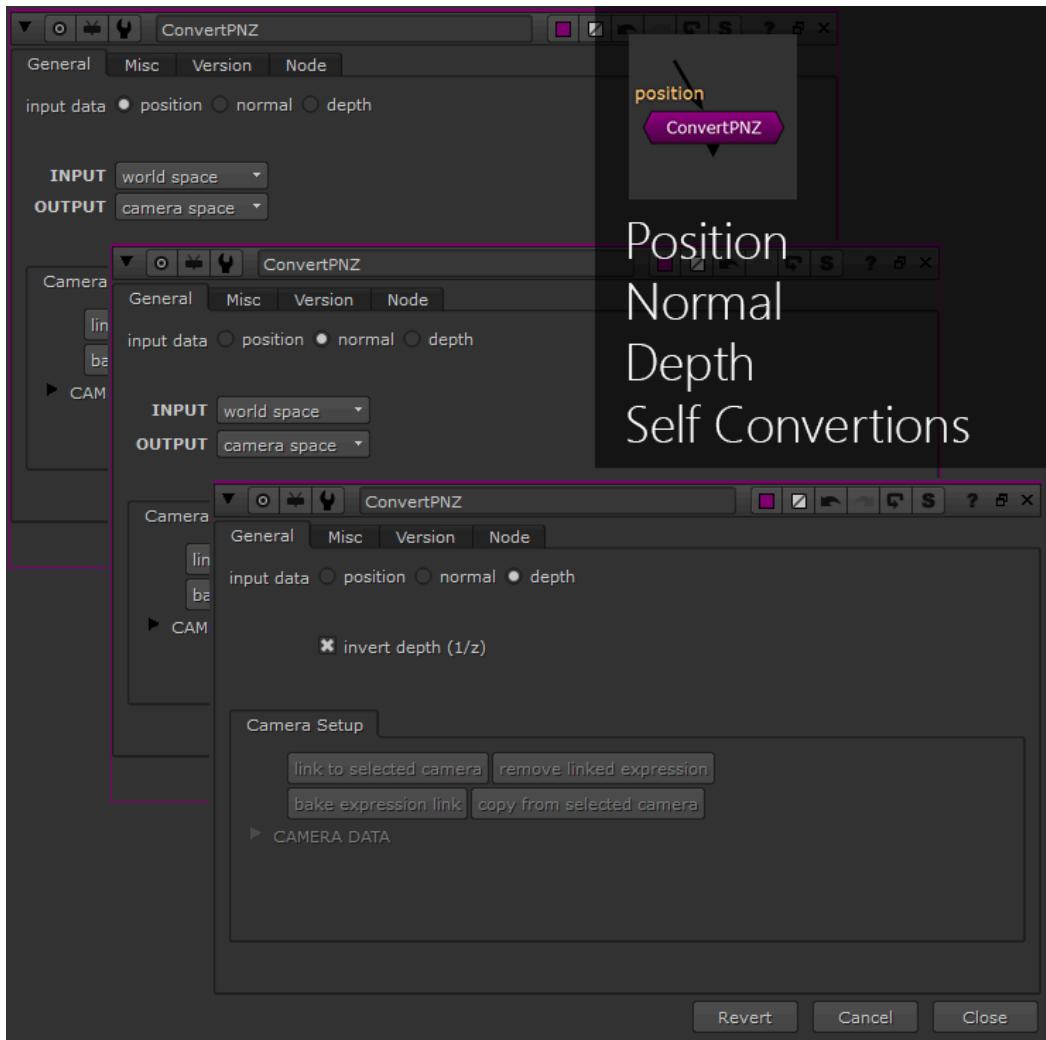
- <http://www.nukedatabase.com/blink/draw/positiontonormal>

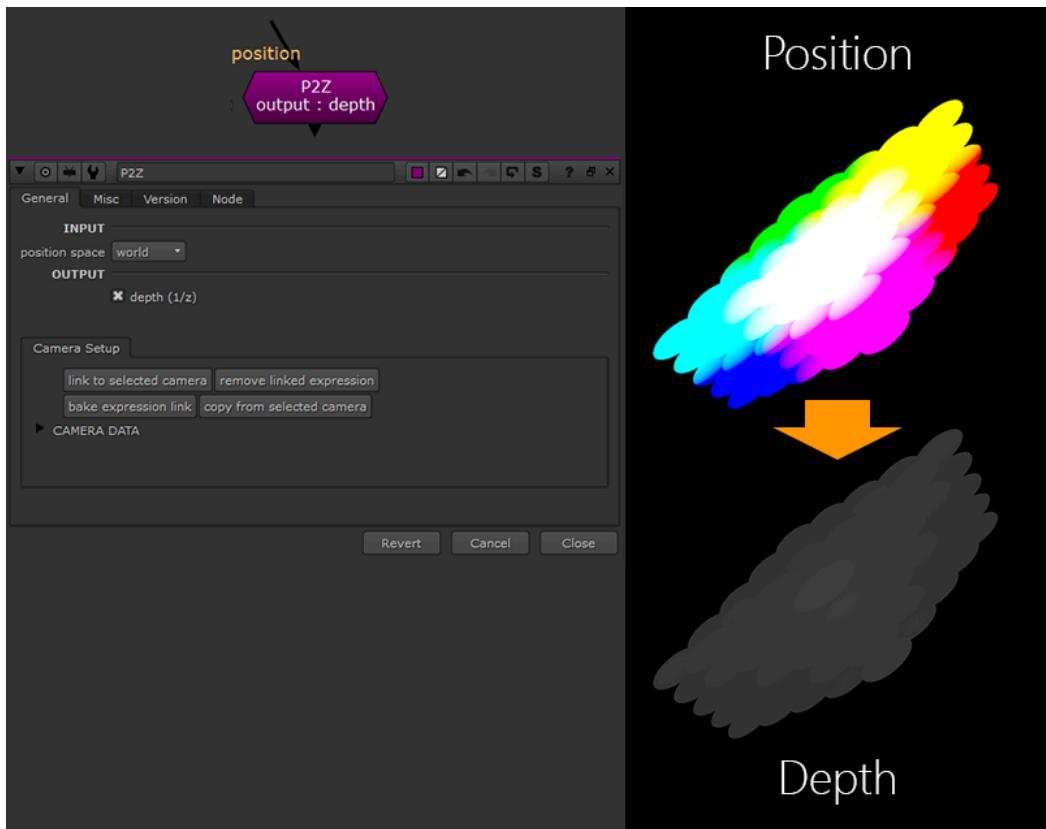
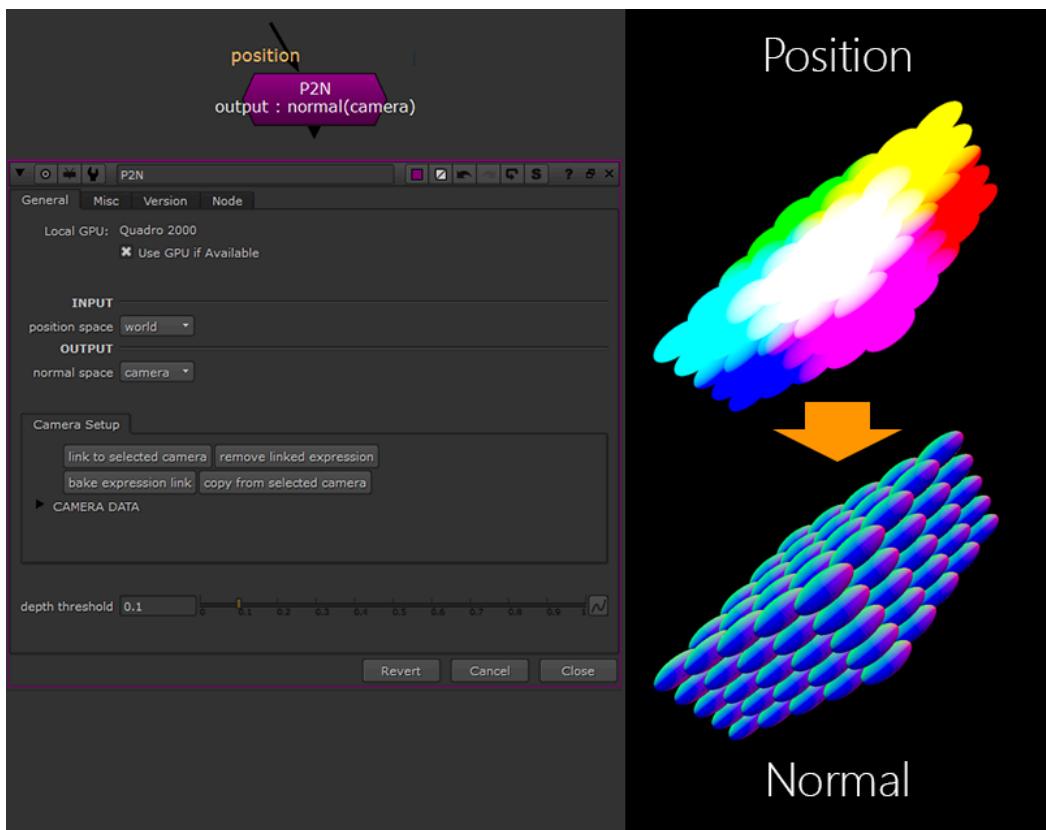
Convert 3D data passes. This suite includes tools for converting between Position, Normals, and Depth data. Created as a standalone version for 2D comp with added conversion options for 2.5D comp.

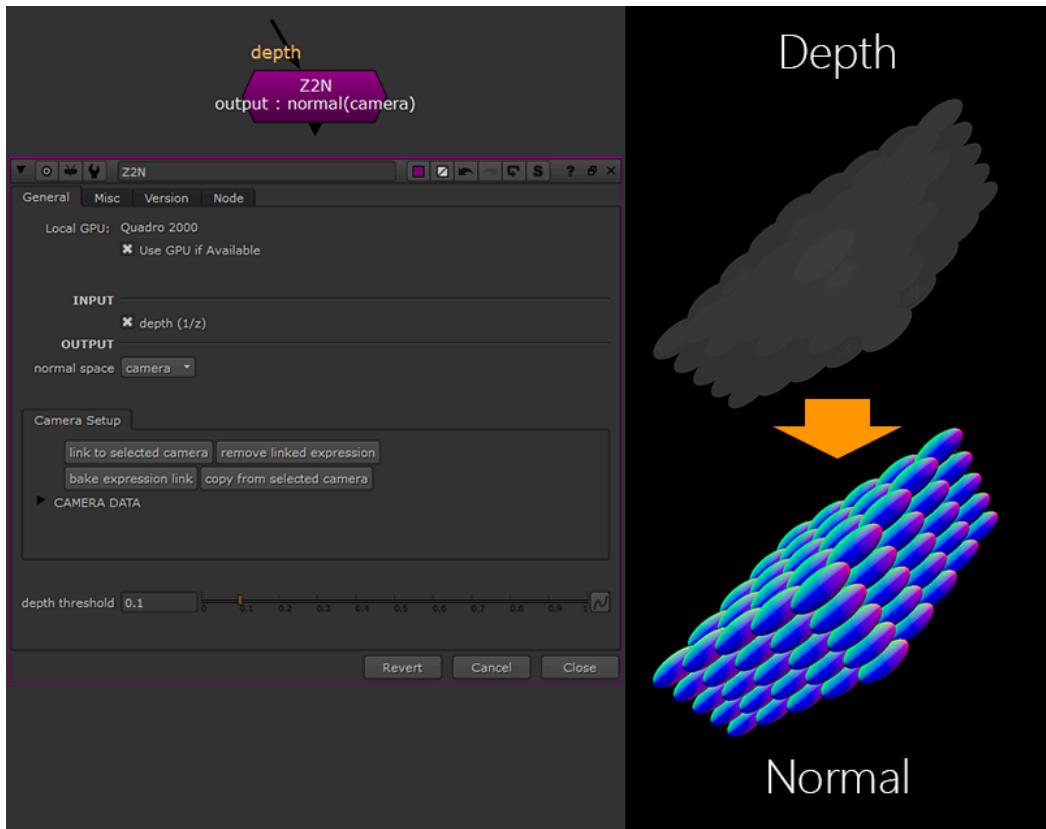
Convert Position/Depth to Normal may have a little bit of artifact on edges. Try to adjust 'Depth Threshold' for better results. It might not be able to get decent results on thin objects, such as hair/fur.

If you use it for relight, try to light it with this pass first - those artifacts might not be an issue.

Some space swaps require camera data.







Pos Toolkit [MJT]

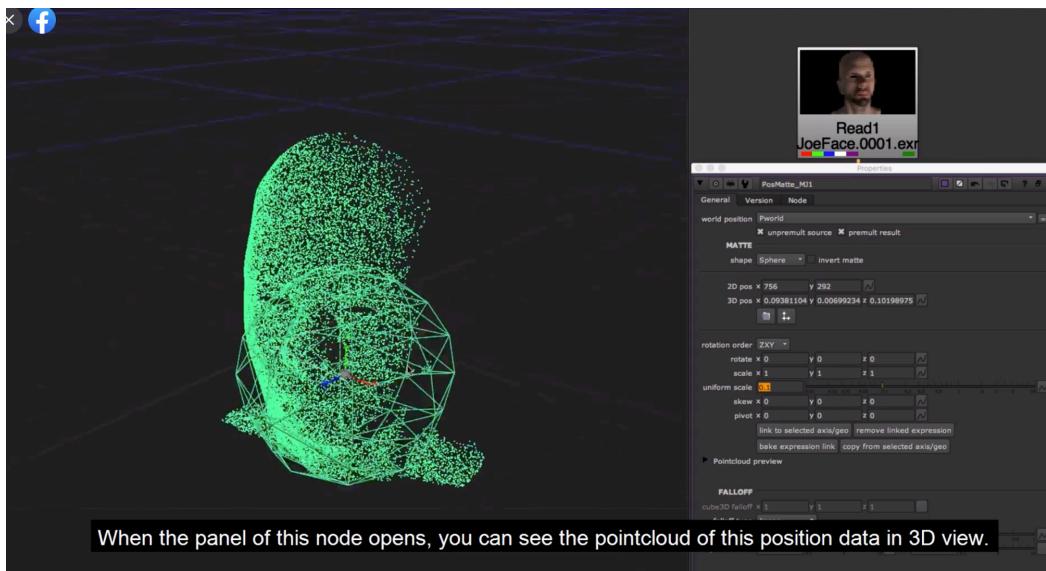
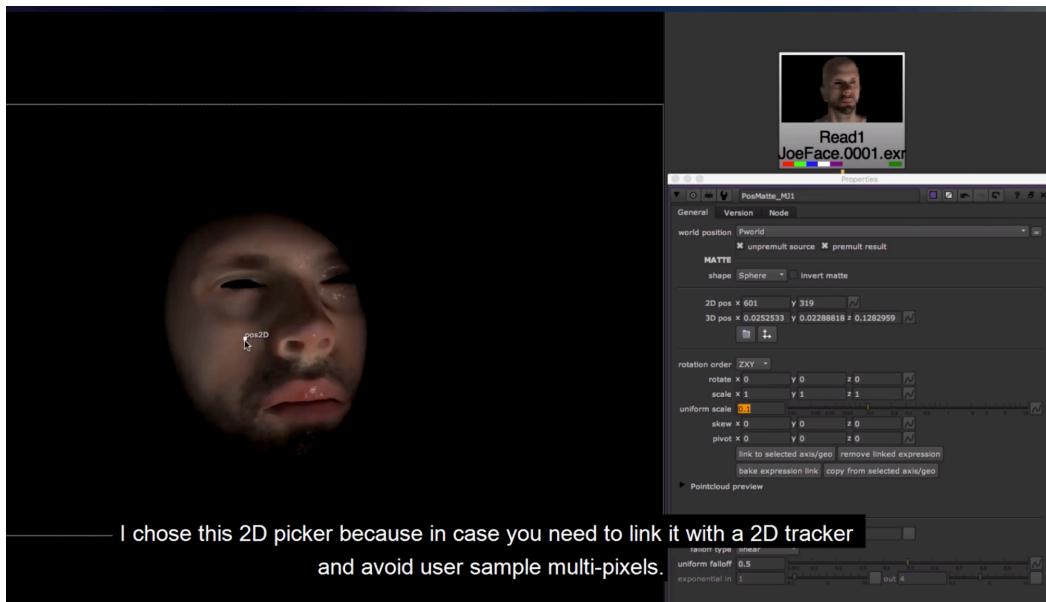
Author: Mark Joey Tang - <http://www.facebook.com/MJTLab>

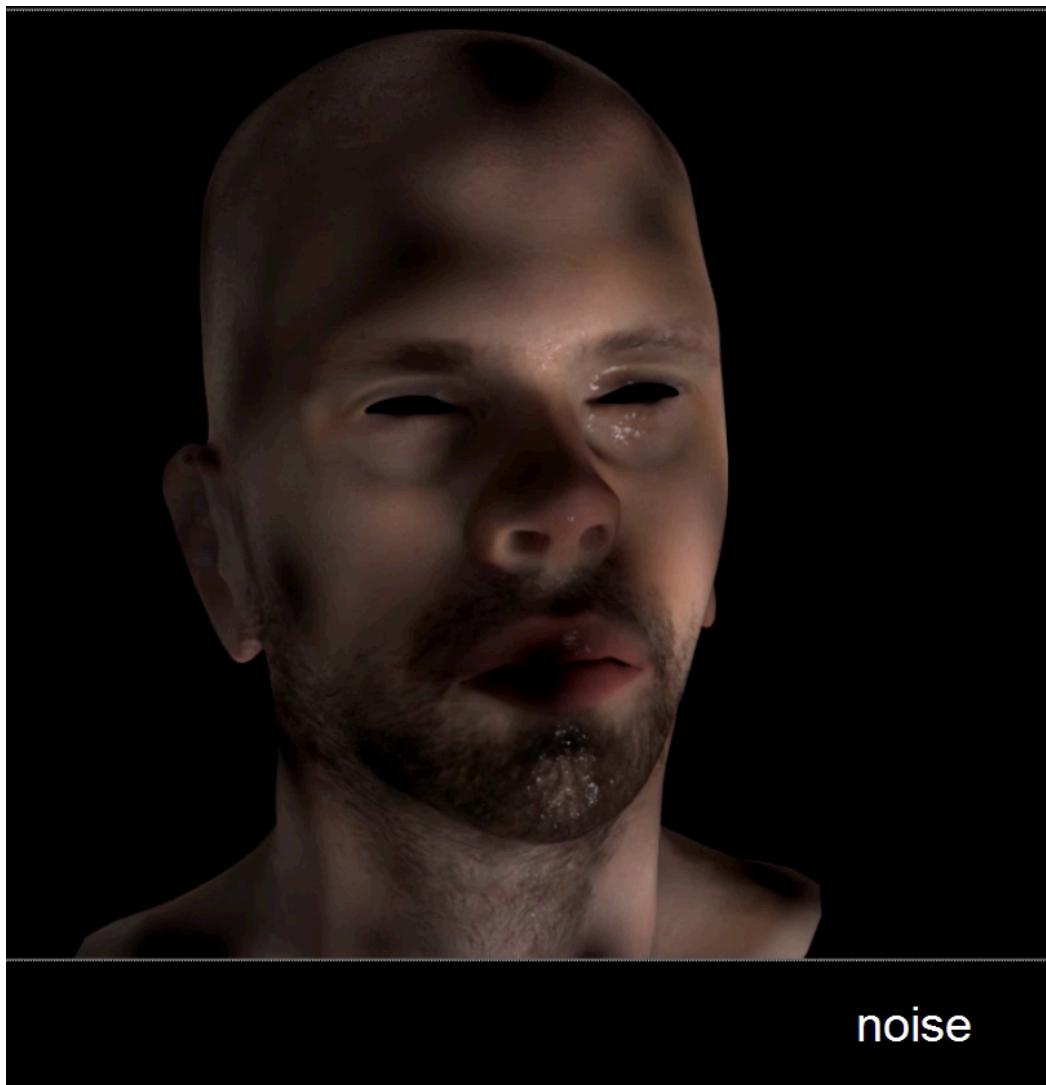
- <http://www.nukepedia.com/toolsets/3d/pos-toolkit>

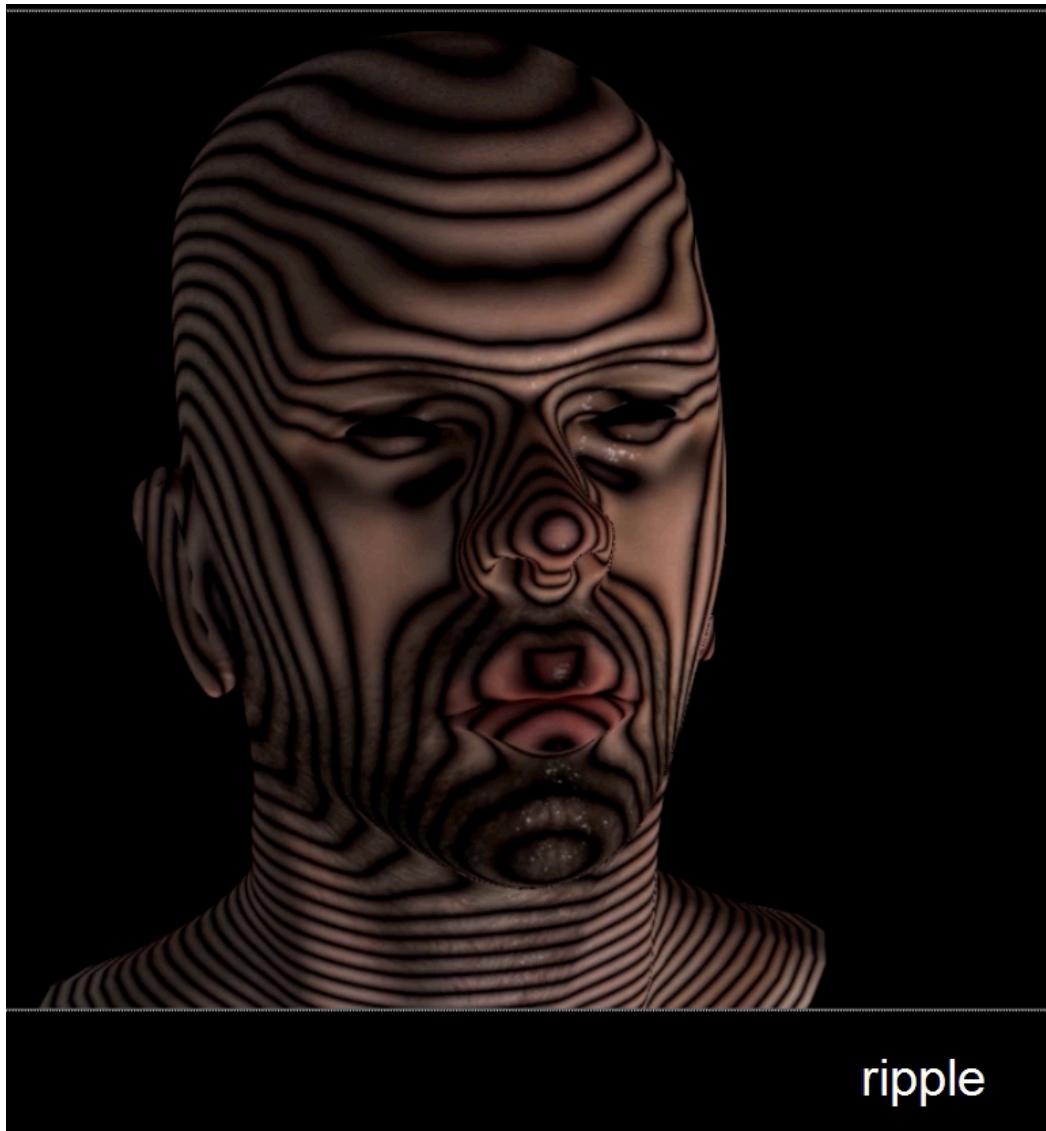
This position toolkit is based on Deep2VP to create and work in 2D compositing instead of Deep. The toolset has PosMatte, PosPattern and PosProjection, the function and workflow is the same as DVPMatte, DVPattern and DVProjection in Deep2VP.

Input of all these nodes must contain world space position data and alpha. If you need to convert position from camera space, use the PNZ Suite to do the job.









Noise3D [SPIN]

Author: SPIN FX / Erwan Leroy - <http://erwanleroy.com/blog/>

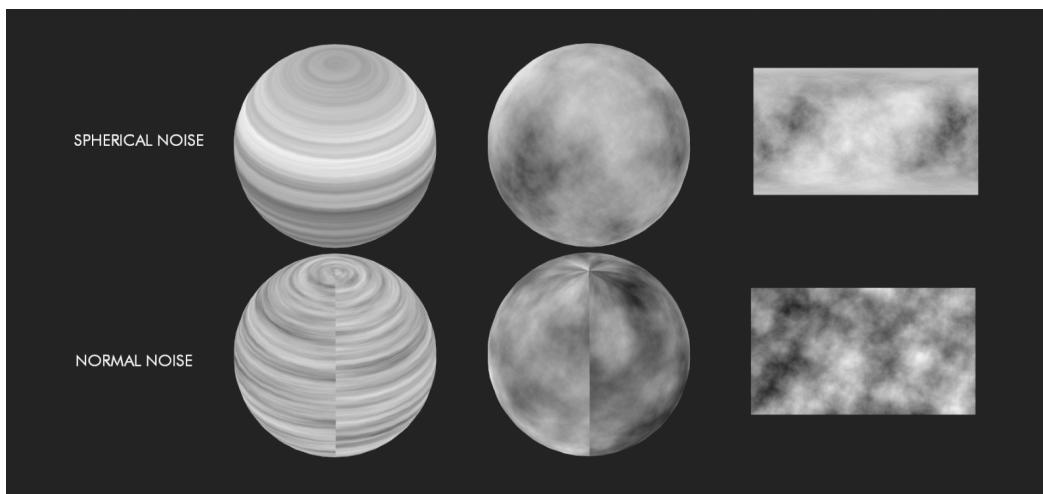
- https://github.com/SpinVFX/spin_nuke_gizmos
- http://www.nukepedia.com/gizmos/other/spin_nuke_gizmos-1
- <http://erwanleroy.com/spin-vfx-nuke-gizmos-2-0-released/>

Generate Noise in 3D space based on Position passes. It includes pre-made Position passes for some 3D primitives, or can use a custom Position pass. Uses a 4D noise internally so that the 4th dimension can be used to add a 'boiling' effect.

Choose between fBm and Turbulence.

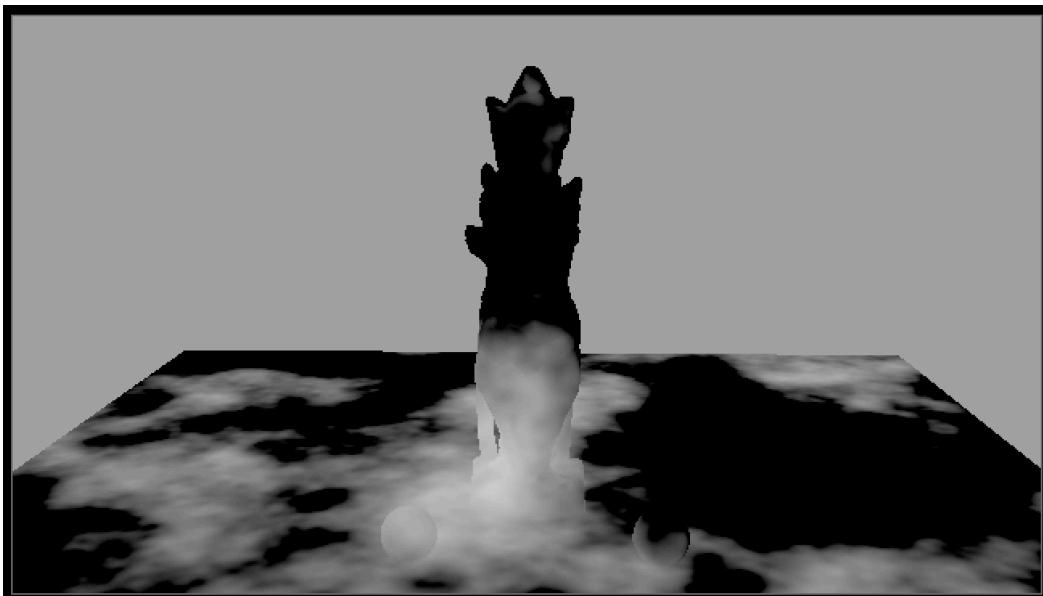
Mapping Options

- Card (Flat)
- Spherical
- Cylindrical (Tile X)
- Cylinder 4D (Tile X and Y)
- Custom P Input The Custom P Input lets you input the shape of your choice. Using a pWorld pass as custom P will generate a 3D noise as seen from the same camera as used to render the Pworld. Ensure an Alpha channel is present for Custom P.



Noise4D [MHD]

Author: Mads Hagbarth Damsbo - <https://hagbarth.net/blog/>



- <http://www.nukepedia.com/blink/draw/4d-noise>

This is a port of the 4D simplex noise found at
<https://github.com/Draradech/csworldgen/blob/master/simplexnoise.cpp> Blink
script - 4D Noise Generator (Based on image values) It uses the image values of
the input image to generate the noise. It is not fast, but it does the job quite well.

Input Channel Mapping

- Red, Green, Blue image (Pworld or Pref or vectors): X, Y, Z position
- Alpha Channel: Evolution (4th dimension) - change alpha to change the seed/evolution

Relight_Simple [SPIN]

Author: SPIN FX / Erwan Leroy - <http://erwanleroy.com/blog/>

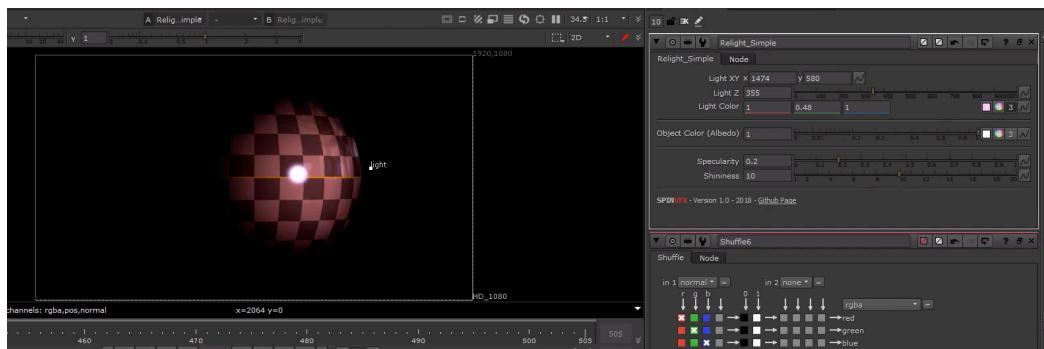
- https://github.com/SpinVFX/spin_nuke_gizmos
- http://www.nukpedia.com/gizmos/other/spin_nuke_gizmos-1
- <http://erwanleroy.com/spin-vfx-nuke-gizmos-2-0-released/>

Simplified relight node. Only requires a normal map to get started.

This node will not reproduce accurate lighting, as it does not take into account the actual 3D world space, but instead considers the image in its own local space.

How to Use

1. Plug Normals input to a Normals Pass that is shuffled into RGBA
2. Choose a 2D position to orient the relighting angle
3. Light Z attempts to set a distance of the picker, forward or backwards in 'Z space'
4. Choose light color
5. Option to use an albedo pass (aka a texture or color pass) as an input
6. Specularity and shininess options available



Reproject3D [SPIN]

Author: SPIN FX / Erwan Leroy - <http://erwanleroy.com/blog/>

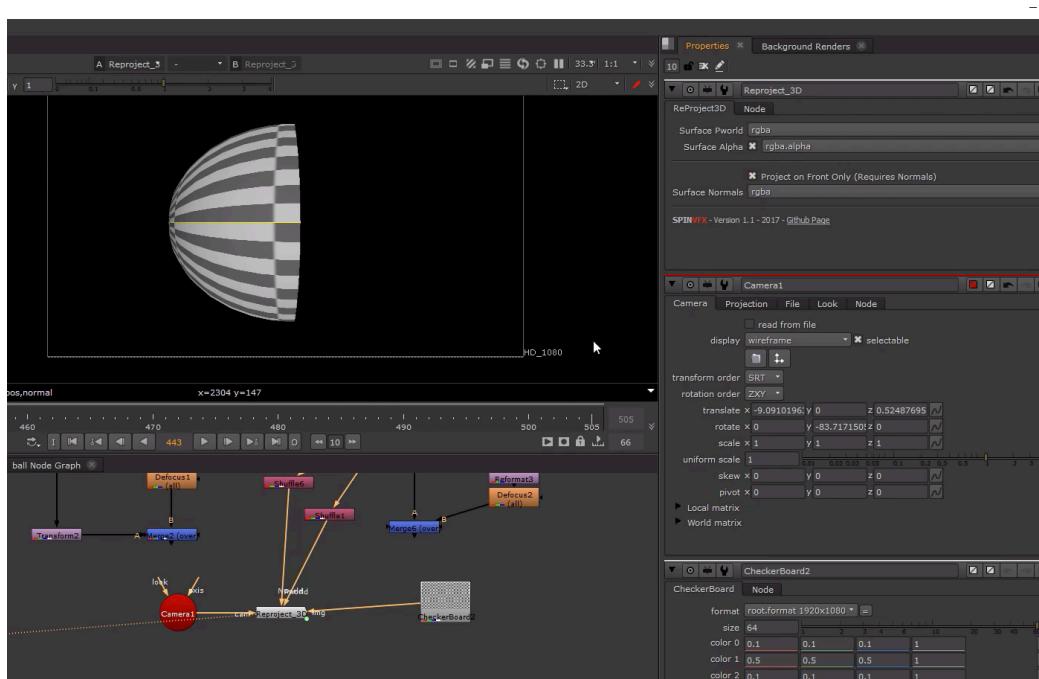
- https://github.com/SpinVFX/spin_nuke_gizmos
- http://www.nukepedia.com/gizmos/other/spin_nuke_gizmos-1
- <http://erwanleroy.com/spin-vfx-nuke-gizmos-2-0-released/>

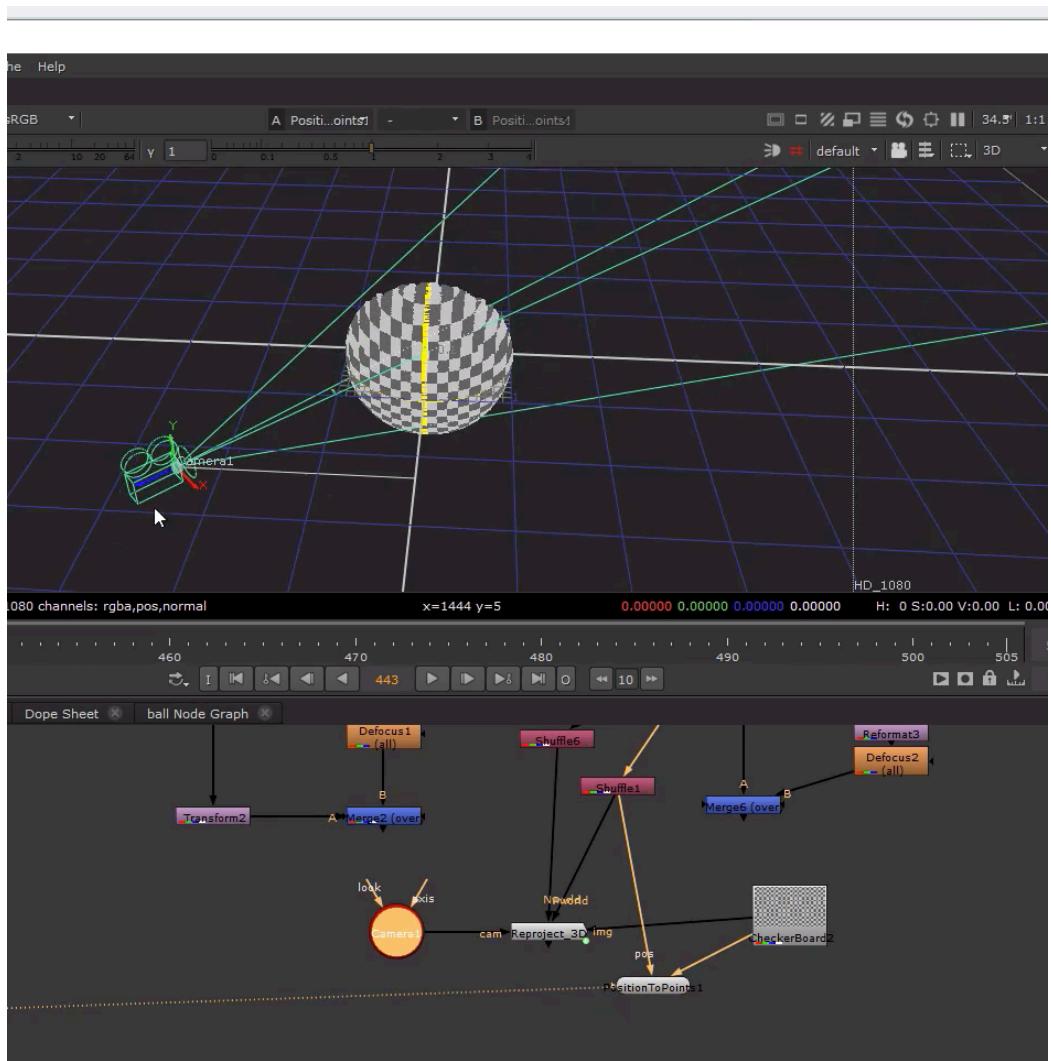
This gizmo does camera projection using a render point position pass (in world space) and a 3D camera to remap all the layers in the input image.

NOTE: The projection works best with unmatted input images or at least unpremuted matting with some coverage, then all masking occurs within the gizmo.

Masking Options

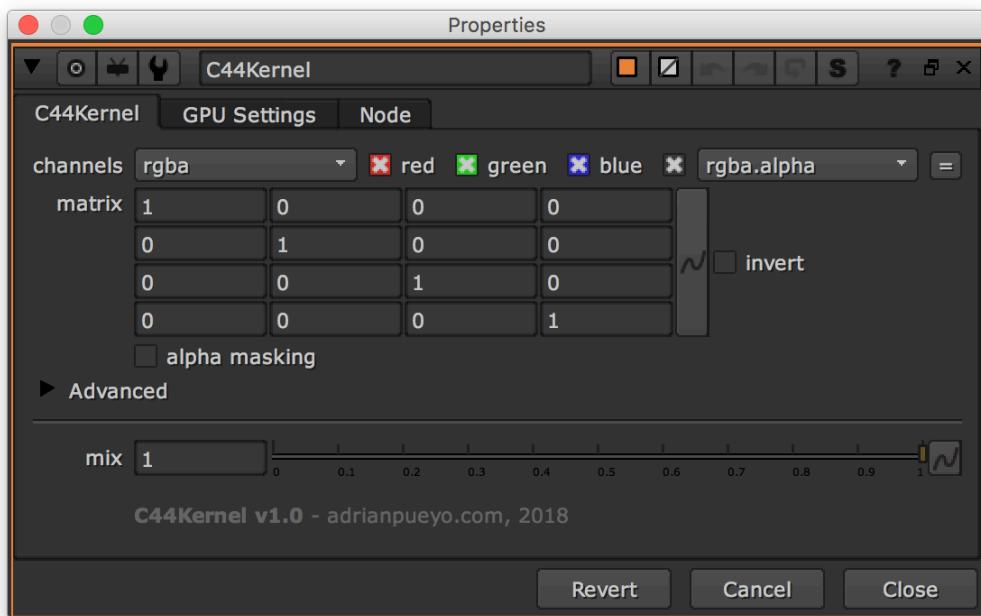
- Input alpha from the 3D render
- Projecting on surfaces facing camera, using normal (N) in world space





C44Kernel [AP]

Author: Adrian Pueyo - <http://www.adrianpueyo.com/>



- <http://www.nukepedia.com/blink/colour/c44kernel>

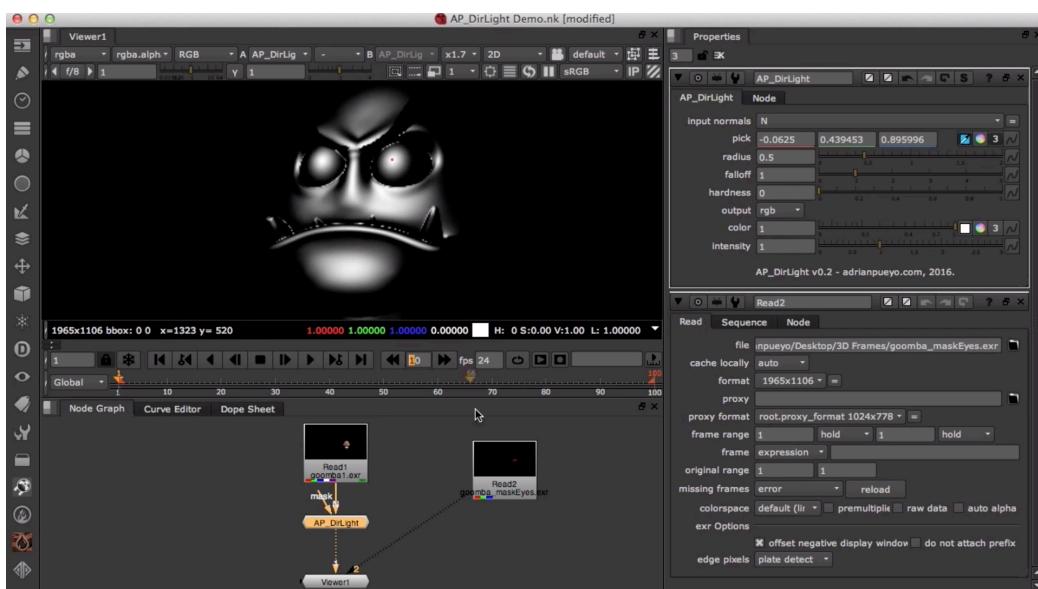
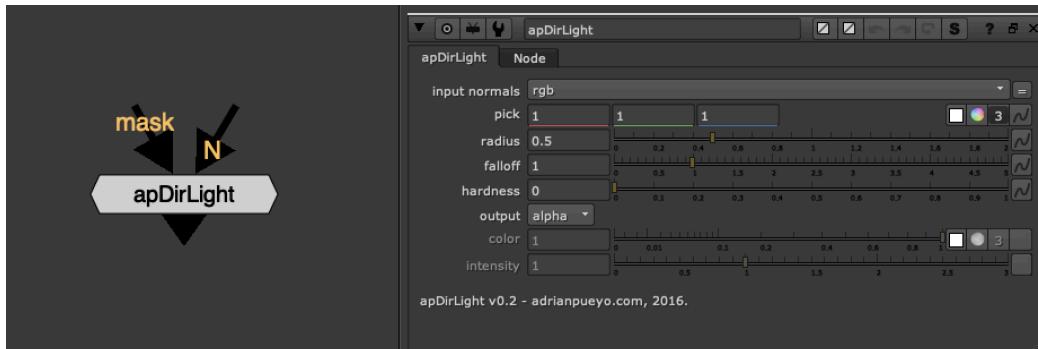
Multiply the RGB or RGBA colors by an arbitrary 4x4 Matrix. Useful for transforming vector passes like Position or Normals. You can also plug in an Axis or Camera node into the axis input, to apply its transformations.

C44Kernel is a simpler, Blinkscript-based alternative to the C44Matrix node by Ivan Busquets, which is incredibly useful but has the compatibility limitations of a plugin.

apDirLight [AP]

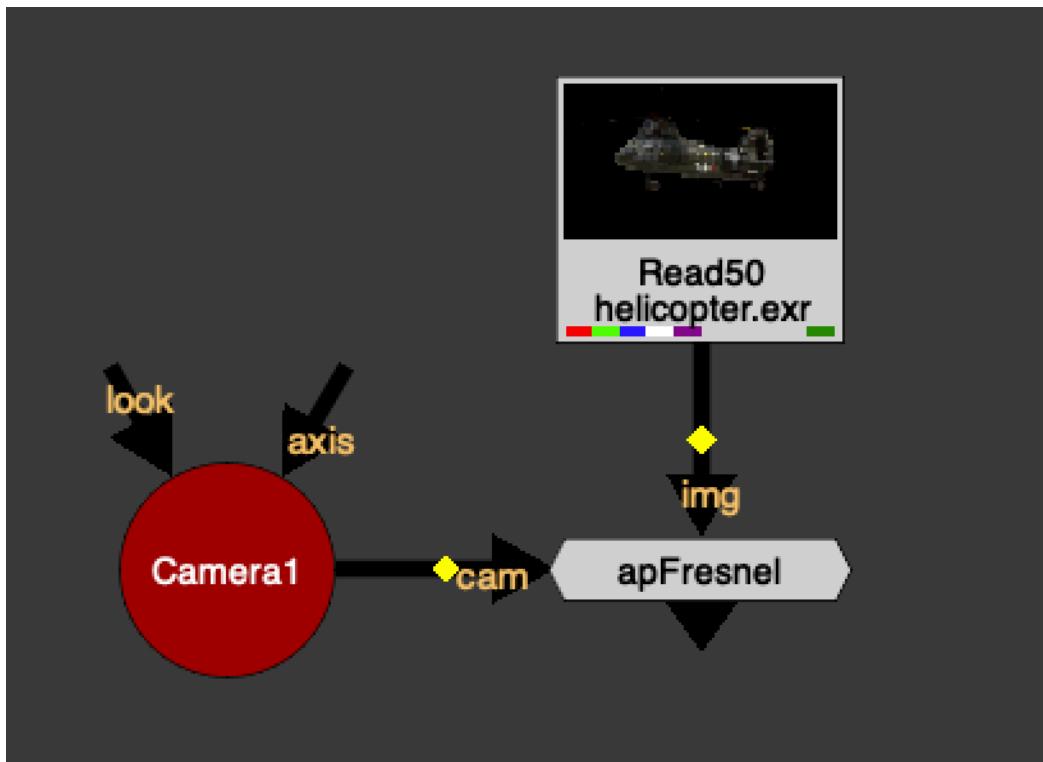
Author: Adrian Pueyo - <http://www.adrianpueyo.com/>

Simulate a simple directional/infinite light through a normal pass, by picking a Normals pass color and then tweaking the radius, falloff and hardness of the light.



apFresnel [AP]

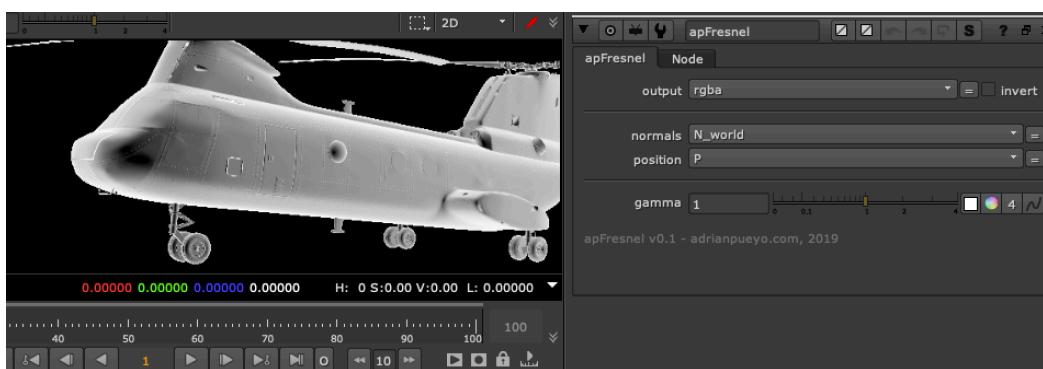
Author: Adrian Pueyo - <http://www.adrianpueyo.com/>



Convert your Normals Worldspace pass into a Camera Space Fresnel pass.

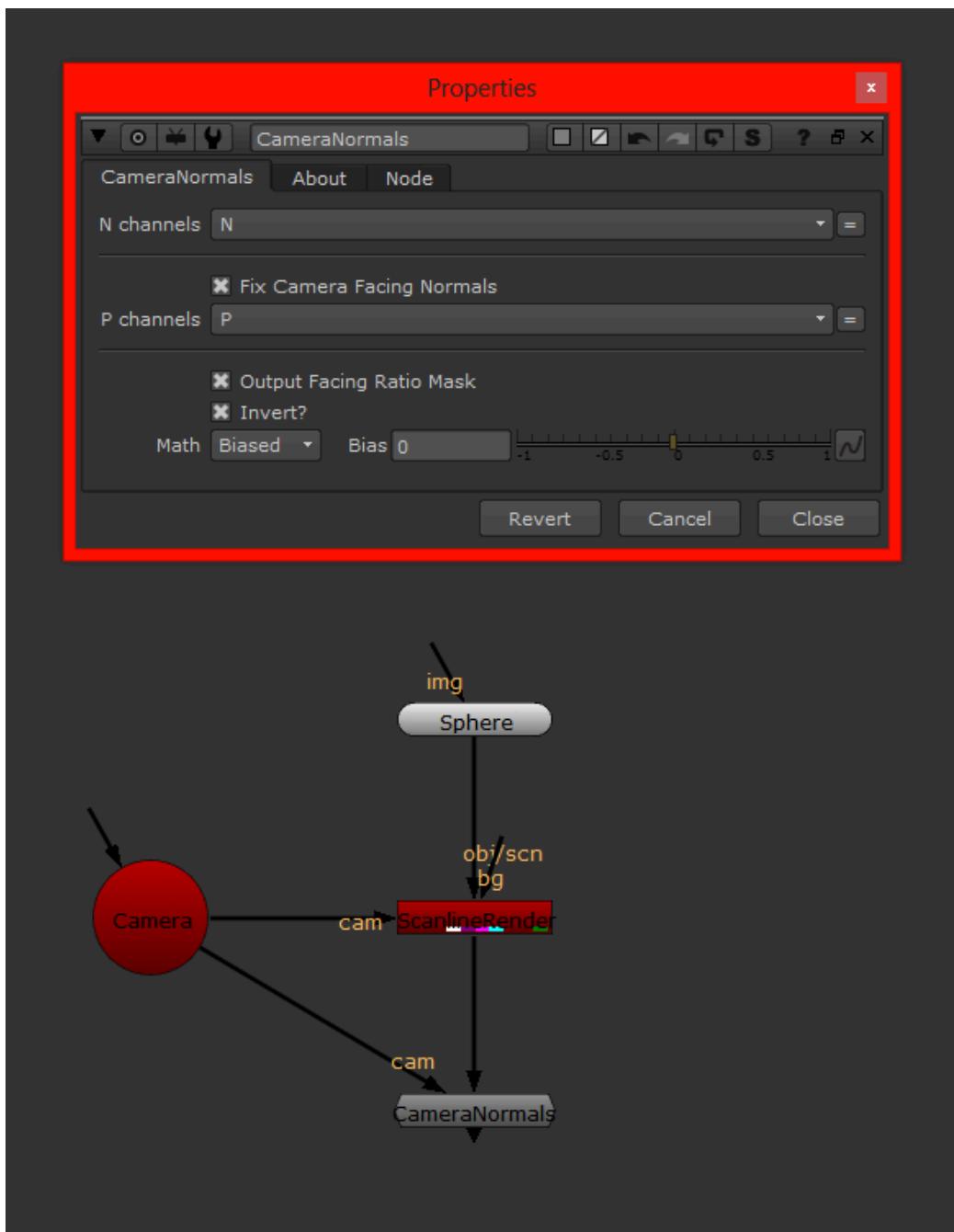
Plug in your render camera, pick the normals and position channels from the input.

Can adjust the gamma of the Fresnel (Facing ratio).



CameraNormals [NKPD]

Author: Nikolai Wüstemann

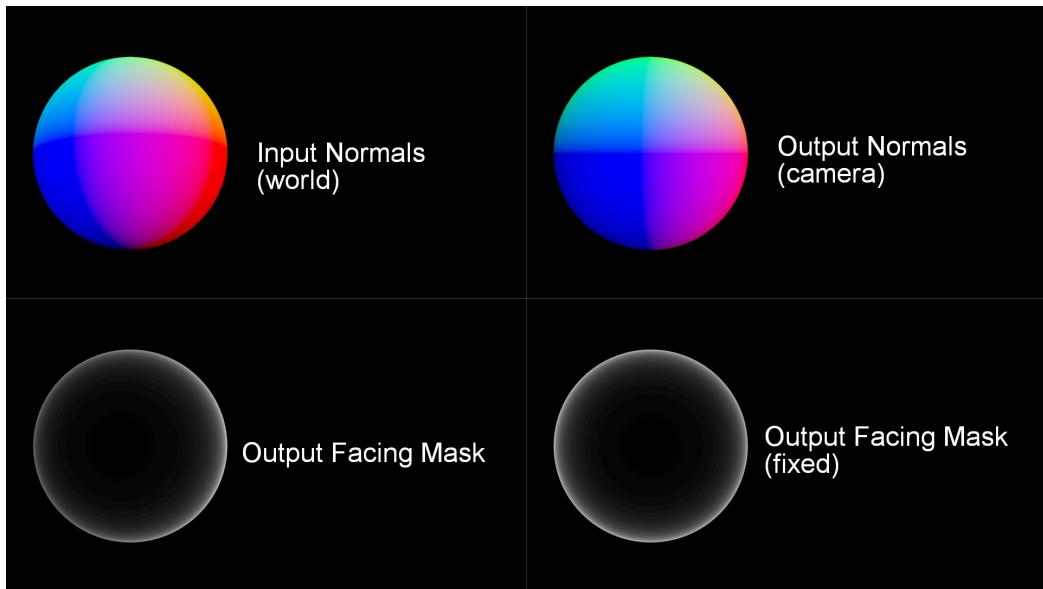


- <http://www.nukepedia.com/gizmos/channel/cameranormals>

The Gizmo lets you convert your CG worldspace normals to camera space normals.

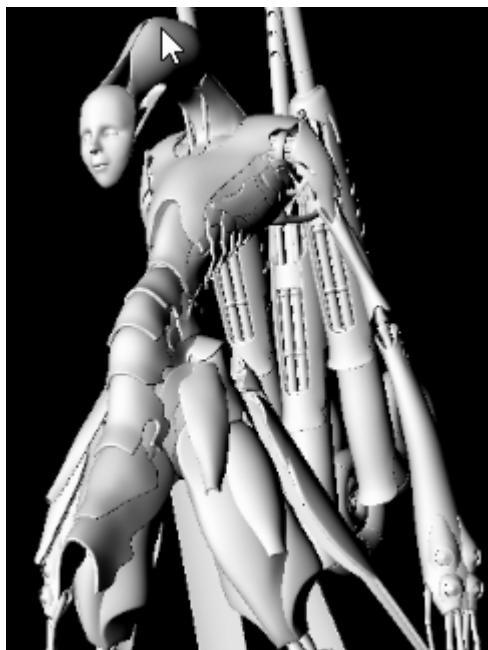
As the blue component of camera space normals is often used as a facing ratio, you also have the option to directly output the mask.

In addition you have some control about the facing mask falloff (Simple or Biased), that is driven by an exponential expression. *Modified with Adrian Pueyo's Dummy Camera gizmo*



NormalsRotate [NKPD]

Author: Wes Heo



- http://www.nukepedia.com/gizmos/3d/w_supernormal

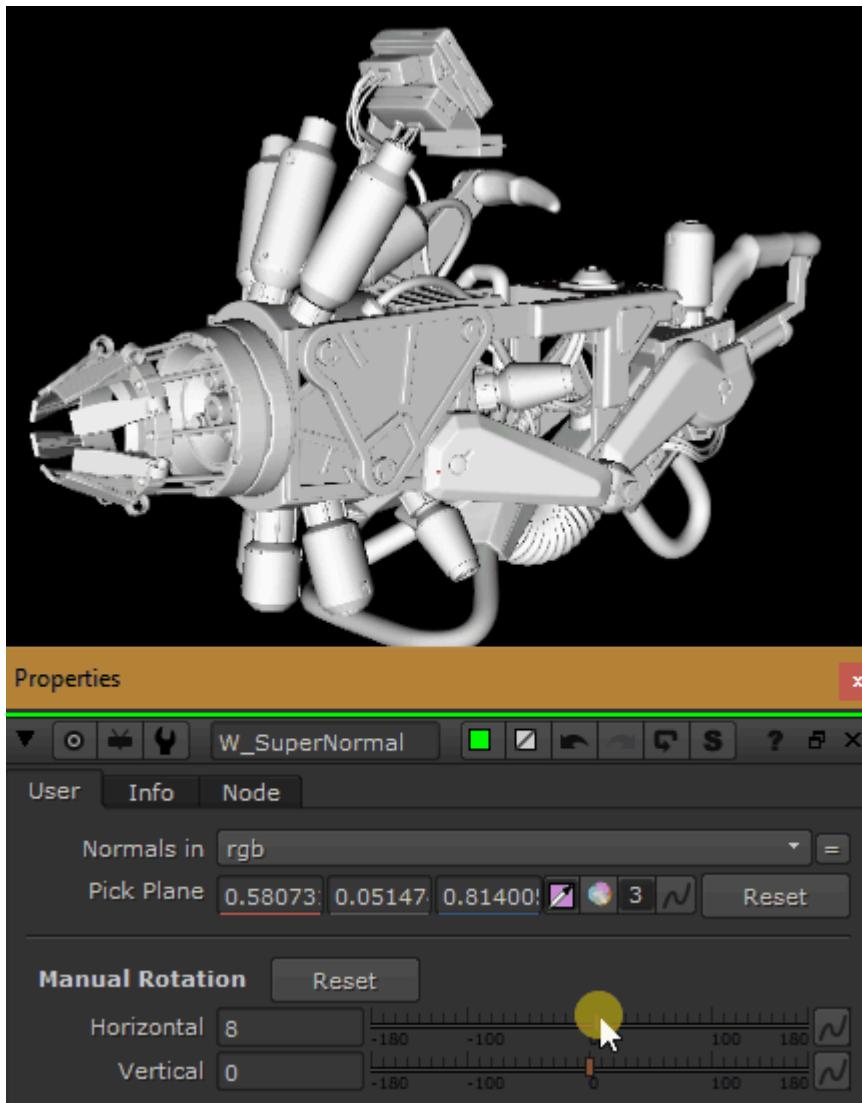
There are two ways to select the surface angle: 1. **P_Matte inspiration:** The colorpick method like P_Matte to do with normals what it does with position data
2. **Rotation sliders:** Horizontal and Vertical Rotations sliders

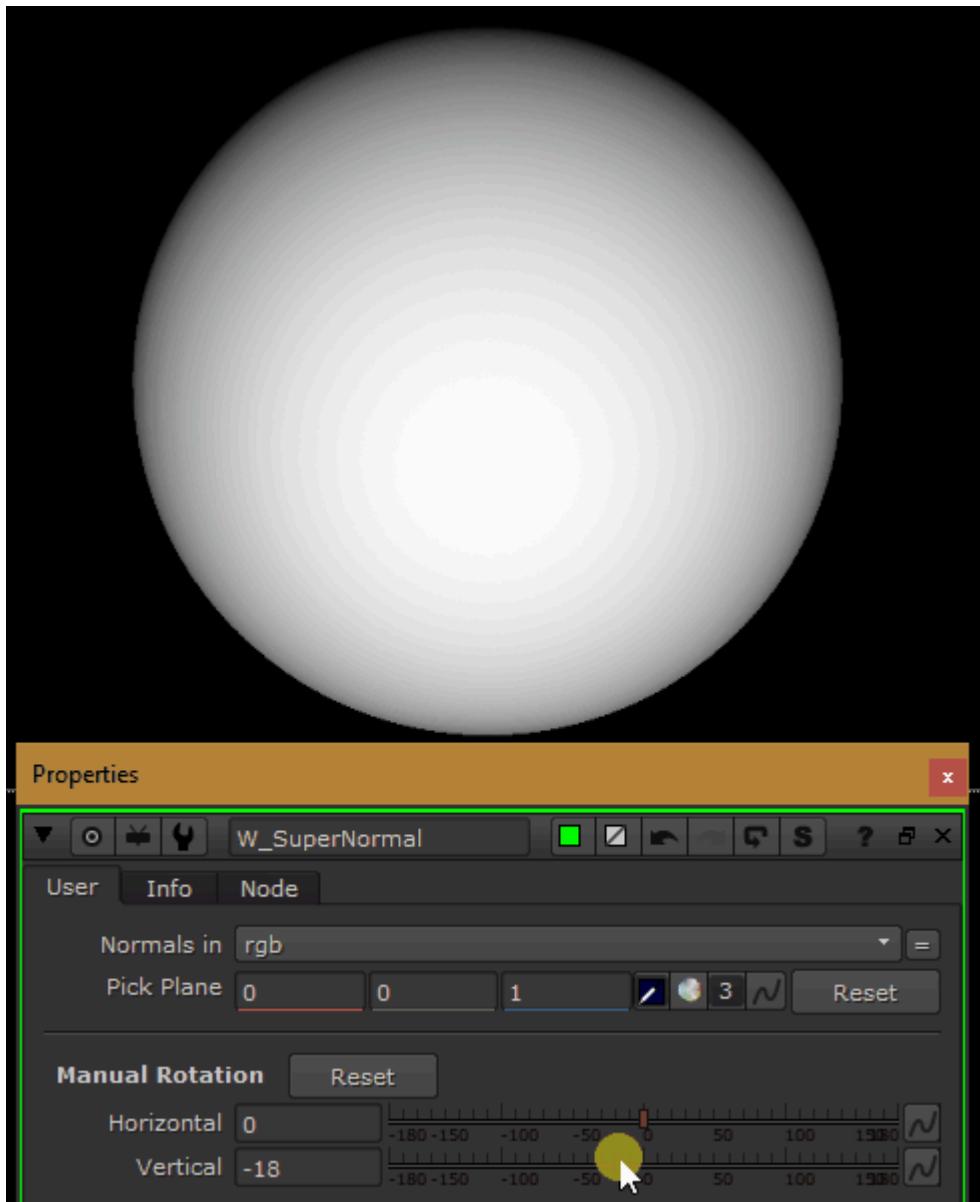
Instructions

1. Select the layer containing normals in the dropdown menu
2. Enable color picker and pick the point where you want the matte to be white (look at the alpha output, hold ctrl+alt and "glide" over the surfaces)
3. You can also manually rotate the matte. When you colorpick a new point, it is recommended to reset the manual rotation values to 0

Matte Output Options

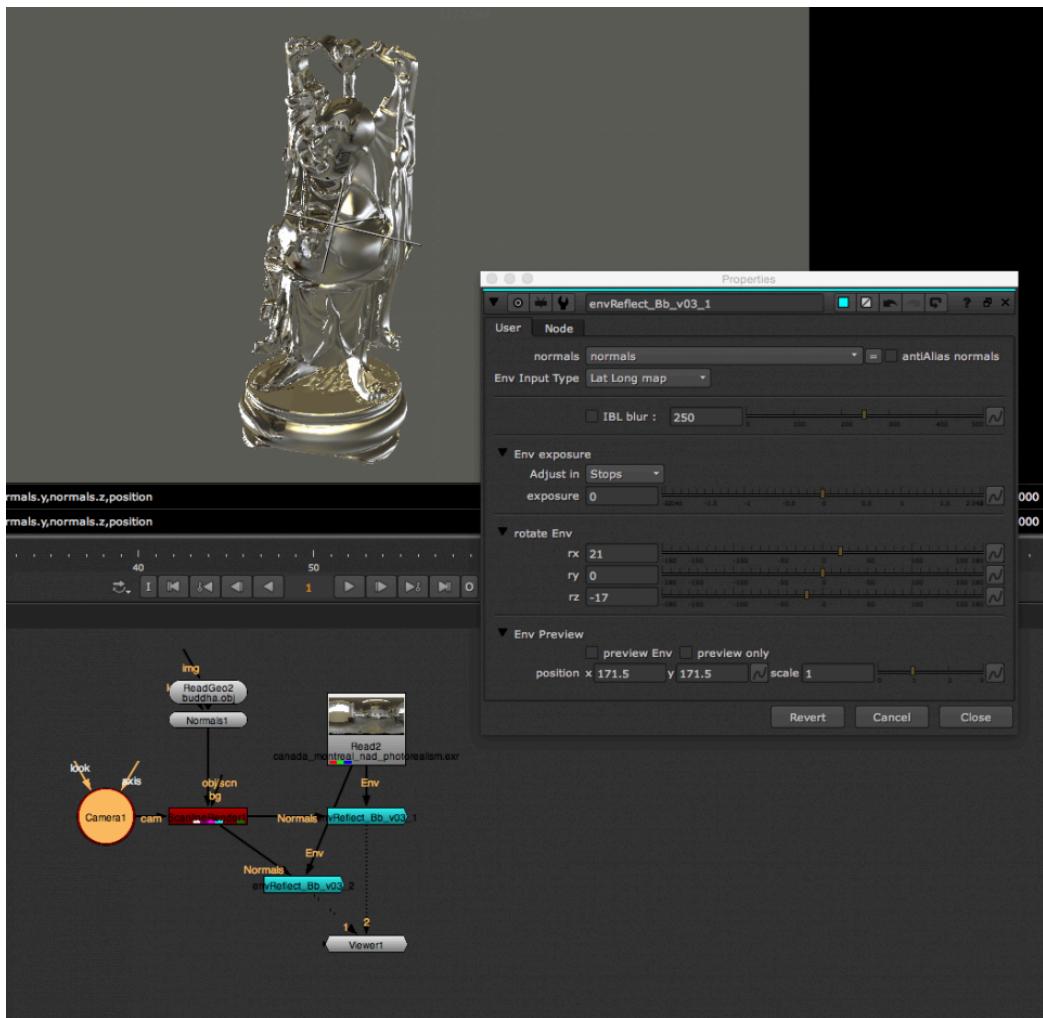
- Invert output
- Mask by alpha
- Unpremult Exponential falloff controls and post grade. Mask and mix controls added.





EnvReflect_BB [NKPD]

Author: Bastien Brenot - <http://www.bastienbrenot.com/nuke-tools/>



- http://www.nukepedia.com/gizmos/other/envreflect_bb_v03

Fake Environment reflections on normals pass.

Feed it with a normals pass through the 'image' input, and select the right channel for it. Works better with cameraSpace Normals.

Environment Map Types

- Mirror Ball
- Latlong Map
- Cube

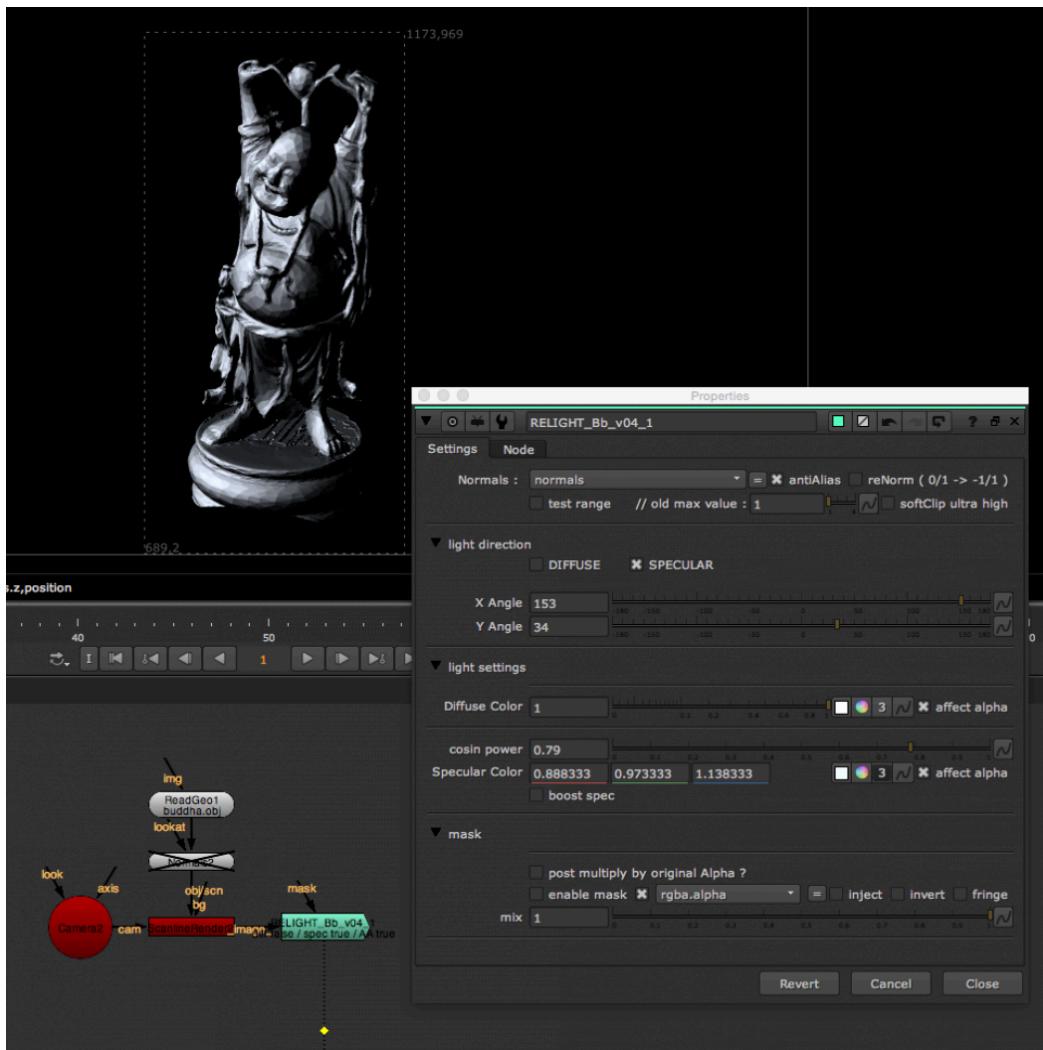
- Angular map 180
- Angular map 360
- Sphere
- 180 degree fish eye lens

Features

- Option to Blur the IBL
- Antialias normals to get rid of flickering
- Option to rotate the environment map in X, Y, Z
- Use Env Preview to preview the Envball with transformations

Relight_BB [NKPD]

Author: Bastien Brenot - <http://www.bastienbrenot.com/nuke-tools/>



- http://www.nukepedia.com/gizmos/other/relight_bb_v04

A 2D based Relighting tool to help relight 3D renders with help of a normals pass.

All you need is to feed it with a normals pass through the Normals input.

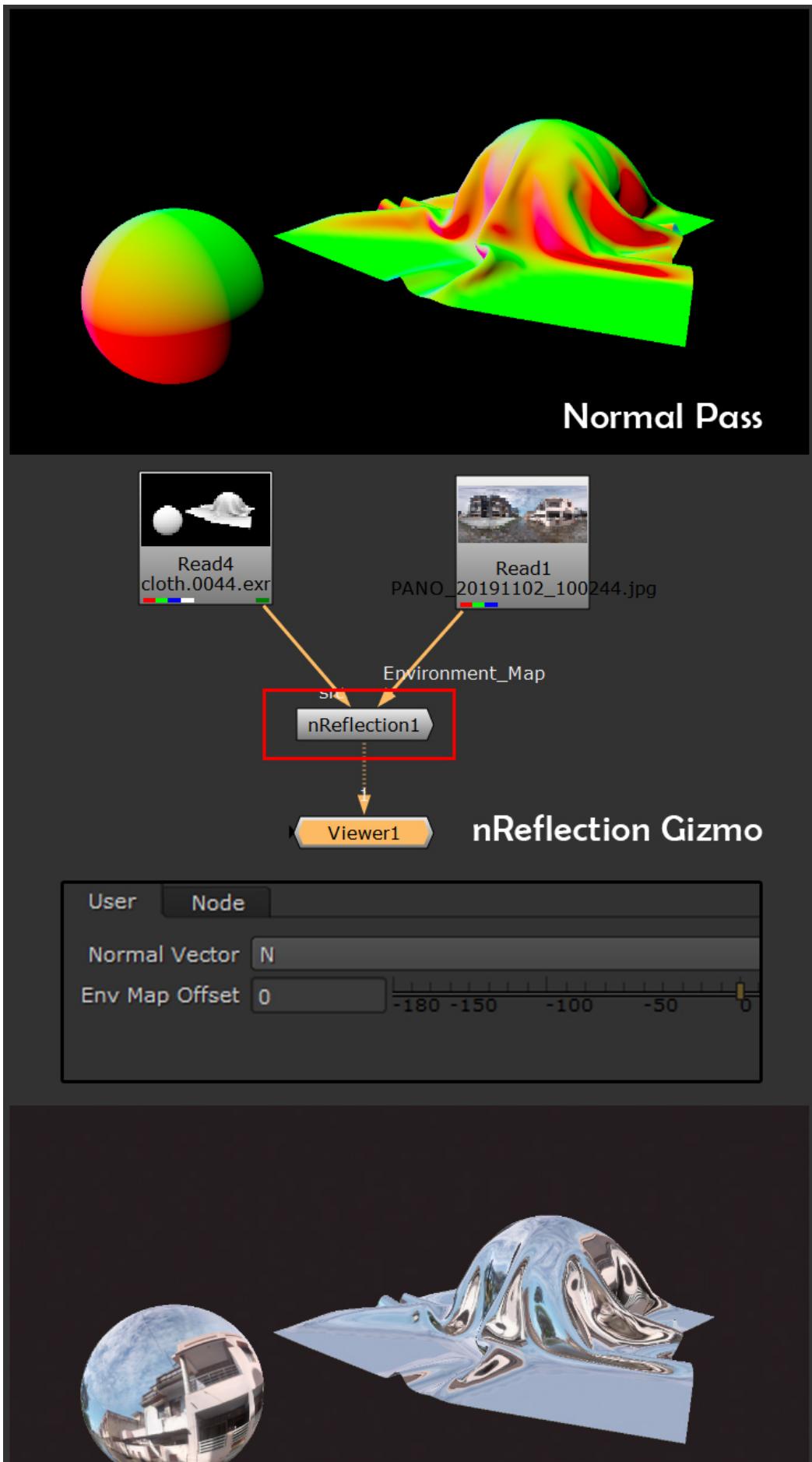
Use the 'mask' input to isolate a specific object in your scene.

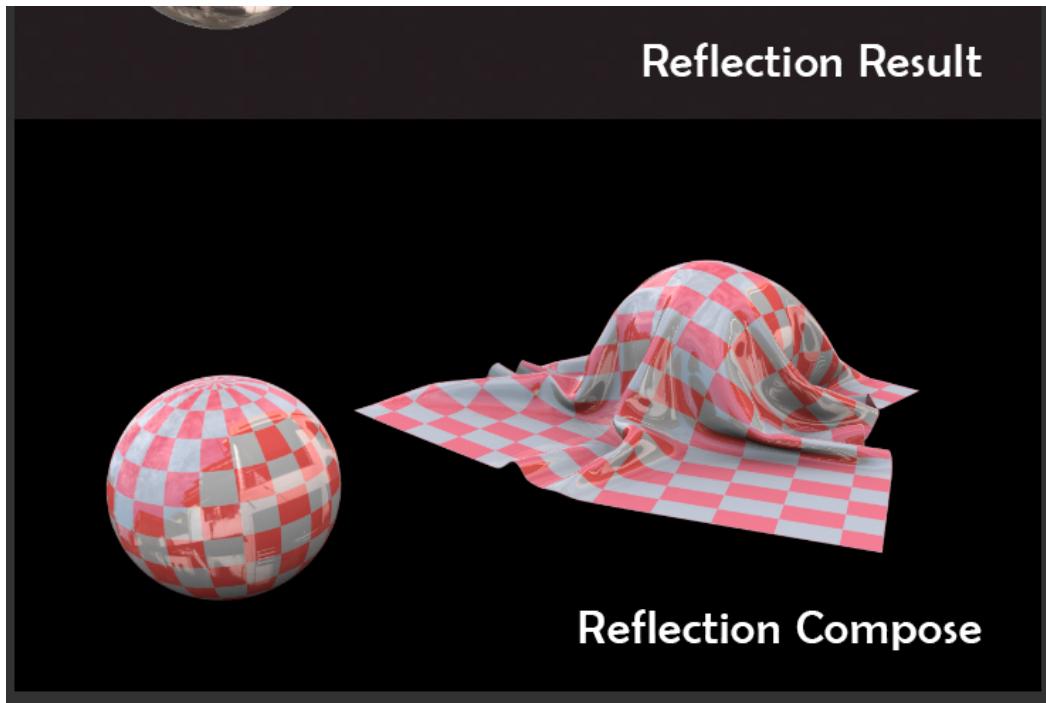
Features

- Antialias normals to get rid of flickering
- Use ReNorm if your normals are coded from 0 to 1 instead of -1 to 1

N_Reflection [NKPD]

Author: Chetal Gazdar





- <https://www.nukepedia.com/gizmos/transform/nreflection>

Through this Gizmo you can create fake reflection in post using only Normal pass.

Plug in your Normals pass, select normals channel, and rotate the environment map. LatLong HDRI's work best, but any image will work.

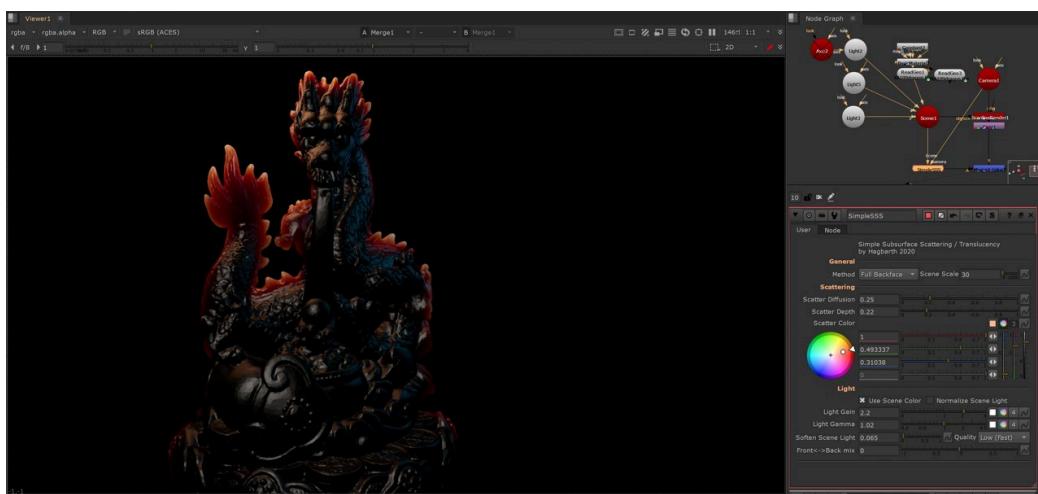
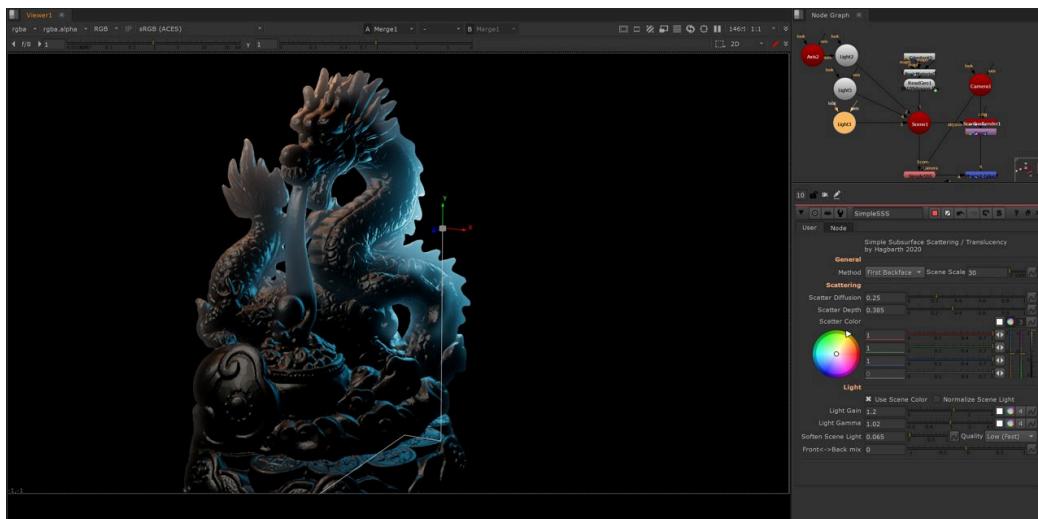
SimpleSSS [MHD]

Author: Mads Hagbarth Damsbo - <https://hagbarth.net/blog/>

- <http://www.nukepedia.com/gizmos/3d/simple-subsurface-scattering>
- <http://www.hagbarth.net/translucency-shader-in-nuke/>

SimpleSSS tool lets you create a simple, stylized faux SSS/translucency effect on your Nuke Geo.

Simply apply this node, input your model and a camera, and plus the output of the node over your normal scanline render.



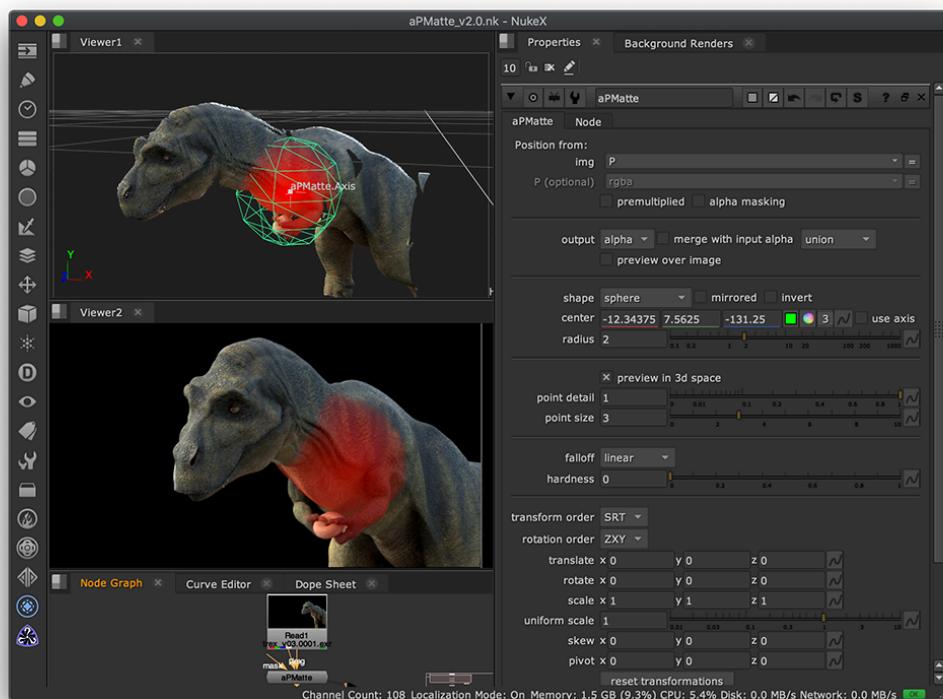


aPmatte [AP]

Author: Adrian Pueyo - <http://www.adrianpueyo.com/>

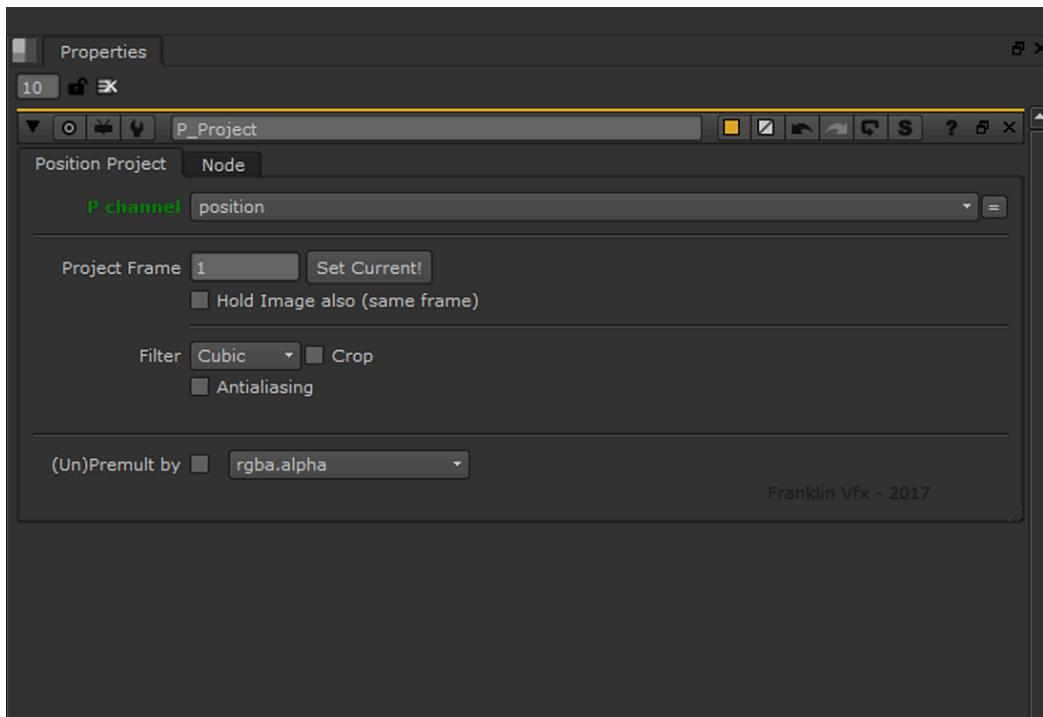
- <http://www.nukepedia.com/blink/keyer/apmatte>

Blinkscript-based Nuke gizmo for generating mattes or 4D noise from a Position pass. v2.0 includes:
- New shapes and modes
- A 3D-space view of the matte and point cloud
- Accepts an Axis or Camera input
- Preview the p-matte over an image input
- Merge the alpha with the incoming one through different operations



P_Project [NKPD]

Author: Franklin Toussaint - <http://franklinvfx.com/tools-2/>



- http://franklinvfx.com/pos_project/
- https://github.com/franklinvfx/Position_Project-Tool-for-Nuke

Camera projection using the render of "World Position" and camera.

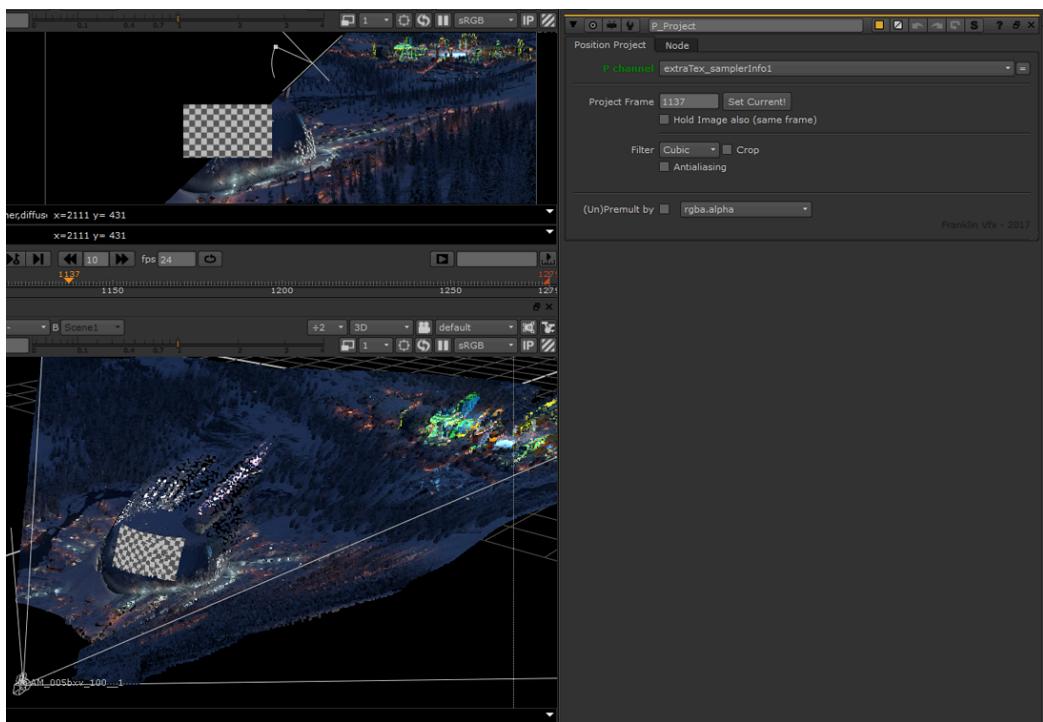
The most important advantage of this one is that it's a very light tool (you don't need to import in Nuke a heavy mesh).

So it's fast and easy to use, but still has to have the position pass and the 3D camera.

Tool Details

- **P Channel:** Select the Position Pass channel
- **Project Frame:** Select the reference frame (hold the camera who does the projection)
- **Hold Image:** Frame hold the input image at the same frame as the camera
- **Crop:** Project or not outside of the format area
- **Antialiasing:** Reduce the edges aliasing problems

- **(Un)Premult:** Keep nice shapes on edges



GlueP [LS]

Author: Lewis Saunders - <http://lewissaunders.com/>

- <https://github.com/lcrs/blinks/>

GlueP glues an image to a position pass, by projecting on it, using BlinkScript.

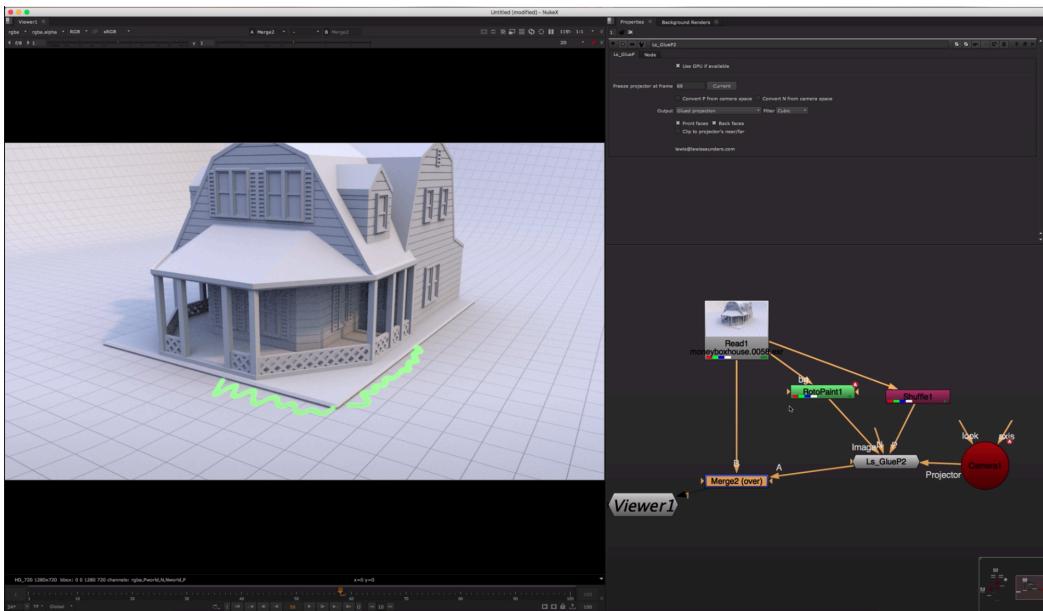
Inputs

- **Image to project**
- **P:** The position pass
- **N:** An optional normals pass for front/back facing selection
- **Projector:** The Camera to project from
- **CGCamera:** Optionally the original camera from the CG render. The second camera input can be used to convert P and N from camera space to world space - many renderers output camera space P and N by default, but we need world space to do this. Even better is a "world position at frame 1" or "P0" or "Rest position" pass, which sticks properly to the surface of animated meshes.

Tips

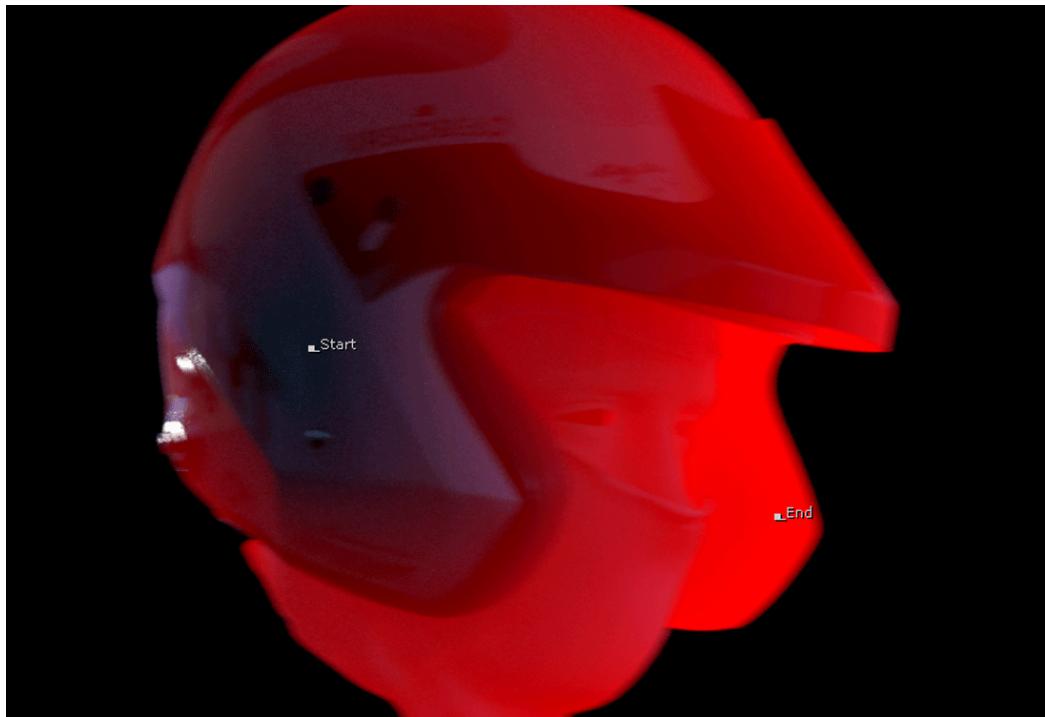
A good way to check that a position pass is suitable to project on is to plug it into a PositionToPoints node along with the beauty pass and check in the 3D view that the points lie within the camera frustum and are laid out in space like the 3D scene was.

It works best with 32-bit float P and N passes, rather than 16-bit half.



P_Ramp [NKPD]

Author: Franklin Toussaint - <http://franklinvfx.com/tools-2/>



- http://franklinvfx.com/pos_ramp/
- https://github.com/franklinvfx/Position_Ramp-Tool-for-Nuke

Quickly create a ramp using the data contained in the render of "World Position" or "Ref Position".

This node has several advantages. The position of the ramp is not set by a "color picker" but with a 2D Position knob which executes callbacks. So it is possible to precisely place the ramp regardless of the channel viewed.

With the "Overlay" mode, the tool is visually even more convenient. Visualization in 3D space is also a real advantage in certain situations, as well as the integration of the "Unpremult" and "Premult" which makes it possible to obtain clean edges.

Tool Details

- **P Channel:** Select the Position Pass channel
- **Axe:** Choose the ramp direction (X, Y, or Z)
- **Start & End:** Adjust the position of the two extremes of the ramp

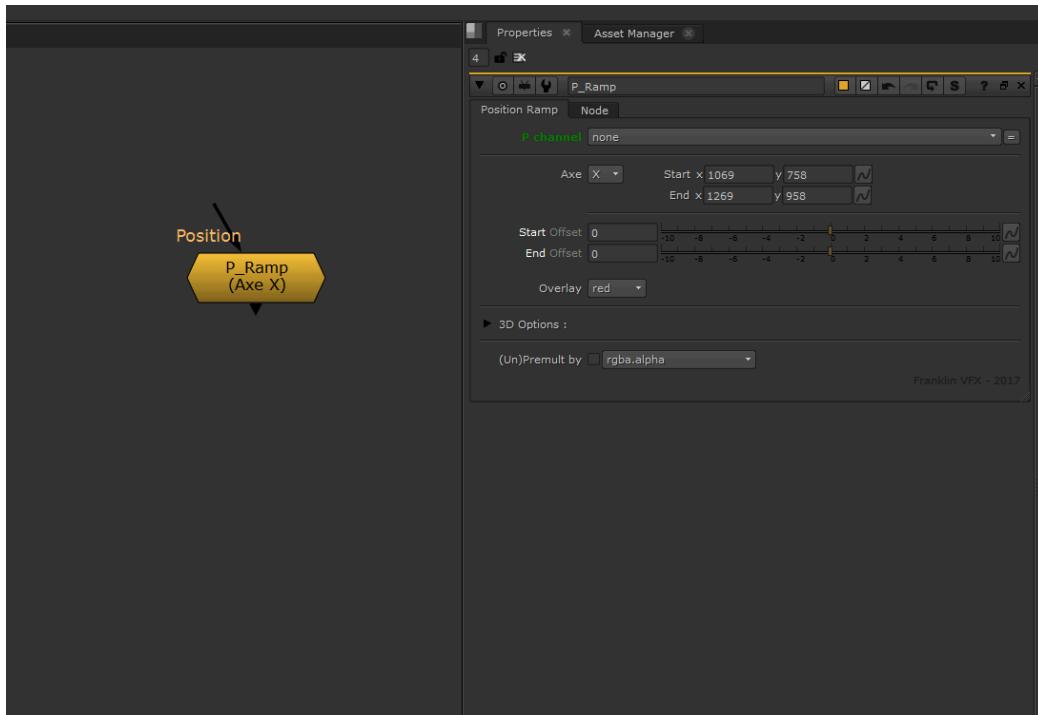
- **Offset (Start & End):** Precisely adjust the position between the two extremes with a slider
- **Overlay:** Show the ramp on overlay (looking at the RGB) and change the color (none, red, green, blue, or black)

3D Options

- Visualize in 3D the input image and the ramp using a "position to point" node
- Adjust the "Point Detail" and the "Point Size"
- Adjust the size of 3D points representing the position of the two extremes

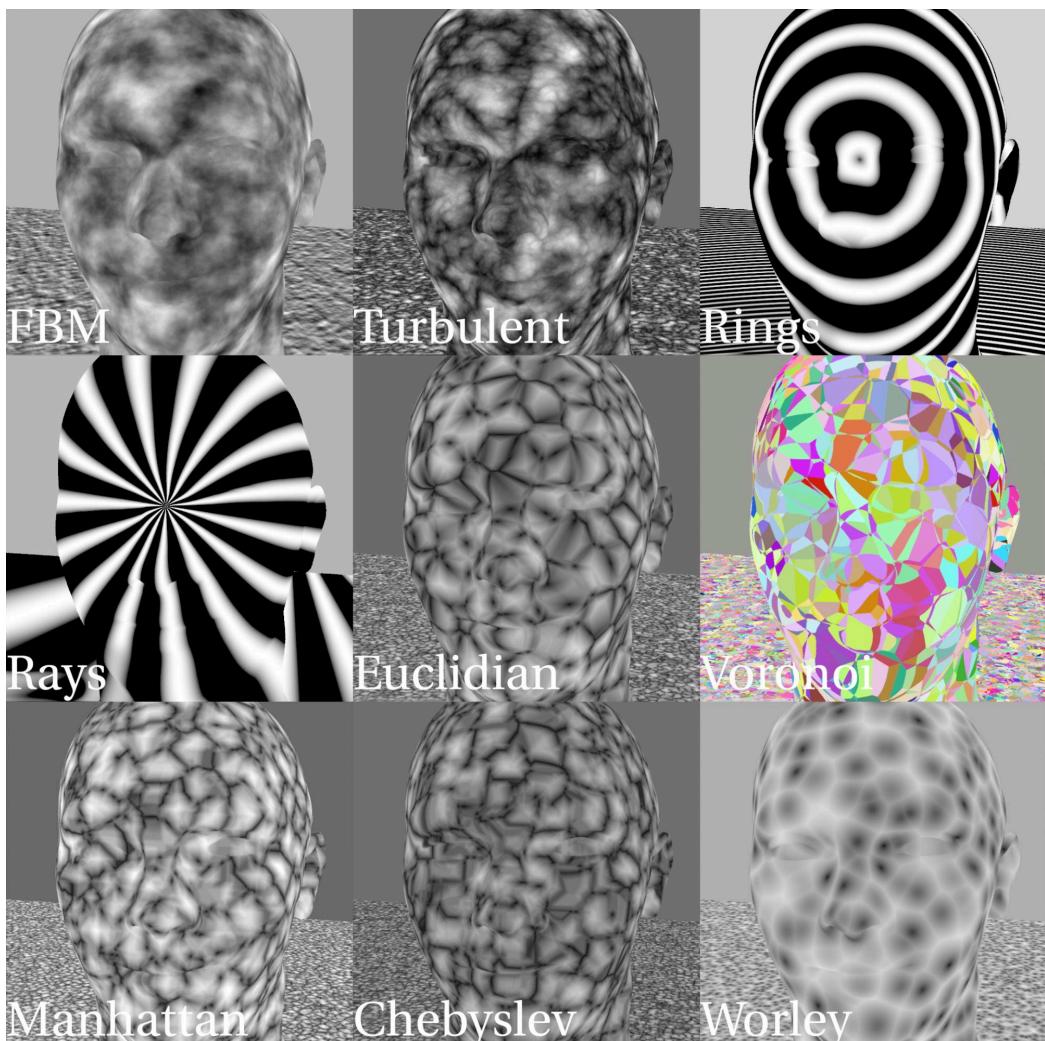
Other Options

- **(Un)Premult:** Keep nice shapes on edges



P_NoiseAdvanced [NKPD]

Author: Riley Gray



- http://www.nukepedia.com/blink/keyer/p_noise_advanced

P_Noise_Advanced is a tool that allows you to apply various 3D noises and fractals to a rendered position pass such as world position or rest position.

Noise Types

- Euclidian
- Voronoi
- Manhattan
- Chebyslev

- Worley Each noise type has their own knobs and controls specific to each one.

Features

- A 2D position knob can be used to sample a center point in real time
- Adrian Pueyo's 'c44kernal' allows you to transform the noise however you wish in 3D space
- The Blink written noise types (Euclidian, Voronoi, Manhattan, Chebyslev and Worley) are based on Matthew Shaw's 'Cell Noise' and adapted to work on a position pass
- The other noise types are written in TCL using Nuke's expression node

Curves

Tools for generating and modifying animation curves in Nuke.

Tools in this Category

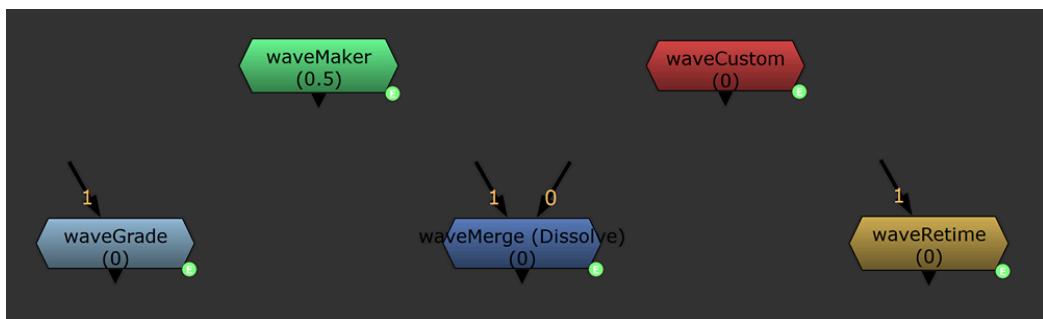
Tool	Author	Description
WaveMachine	Fynn Laue	Node-based animation curve toolset
Randomizer	Tony Lyons	Simple curve manipulation tool
AnimationCurve	Andrea Geremia	Generate or modify animation curves
CurveRemapper	Ben McEwan	Remap arbitrary animation curves
NoiseGen	Ben McEwan	Random noise curve generator

WaveMachine [FL]

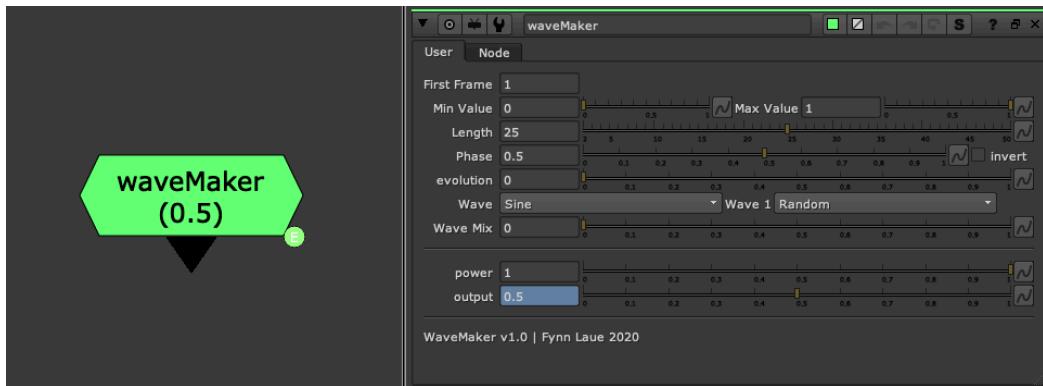
Author: Fynn Laue - <http://www.fynnlau.com>

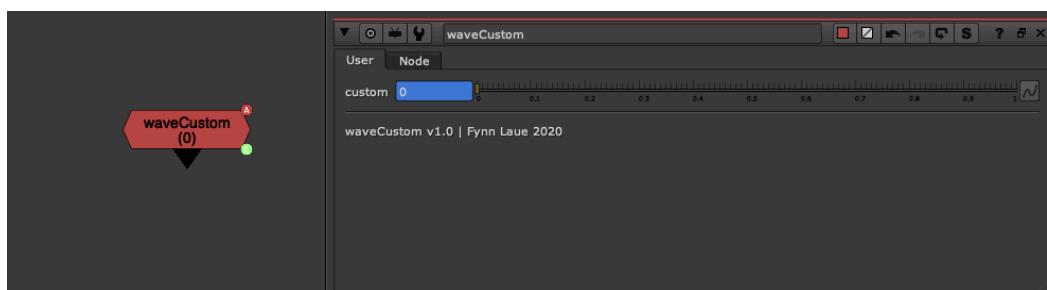
- <https://www.nukepedia.com/toolsets/other/wavemachine>

Node Based Animation - Generate and modify animation curves with this toolset collection.



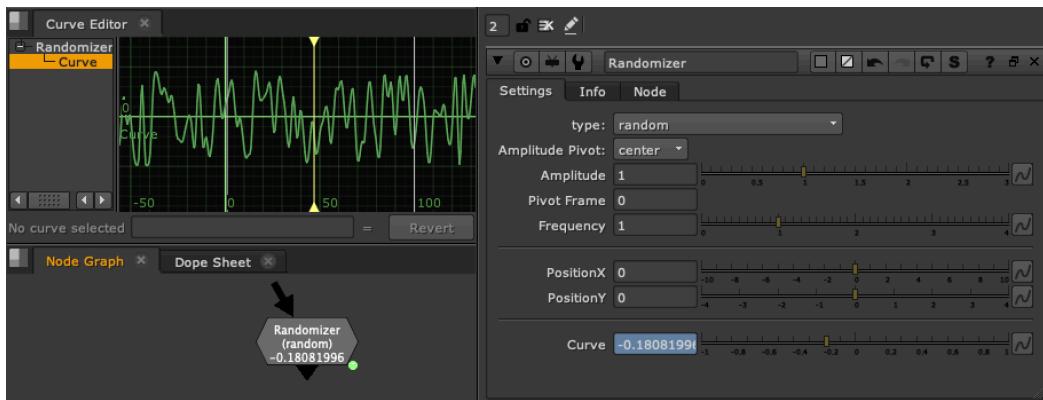
Wave Machine





Randomizer [TL]

Author: Tony Lyons - <http://www.CompositingMentor.com>



Randomizer is aimed at being a simple curve manipulation tool. It is meant to be used with the curve editor and to have terminology relating to graphs.

Curve Types

- random
- noise
- sine
- triangle
- square
- bounce
- sawtooth
- sawtooth (parabolic)
- sawtooth (parabolic reversed)
- sawtooth (exponential)
- blip
- sine blip

Parameters

Amplitude: Scales the curve in the Y axis. You can set the pivot of the scale point to either center, min, or max, depending on how you want your curve to scale.

Frequency: Scales the curve in the X axis, and pivot frame serves as the pivot point for the X axis scale, so if you set to frame 1050 and scale the frequency, frame 1050 will remain the same value and scale outward from there. **Position X and Position Y:** Simple controls to move the curve up and down and left and right on the curve editor.

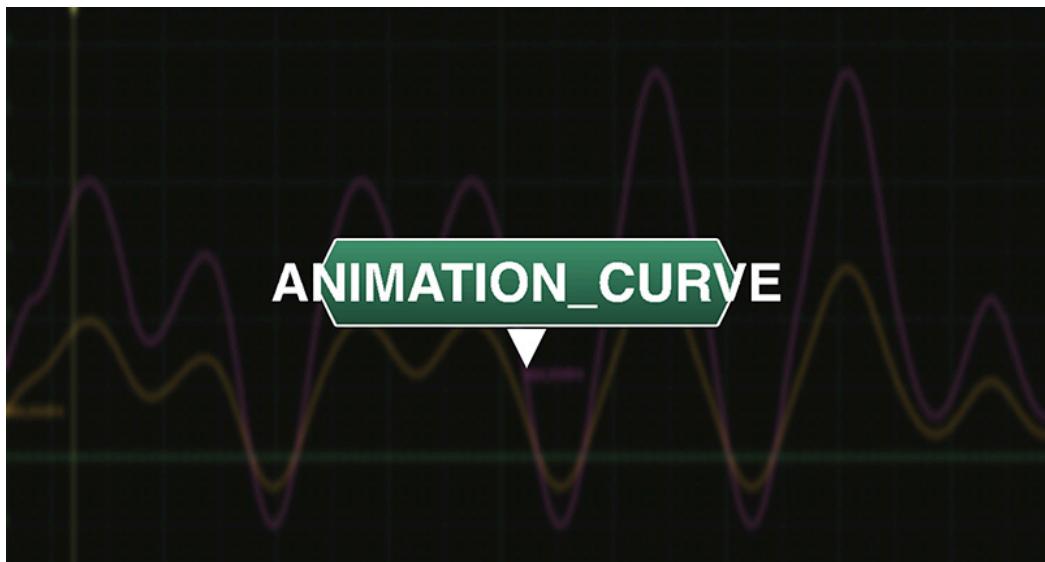
Advanced Usage

You can sort of 'stack' or drive multiple curves by expression linking another curve/randomizer into the Position Y, amplitude, or frequency knobs, or by manually animating them. You can achieve some pretty dynamic results. **Squareify option:** Makes random and noise steppy, and includes a random seed button.

This tool can also be used with the Wave Machine toolset.

AnimationCurve [AG]

Author: Andrea Geremia - <http://www.andreageremia.it/tutorial.html>



- http://www.nukepedia.com/gizmos/other/animation_curve
- http://www.andreageremia.it/tutorial_animation_nuke.html

Generate or modify animation curves.

All Functions

1. Wave Generator
2. New Range
3. Smooth Curves
4. Modify Curves
5. Fade
6. Reference Frame
7. Percentage
8. Average

1. Wave Generator

Generate a Wave with different options. Select the Type from the available options: - Noise - Random - Sine - Sine Blip - Triangle - Square - Bounce - Blip -

Saw Tooth - Saw Parabolic - Saw Parabolic Reverse - Saw Exponential

2. New Range

Change the range of an Animation Curve. For example, if min and max values are -5 and 6, you can project all the curve in the new frame range -5 and 20.

Drag and Drop your curve in the knob Input and use the button to find out the min and max value, then insert your new values and check in the Curve Editor your new curve.

3. Smooth Curves

Smooth the curve with this tool. Insert your curve in the knob Input, select the Type (High or Low) and the power of the smooth.

4. Modify Curves

Modify curves with: Translate, Scale and Time Offset. With the checkbox you can activate or not the modifiers.

5. Fade

Create the fade/dissolve from start frame till end frame. Animate mix or another knob from 0-1 or 1-0.

Types: - Linear - Slow-in Slow-out - Slow-in Linear-out - Linear-in Slow-out
Based on David Ozols' tutorial

6. Reference Frame

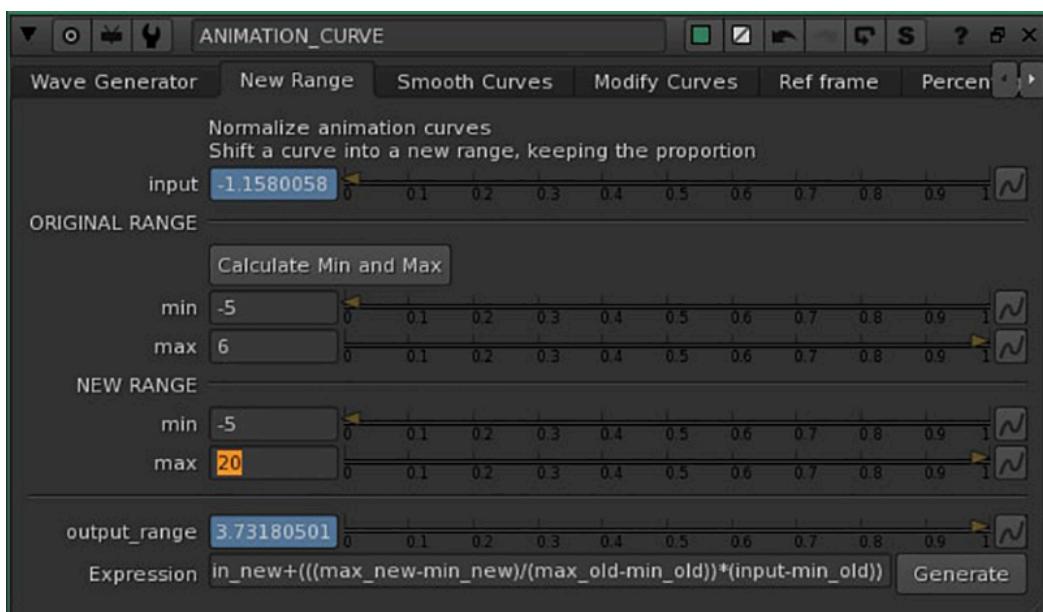
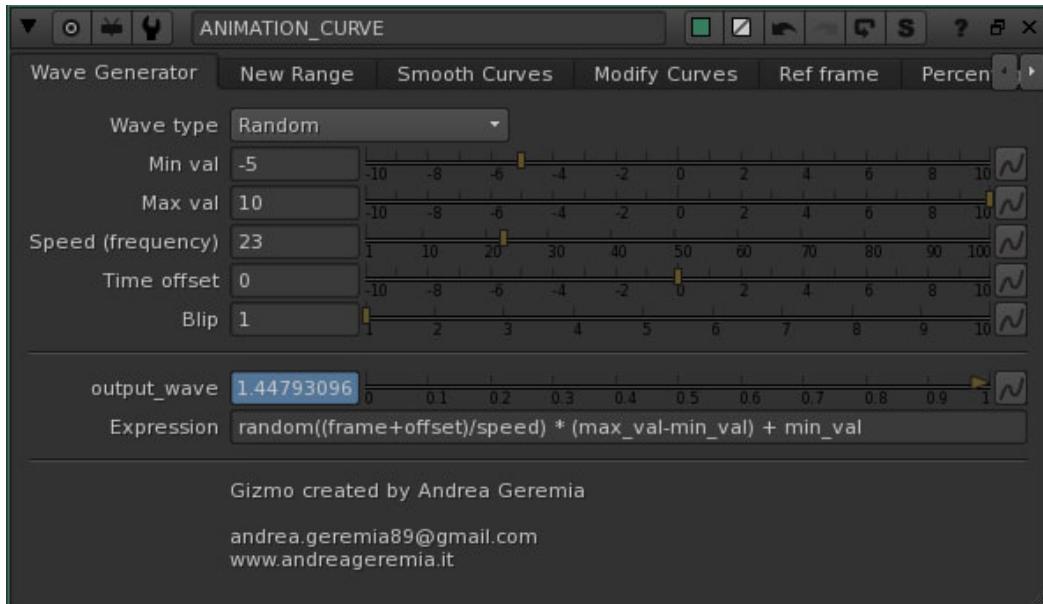
Set a reference frame. This means your curve will be set to 0 in that frame. Basically it will be translated to 0 in the Reference Frame.

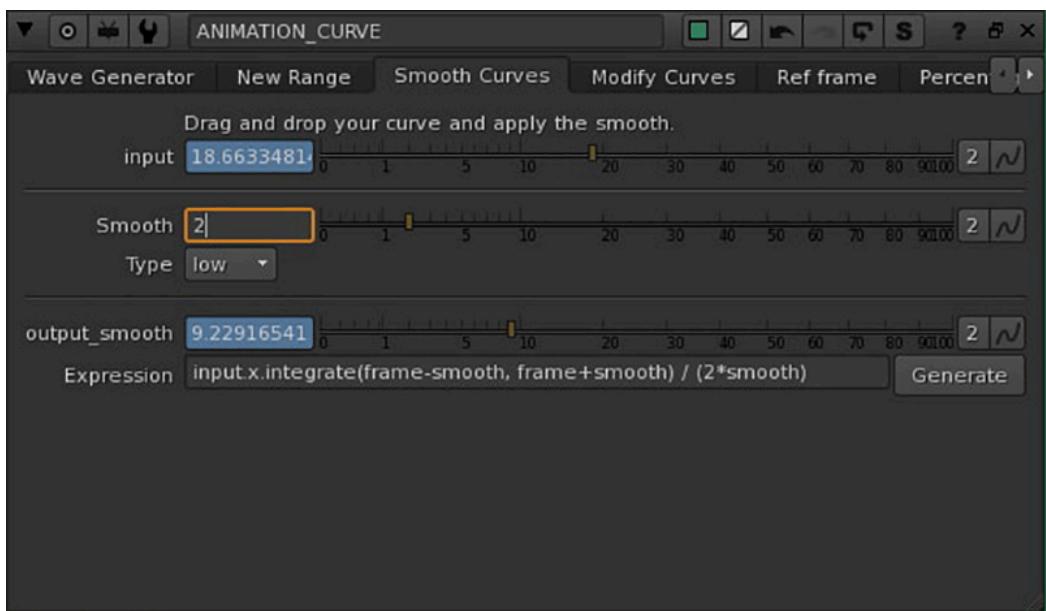
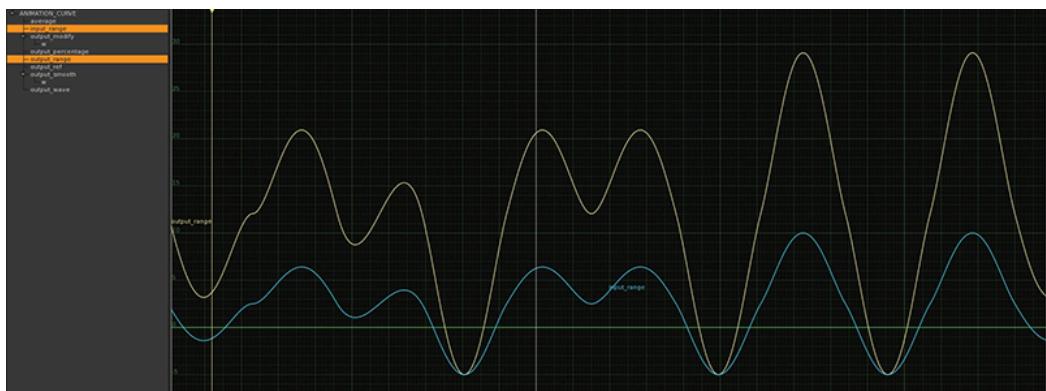
7. Percentage

Increase or Decrease the curve by a X percentage.

8. Average

A single value for the entire curve. It will return the average value for the curve.





CurveRemapper [BM]

Author: Ben McEwan - <https://benmcewan.com/blog/>

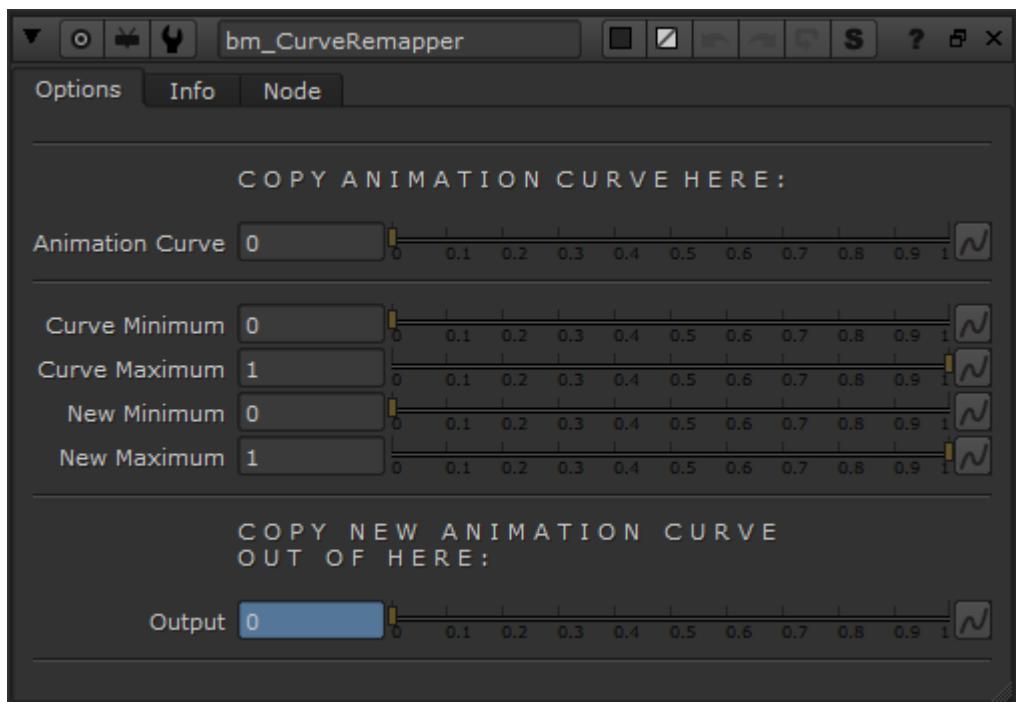


- http://www.nukepedia.com/gizmos/other/bm_curveremapper

Useful for remapping arbitrary animation curves, such as those from the CurveTool.

How to Use

1. Input the animation's min & max values
2. Set new min & max values
3. The curve will be remapped to the new range



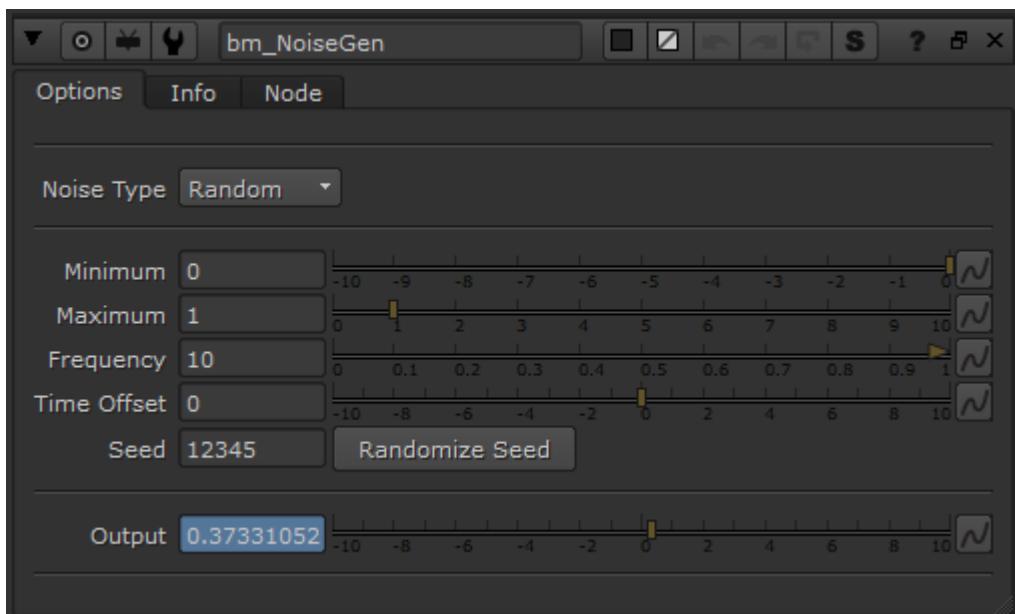
NoiseGen [BM]

Author: Ben McEwan - <https://benmcewan.com/blog/>



- <https://benmcewan.com/nukeTools.html>

Generates a random noise curve based on a minimum, maximum & frequency value. *Modified so the output curve will work with Wave Machine toolset.*



Utilities

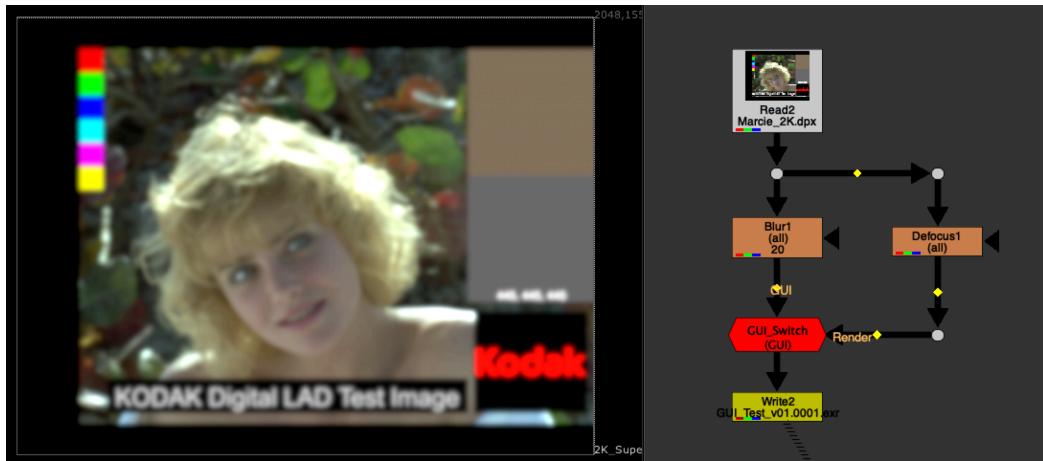
Utility tools for workflow enhancement, debugging, and quality control.

Tools in this Category

Tool	Author	Description
GUI_Switch	Tony Lyons	Switch between GUI and render mode
NAN_INF_Killer	Tony Lyons	Kill NaN and Inf pixels
apViewerBlocker	Adrian Pueyo	Lock viewer inputs to specific nodes
Python_and_TCL	Andrea Geremia	Python and TCL tips collection
RotoQC	Tor Andreassen	QC tool for roto mattes
bm_MatteCheck	Ben McEwan	QC gizmo for roto and keys
ViewerRender	Mark Joey Tang	Render anything shown in viewer
NukeZ	Mark Joey Tang	Access hidden/old version nodes
Pyclopedia	Mark Joey Tang	Check Python API in Nuke

GUI_Switch [TL]

Author: Tony Lyons - <http://www.CompositingMentor.com>



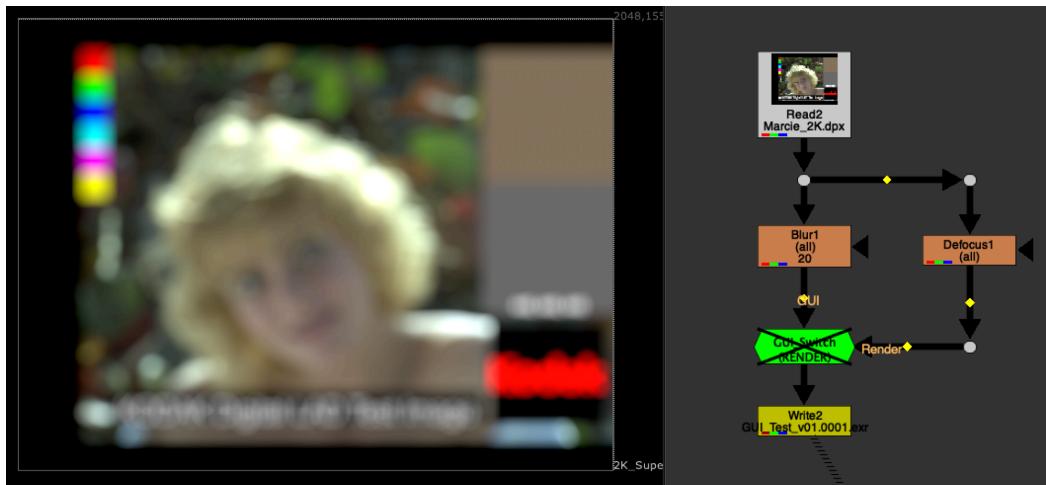
There were some issues with the \$gui expression that everyone knows: when you render a frame locally instead of on a render farm, it did not register and would not switch over.

This tool uses a lesser known python expression called `nuke.executing()` which seems to solve this problem.

Inside the gizmo is just a switch node with the expression on the 'which' knob. 2 inputs: **GUI** and **Render**. - Plug **GUI** into the node you want to view live in the Nuke script while you are working - Plug **Render** input into whatever you want to switch to when you are rendering/executing something. Usually this is for speedy work environments and switching to higher settings/samples on render time.

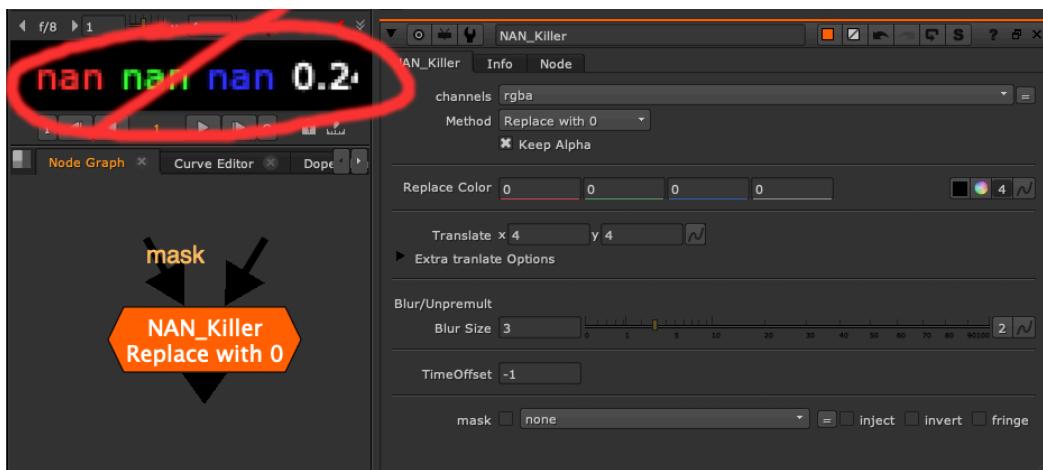
Visual Indicators

- When the node is **on**: Red and says "GUI"
- When the node is **disabled**: Green and says "RENDER". This will let you conveniently preview the Render or GUI. *Node has no settings, just a description. Just plug in and disable/enable!*



NAN_INF_Killer [TL]

Author: Tony Lyons - <http://www.CompositingMentor.com>



Kills NaN and Inf pixels using a variety of replacement methods:

Replacement Methods

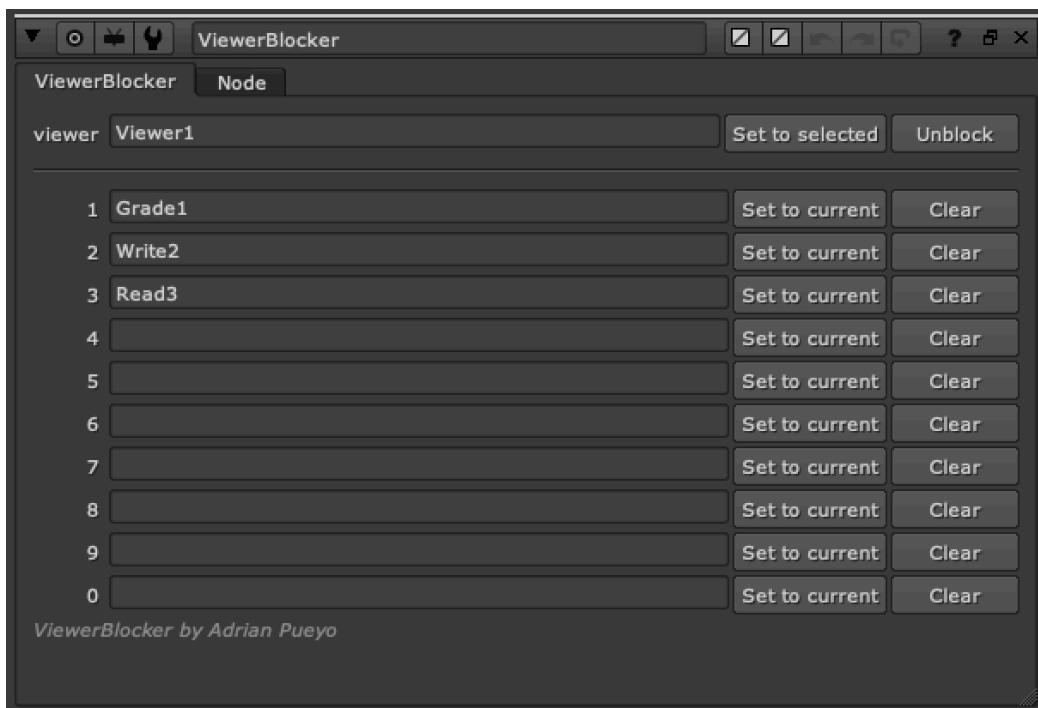
- Replace with 0
- Replace with Custom Color
- Clone Over
- Blur/Unpremult
- Time

Features

- **Keep alpha:** Keep the original alpha if the alpha channel does not have NaN or Inf in it. Separates RGB from Alpha in expression.
- **Exposed settings:** Replace color, transform (for Clone over), blur/unpremult, time offset

apViewerBlocker [AP]

Author: Adrian Pueyo - <http://www.adrianpueyo.com/>



Locks the Viewer's input to specific nodes, so you can reference the same views when you are using the numeric hotkeys without worrying about resetting or accidentally switching the viewer inputs.

Good for referencing certain images, like: - Final image set to 9 - Reference image set to 8 - Plate set to 0

How to Use

1. Select a viewer you wish to Block/Lock and click "set to Selected" on the viewer box
2. View an image that you wish to save/lock to a hotkey and "set to current" on one of the numbers 1,2,3,4,5,6,7,8,9,0
3. This will enter the node's name in the text input and lock that viewer input to that node
4. When you use the number hotkey it always views this node
5. Clear any fields to reset them

Python_and_TCL [AG]

Author: Andrea Geremia - <http://www.andreageremia.it/tutorial.html>



```
1 READ KNOB
2
3 # List all knobs for selected node
4 print(nuke.toNode('Read1').knob('file').getValue())
5
6 # List all knobs for specific node
7 print(nuke.selectedNode().knob('size').getValue())
8
9 # Get value from specific node, method 01
10 value = nuke.toNode('Read1').knob('file').getValue()
11
12 # Print value from specific node, method 02
13 node = nuke.toNode("Blur1")
14 print(node['size'].value())
15
16 # Get value from selected node
17 value = nuke.selectedNode().knob('size').getValue()
18
19 #Get default value
20 nuke.toNode('Blur6').knob('size').defaultValue()
21
22 # Get value from specific node and evaluate it (good for + 24
23 value = nuke.toNode('Read1').knob('file').evaluate()
24
25 # get the expression of a knob
26 if nuke.toNode("Blur6").knob("size").hasExpression():
27     print(nuke.toNode("Blur6").knob("size").toScript())
28
29 #Get value XY knob individually
30 nuke.toNode("Transform1").knob("scale").getValue()
31 nuke.toNode("Transform1").knob("scale").getDefaultValue()
32
33 #Get me the height and width from a selected node
34 nuke.selectedNode().height()
35 nuke.selectedNode().width()
36 nuke.selectedNode().pixelAspect
37
38 #-----#
39 #DROPDOWN MENU / PULLDOWN CHOICE
40
41 #Get value from Pulldown Choice (name)
42 nuke.selectedNode()['attribute'].value()
43
44 #Kno
45 int(index from Pulldown Choice (name))
46 int(nuke.toNode("Blur6").knob("filter").getValue())
47
48 #Check the name of a knob (will be useful later)
49 nuke.selectedNode()
50 knob = nuke.nodes['filter']
51 knob['name']
52
53 #If I find my name():
54 print("found it!"
```

```
3 #Connect the output of the select node to the input 0 of C
4 nuke.toNode("ColorCorrect3").setInput(0, nuke.selectedNode())
5
6 #Connect the output of the select node to the input 1 (mask)
7 nuke.toNode("ColorCorrect3").setInput(1, nuke.selectedNode())
8
9 #Connect output of ColorCorrection to all the selected nodes
10 for i in nuke.selectedNodes():
11     i.setInput(0, nuke.toNode("ColorCorrect3"))
12
13 #-----#
14 #Create a merge node & connect the inputs to the selected nodes
15 a = nuke.createNode('Merge')
16 b = nuke.selectedNodes()
17 x=0
18 for i in b:
19     if x==2:
20         x+=1
21     continue
22     a.setInput(x,i)
23     x+=1
24
25 #-----#
26 #DISCONNECT NODES
27
28 #Disconnect input
29 nuke.selectedNode().input(1)
30
31 #Disconnect outputs of the selected nodes
32 for i in range(len(nuke.selectedNodes())):
33     nuke.selectedNodes[i].outputs[0].input(1, None)
34
35 #-----#
36 #DYNAMIC PYTHON
37
38 #List all dependencies
39 nuke.selectedNode().dependencies()
40 nuke.selectedNode().dependencies()
41
42 #Print the dependencies
43 for i in nuke.selectedNode().dependencies():
44     print(i.name())
45
46 #-----#
47 #SELECT node by class
48 for node in nuke.allNodes():
49     if node.Class == "Blur":
50         node['selected'].setValue(True)
51
52 #-----#
53 #Run a script for every selected node
54 sn = nuke.selectedNodes() # The list of nodes
```

```
1 import os
2 from Qt import QtWidgets
3 from Qt import QtCore
4 from Qt import QtGui
5
6 #Load the file for the interface
7 file_interface = os.path.join("/Users/gere/Desktop/", "form.ui")
8
9 #-----#
10 nodes = []
11 def create_list_nodes():
12     #Populate the list with nodes
13     for n in nuke.allNodes():
14         name = n.name()
15         nodeclass = n.Class()
16
17     nodes.append(name)
18
19 #Sort the list
20 nodes.sort()
21
22 create_list_nodes()
23
24 #-----#
25 #Clear all the selected Nodes
26 def clear_all_selection():
27     nukescript.clear_selection_recursive()
28
29
30 #-----#
31 #SELECT node
32 def select_node(name_node):
33     n = nuke.toNode(name_node)
34     n.knob("selected").setValue(True)
35
36 #Manipulate the Node Graph. Zoom on the Selected Node
37 nuke.zoom(2, [n.xpos(), n.ypos()])
38
39 #-----#
40 #select_node("Grade1")
41
42 #-----#
43 #-----#
44 class MyWindow(QtWidgets.QMainWindow):
45     def __init__(self, parent=None):
46         super(MyWindow, self).__init__(parent)
47         self.setWindowTitle("My Window")
48         self.setCentralWidget(self.main_widget)
49         self.setWindowTitle("Window Title")
50
51         self.load_ui()
```

- <http://www.nukedocs.com/gizmos/other/python-and-tcl-tips-and-tricks>
- http://www.andreageremia.it/tutorial_python_tcl.html

Huge collection of Python and TCL snippets to use inside Nuke.

In this Gizmo you will find tips and tricks that Andrea has written and picked up from other websites about Python and TCL.

It's a Guide by categories to read directly in Nuke, really useful for all Nuke Artists.

Sections of the Guide

1. PYTHON AND TCL OVERVIEW
2. CREATE NODE
3. SELECT NODE
4. CONNECT NODES
5. READ FROM A KNOB
6. WRITE INTO A KNOB
7. CREATE A NEW KNOB
8. ANIMATION AND CURVE
9. EXPRESSIONS

10. MATH FUNCTIONS AND WAVE GENERATOR

11. FUNCTIONS DEF()

12. CALLBACKS

13. CUSTOM PANELS

14. TRICKS

The screenshot shows a software window titled "Python_and_TCL". The interface has a tab bar at the top with "Read Me" and "Node" tabs, and a dropdown menu showing "operation 00. Python & TCL Overview". There is also a "Create Sticky Note" button.

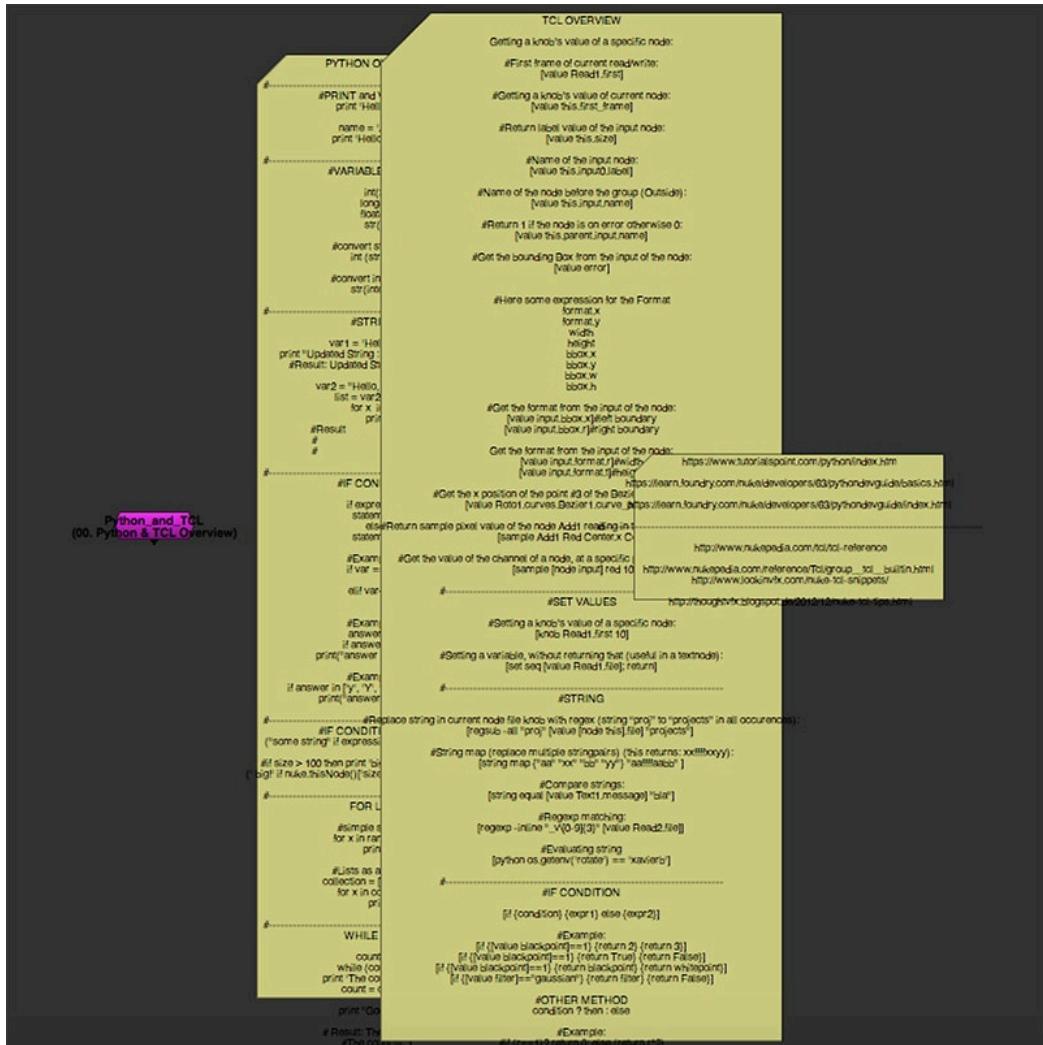
The main area is divided into three sections:

- Python**:
PYTHON OVERVIEW

```
#-----  
#PRINT and VARIABLES  
print 'Hello World'  
  
name = 'Andrea'  
print 'Hello' + name  
  
#-----
```
- TCL**:
TCL OVERVIEW

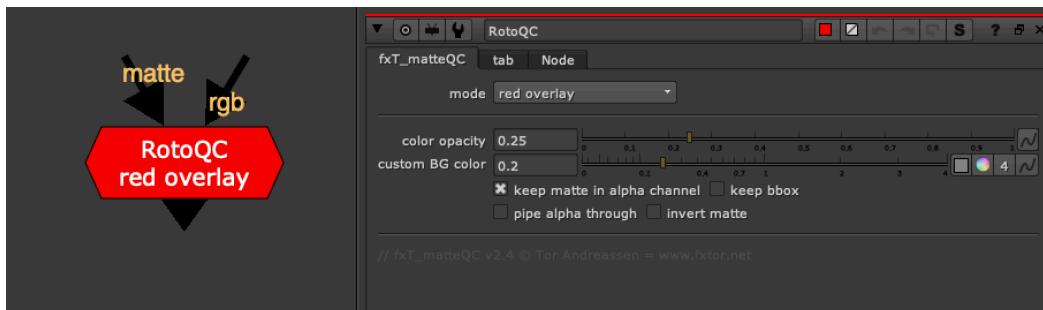
```
Getting a knob's value of a specific node:  
  
#First frame of current read/write:  
[value Read1.first]  
  
#Getting a knob's value of current node:  
[value this.first_frame]
```
- Website**:
<https://www.tutorialspoint.com/python/index.htm>
<https://learn.foundry.com/nuke/developers/63/pythondevguide/basics.html>
<https://learn.foundry.com/nuke/developers/63/pythondevguide/index.html>

#-----
<http://www.nukepedia.com/tcl/tcl-reference>



RotoQC [NKPD]

Author: Tor Andreassen - <http://www.fxtor.net/nuke.html>



- <http://www.nukepedia.com/gizmos/other/matteoverlay>

Tool intended to check roto matte's accuracy.

This is a QC tool for checking roto-mattes. It works with all formats (format is grabbed from the input), meaning it will work with all aspect ratios, including anamorphic plates.

QC Options

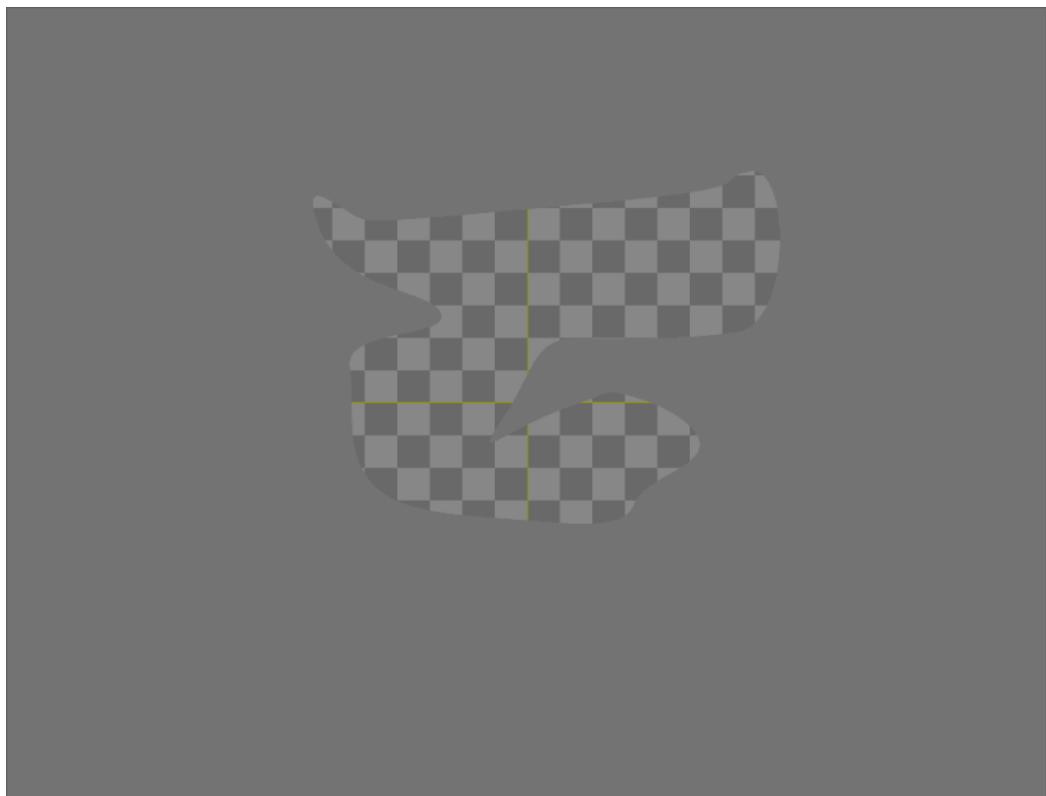
- Overlay of red, green, or blue
- Stencil from plate
- Premult against BG (grey, checkerboard, or custom color) It's set up so all the user needs to do is pick the QC mode from a dropdown menu, and the rest is handled by the gizmo, including alpha handling.

For color overlay, the user can control the opacity with a slider.

The node is stackable and alpha will carry through so you can have as many of these nodes you want and the alpha will still be correct.

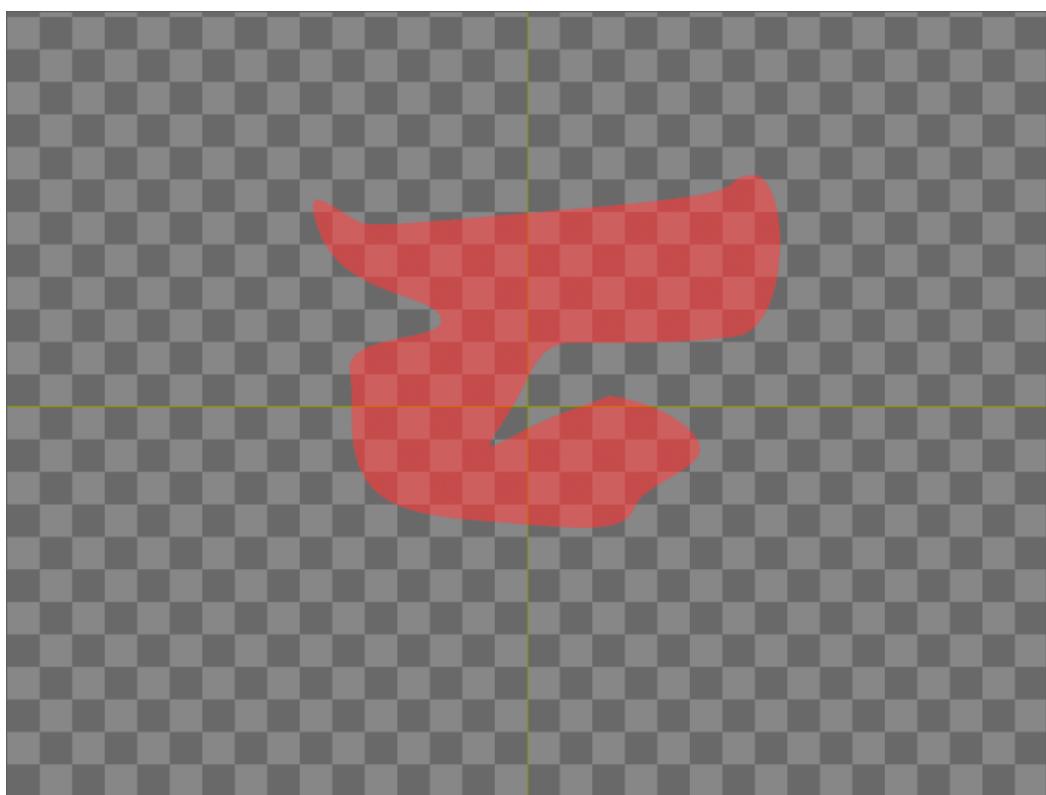
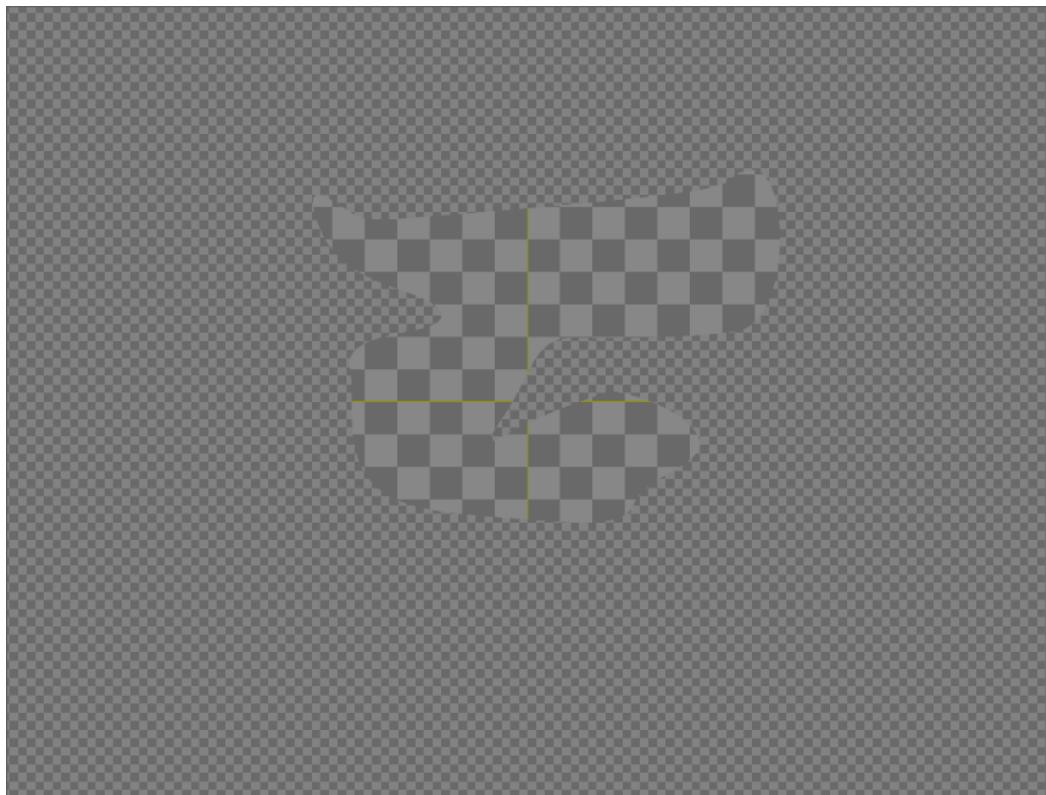
bm_MatteCheck [BM]

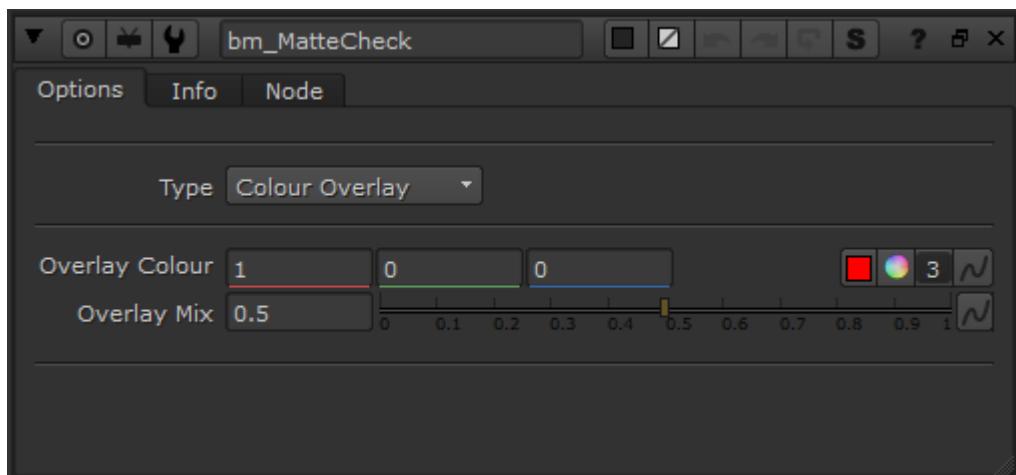
Author: Ben McEwan - <https://benmcewan.com/nukeTools.html>



- <https://benmcewan.com/nukeTools.html>

Simple gizmo to help QC roto and keys, by overlaying a transparent colour, viewing a premultiplied image over grey or a checkerboard (for light and dark values).





ViewerRender [MJT]

Author: Mark Joey Tang - <http://www.facebook.com/MJTLab>

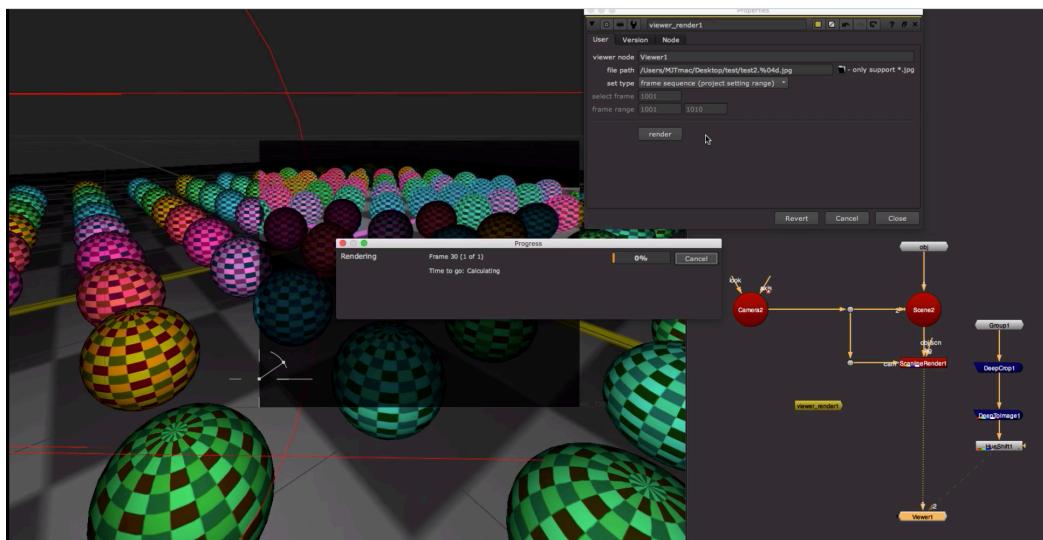
- <http://www.nukepedia.com/gizmos/other/viewer-render>
- <http://bit.ly/menupy>

Viewer Render is a tool that can render anything shown in viewer, even with UI, like playblast in Maya but in Nuke. Supports 2D and 3D, anything visible in the viewer.

It's good for:
- Showing a witness camera
- Making tutorial videos
- Showing a problem visually and bringing it up for discussion
If you run into any problems during render, please make sure the display card driver is up to date.

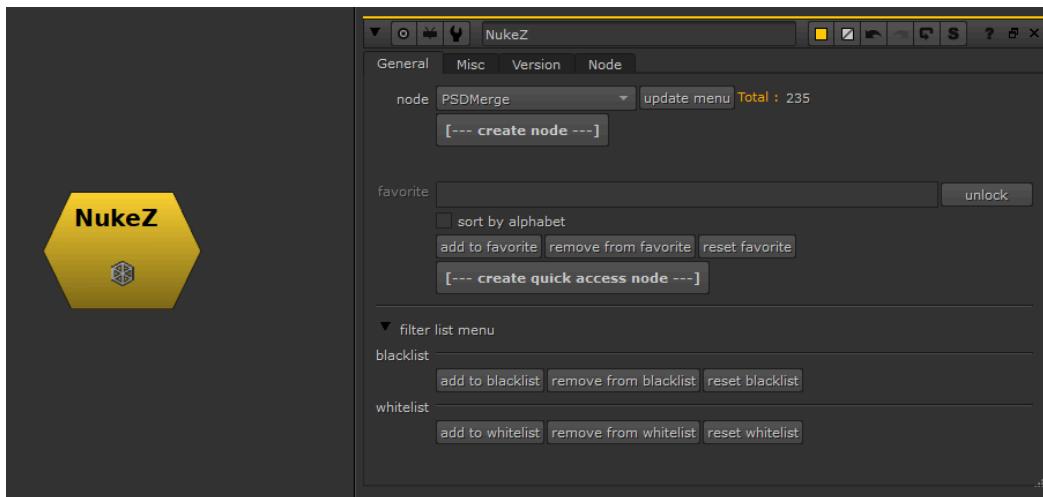
How to Use

1. Enter Viewer node name to render
2. Set render path and frame range
3. Click render



NukeZ [MJT]

Author: Mark Joey Tang - <http://www.facebook.com/MJTLab>



- <http://bit.ly/menupy>

NukeZ can access hidden/old version nodes quickly without memorizing the class name. Create personal favorite node sets (including those hidden/old version nodes).

How to Use

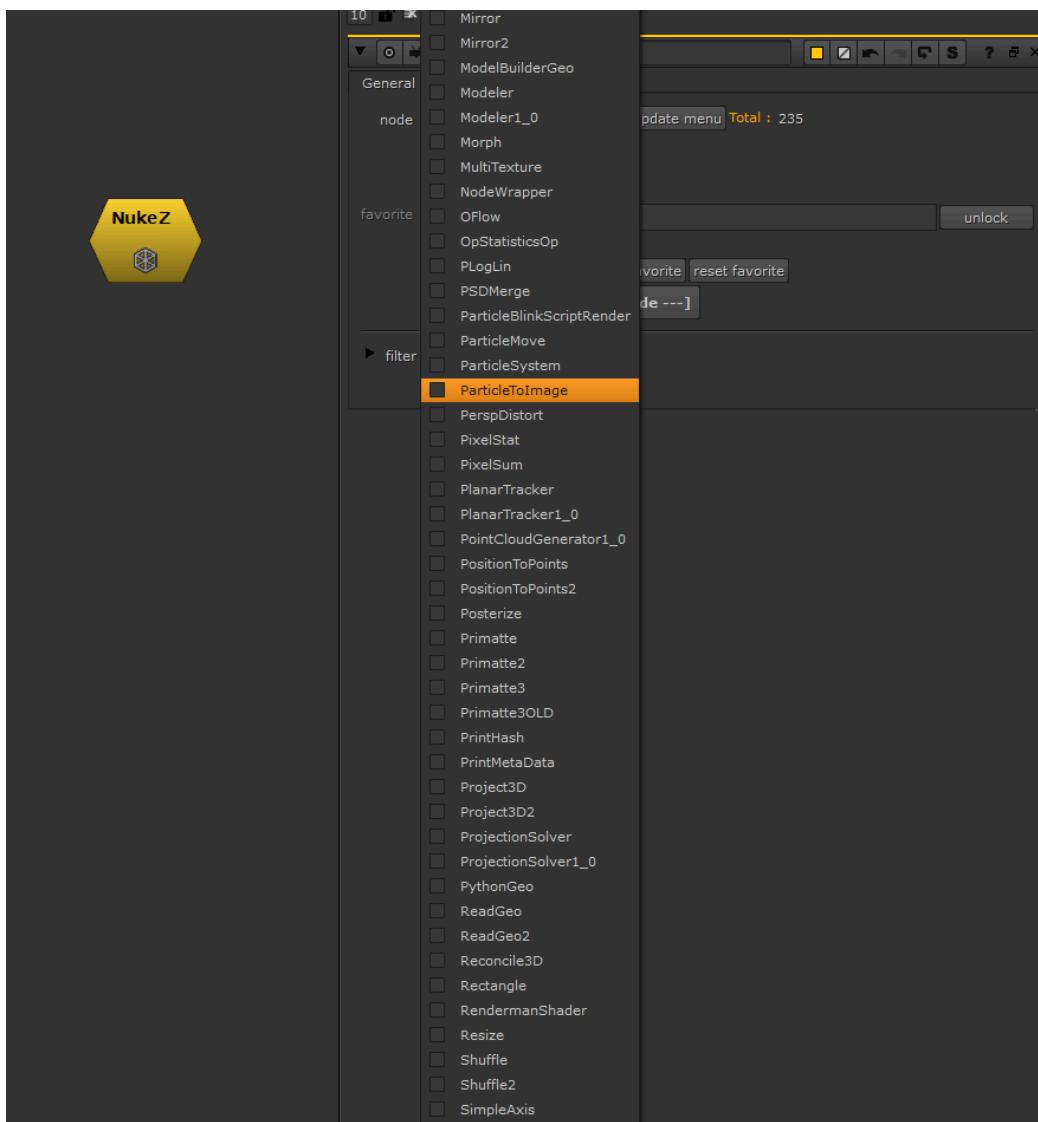
1. Click 'update menu' for your first run. It's because different versions of Nuke have different node sets. (e.g. ParticleBlinkscriptRender will give you error if pulled out on Nuke12.0 or below)
2. After updating the menu, select any nodes in the menu, and click 'create node' to pull it out
3. You can also 'add to favorite'. Once you are done with the favorite list, click 'create quick access node', then it will create a node with all your favorite nodes in a single panel
4. After that, you don't need NukeZ anymore, you can just save 'NukeZfav_xx' into your toolset for personal use

How It Works

The tool detects all files in the plugin folder. There are a lot of nodes that already exist in Nuke's UI menu, so there's a filter function. The duplicated classes will not show up in this tool - only those with multiple versions and hidden ones.

Examples

- 4 different versions of 'Tracking' (many people like to stick with the old one)
- 2 versions of LensDistortion (the old one is often preferred)
- Hidden nodes like 'ParticleToImage' You can edit the filter manually and detect file types. Whitelist is a list that doesn't find in the folder, so type in the node class manually to make it appear in the menu.



Pyclopedia [MJT]

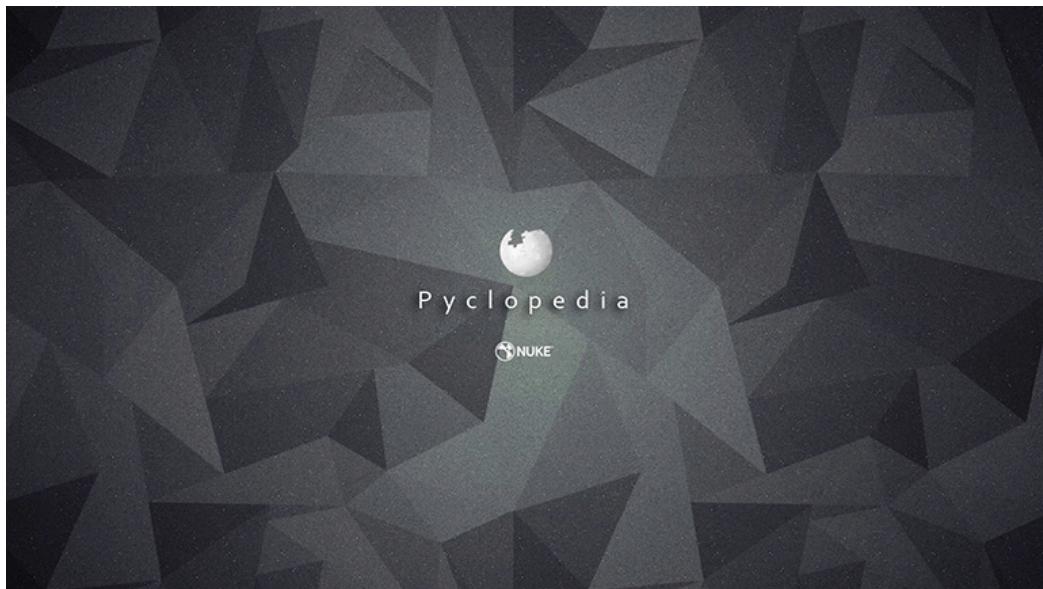
Author: Mark Joey Tang - <http://www.facebook.com/MJTLab>

- http://www.nukepedia.com/gizmos/other/pyclopedia_v10
- <http://bit.ly/menupy>

Check available Python API and documentation in Nuke with a clear interface.

How to Use

1. Type in the command line you want to check
2. Click 'get next level' to see what commands are available
3. Click 'get details' to see what the command does, what arguments it takes, how to use, etc.
4. In command line, you can type in any level to get quick search
5. It can also check Python from importing any module
6. In Pyclopedia, you can also point to a node and check what attributes can use



Templates

Pre-built workflow templates and demo scripts for common compositing tasks.

Tools in this Category

Tool	Author	Description
Advanced Keying Template	Tony Lyons	Comprehensive keying workflow template
Advanced Keying Template Stamps	Tony Lyons	Keying template using Stamps
STMap Keyer Setup	Erwan Leroy	Custom keyer using STMap technique
Gizmo Demo Scripts	Various Authors	Demo scripts for various tools

Advanced Keying Template [TL]

Author: Tony Lyons - <http://www.CompositingMentor.com>

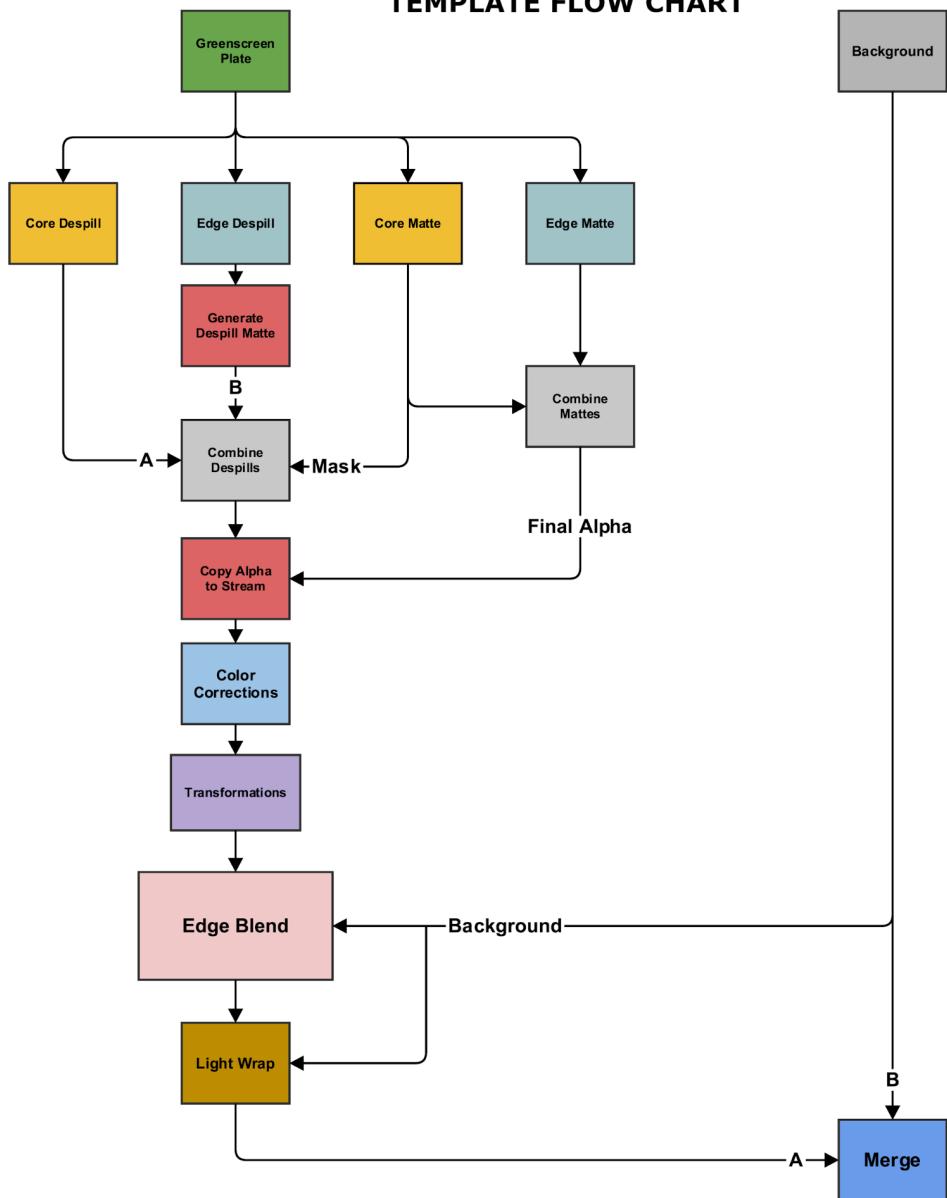
- http://www.nukepedia.com/gizmos/keyer/advanced_keying_template_pack
- <https://compositingmentor.com/2015/12/18/advanced-keying-breakdown-4-1-template/>
- <https://www.youtube.com/playlist?list=PLt2Nu4KGXJ2iXe7s-ydCQ9u1tTzzApmJX>
- <https://compositingmentor.com/category/advanced-keying-breakdown/>

For in-depth detail about how to use this template and different techniques and methods to look for in each section, please visit the full Keying Tutorial Playlist and website series linked above.

Template Structure

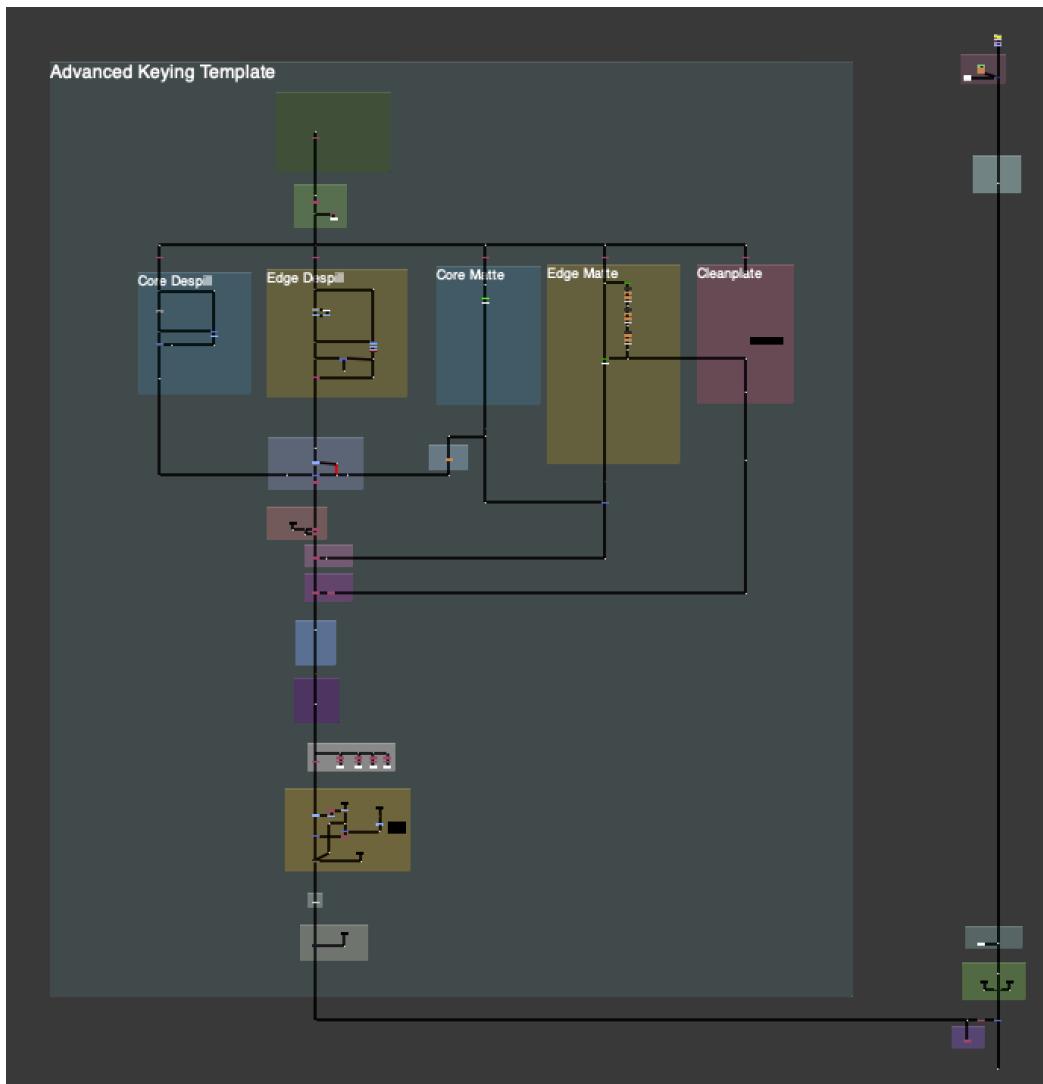
Broken down into 5 sections: 1. **Core Despill** - Initial despill work 2. **Edge Despill** - Edge-specific despill handling 3. **Core Key** - Main keying operations 4. **Edge Key** - Edge refinement 5. **Background Blend** - Final integration Organized to help with complex shots with transformations and color corrections to the Greenscreen element.

TEMPLATE FLOW CHART



Advanced Keying Template Stamps [TL]

Author: Tony Lyons - <http://www.CompositingMentor.com>



This is an updated Advanced Keying Template using Adrian Pueyo's Stamps. You can download his stamps plugin here:
<https://www.nukepedia.com/gizmos/other/stamps>

Changes from Original

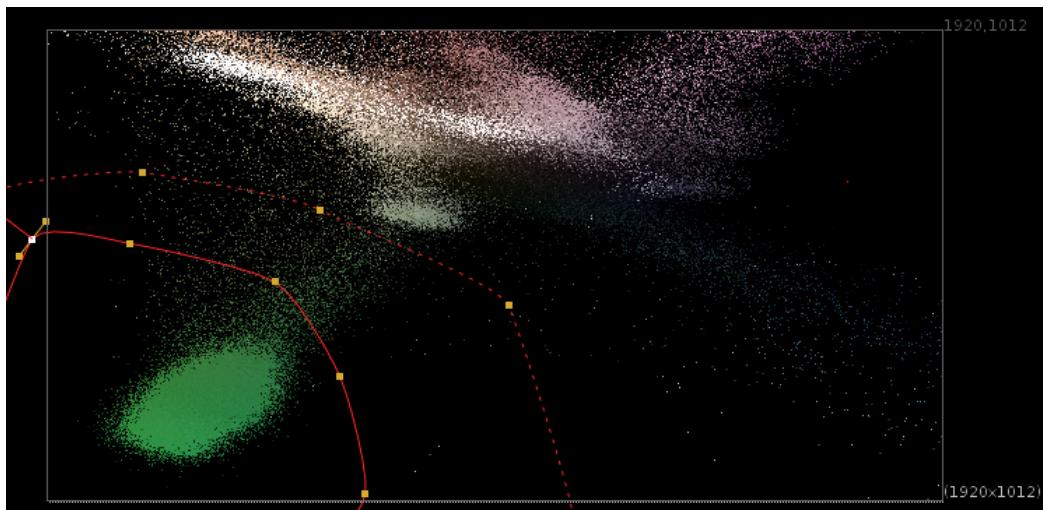
Mainly just changed the organization of the script while keeping true to the original template structure.

Features

- **Cleanplate section** - Can be used later with the additive keying section
- **All passes piped in** before the Color Corrections and Transformations section
- **Passes piped out and converted to stamps** after the transformations section, to be used elsewhere
- **Updated cleanplate creation** - Experimental method using ibk_Colour node (feel free to use any other unpremult/blur or IBK stack, or edge extend method, or plug in your cleanplate if you have one)
- **Feature replaced by exponBlurSimple node**
- **Lightwrap section** after the premult
- **Additive keying section** near the merge *If you don't like stamps, feel free to adjust/add dots and pipelines and configure in whichever way you like to help your workflow.*

STMap Keyer Setup [EL]

Author: Erwan Leroy - <http://erwanleroy.com/blog/>



- <http://erwanleroy.com/make-a-custom-advanced-keyer-using-stmap/>

The idea of this method is to represent the image as a 2D point cloud (vs 1D points or 3D points above) and use some sort of shape to define which area should be transparent or solid, as well as softness.

This is convenient because we have some great tools to define areas in 2D: Roto and Rotopaint, as well as a great tool to do 2D mapping: STMap.

The Concept

Since we're in 2D, we can now use 2 channels as our 2 axes. Which 2 you would like to use is sort of up to you, and based on your specific footage.

For chroma keying, two channels that make sense for this approach are the **cb** and **cr** channels of the YCbCr colorspace, though Luma and Hue could work, or Hue and Saturation, etc.

Basic Implementation

The basic implementation is rather simple: 1. Set 2 channels as the STMap input of an STMap node 2. Use a roto as the source

Sample Footage

This template uses a plate from the Open Source project Tears of Steel, which you can download here: https://media.xiph.org/tearsofsteel/tearsofsteel-footage-exr/02_3c/linear_hd/

Gizmo Demo Scripts [VARIOUS]

There are Demo Scripts graciously donated by the Authors to help demo their tools.

Best Documentation Ever