



**Tinderbox 1  
for  
Combustion**

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## Tinderbox 1 User Guide

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## PREFACE

Tinderbox for Combustion is heavily based on the Tinderbox for After Effects release. Indeed they are both written to the same After Effects plug-in specification. They have the same number of plug-ins and the plug-in parameters are almost identical. However, there are some important differences.

In short, you should install this release on Combustion and the "Tinderbox for After Effects" on After Effects.

### **Changes from the After Effects version**

This section describes the differences from the After Effects version.

Parameters that work only on After Effects are greyed out in this version built for Combustion. For example, the use of After Effects' lights and cameras are prohibited in Combustion. The built-in plug-in lights and cameras must be used instead.

There are no on-screen tools used to edit the plug-in parameter values.

Keyframing on the colour gradients cannot be switched off in Combustion.

You should also note that your software license key for Tinderbox on Combustion will also enable you to run Tinderbox on After Effects should you have both installed on your computer.

Most of the following chapters in this user guide have been taken directly from the Tinderbox for After Effects user guide and you should read on with that in mind. Screen shots come from After Effects and the download names for Combustion will be different to those for After Effects.



## INTRODUCTION

Welcome to Tinderbox 1 for After Effects. Our plug-ins have been developed for the most demanding professionals in the post production industry. We are delighted to bring these tools to digital artists using After Effects.

### About this User Guide

This User Guide tells you how to install the plug-ins and remove the watermark with a license key. It gives information on each of the plug-ins in this set with hints and tips at the end of most plug-ins to suggest creative or practical uses of the effect.

Controls common to many of the Tinderbox plug-ins are described in the chapter Tinderbox Controls and referenced from the plug-ins.

### System Requirements

Tinderbox 1 plugs into Adobe After Effects CS4 running on Mac OS X or Windows XP. It will also work in CS3/AE7. It does not work in After Effects 6.5, 6.0 or earlier versions. A version of Tinderbox is available for Combustion.

### Installation on Mac

Tinderbox is distributed as a software download from our web site. To install Tinderbox 1 on a Mac follow these instructions:

1. Double-click on the dmg file downloaded from our web site.
2. Double-click on Tinderbox pkg icon and follow the on-screen instructions.



Figure 1. Double-click on the package to install.

3. Tinderbox will be installed but not licensed. It will render the effects with a watermark. If you have installed from a download .

## Installation on Windows

Tinderbox is distributed as a software download from our web site. To install Tinderbox 1 on a computer running Windows follow these instructions:

1. Download the installer from our; web site.
2. The Tinderbox installer should start automatically. If it does not, click on the Tinderbox Installer and follow the on-screen instructions.
3. Tinderbox will be installed but not licensed. It will render the effects with a watermark.

## Activating Tinderbox

Once you have installed Tinderbox 1, you will need to activate the product. Successful activation gives you a license key that unlocks the software..

## System ID (lmhostid)

The System ID (sometimes called lmhostid) is a unique number that identifies your computer. We use this number to generate a license key for that, and only that, computer.

The System ID is shown at the bottom of the help dialogs. Click



Figure 2. Help showing the System ID.

on any Tinderbox About button to display this number. See Figure 2 above if you can't find it.

## Can I install Tinderbox on more than one computer?

You can install Tinderbox on as many machines as you like, but a watermark will be drawn over the image if there isn't a valid license key for that machine.

If you wish to render Tinderbox plug-ins on a network of render-only versions of After Effects you will need to purchase Tinderbox render licenses.



## Watermark

If you don't have a valid license key a dialog (Figure 3) will warn you and the image will render scattered with coloured dots (Figure 4).

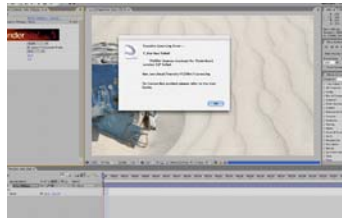


Figure 3. Warning Dialog.

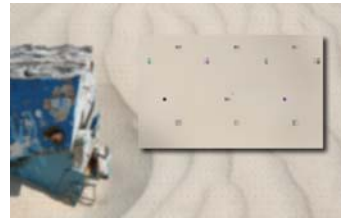


Figure 4. Close-up of dots.

## Background Rendering

In After Effects Pro, you can render on a network of computers using watch folders. If you want to do this for compositions that use Tinderbox plug-ins, you will need:

1. The Tinderbox plug-ins installed on the networked computers.
2. A valid Tinderbox license key for each networked computer.

You may need to purchase additional license keys from GenArts. Without these, the After Effects Render Engine will render Tinderbox plug-ins with dots scattered on the image.

## About Tinderbox Plug-ins

All Tinderbox plug-ins integrate seamlessly into After Effects. They are applied to your clips as you would any other filter and they can all be animated using the standard After Effects animation tools from simple keyframing to full blown expressions.

For users with the Adobe After Effects Professional, the Motion Tracker can be used to input data into any positional controls of the Tinderbox plug-ins.

## Other GenArts Products

GenArts is a leading developer of visual effects software for film and video post production. For a list of products and supported platforms see <http://www.genarts.com>.



# TINDERBOX CONTROLS

This chapter describes the controls that are common to many Tinderbox plug-ins.

## About...

To display the on-line help either click on “About...” as shown in Figure 5. To hide the help dialog, just click on it after it has



Figure 5. About.

appeared. The help gives a short description of the plug-in, the exact version number of Tinderbox (Figure 7) and the System ID (Figure 8). This online help is designed to give you a brief description of the plug-in and a quick start if required. More detailed information on the plug-in is contained in this User Guide.



Figure 6. Help.



Figure 7. Version.



Figure 8. System ID.

## Reset

Reset reverts all parameters in the plug-in to their default values.



Figure 9. Reset.

## Options...

Options will launch a web browser to get a license key for the plug-ins. See “Activating Tinderbox” on page 4.



Figure 10. Options.

## Type

Each of the plug-ins listed in the next chapter has a type description of blur, effect, tool, generator or warper. This is to help you quickly understand the general nature of the filter.

If there are any optional layers that can be used in the effect, these are also declared.

Some Tinderbox plug-ins can use a composition's camera and lights. These are labelled as 3D in the Type definition and the plug-ins themselves appear with a cube symbol (Figure 11) in the Effect Controls panel.

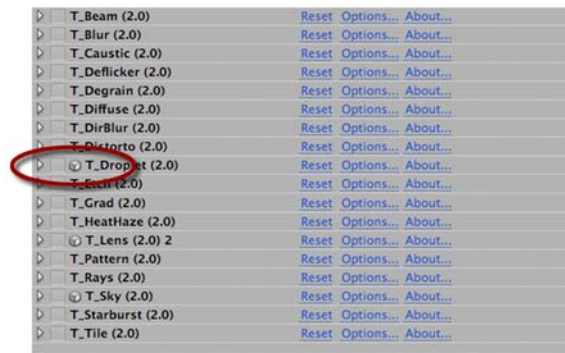


Figure 11. T\_Droplet can use the composition's lights.

## Aspect

Controls the proportion of the effect in x, horizontal, and y, vertical. The default value of 0 will apply the effect equally in x and y. A value of 100 will only apply the effect in x. A value of -100 will only apply the effect in y. Figure 12 and Figure 13

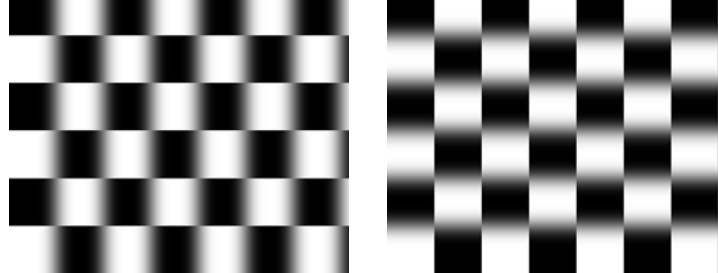


Figure 12. T\_Blur Aspect = 100. Figure 13. T\_Blur Aspect = -100.

shows the output of T\_Blur on a checker pattern with two values for the Aspect. The Aspect controls can be used to fake perspective. Figure 14 shows Aspect in T\_Droplet being used to



Figure 14. T\_Droplet.

simulate the ripples on the water.

### Pixel Aspect Ratio

Tinderbox plug-ins will automatically compensate for the Pixel Aspect Ratio set under Composition Settings and in the Viewer Options.

## Process

Controls which of the colour channels will be affected by the effect. The options can be a subset or all of the following. The most common are at the top of the list. Figure 15 shows a two layer composite of a polar bear with triangular alpha channel composited over a flower. T\_Blur has then been applied with the most common processing options shown in Figure 16 to Figure 18.

- **RGBA** - the red, green, blue and alpha channels are processed. Figure 16.



Figure 15. Two layer composite.



Figure 16. RGBA.

- **RGB** - only the red, green and blue channels are processed. Figure 17.
- **Alpha** - only the alpha channel is processed. Figure 18.



Figure 17. RGB.



Figure 18. Alpha.

- **Grey** - this affects the result of  $(R+G+B)/3$ .
- **Red** - only the red channel will be affected.
- **Green** - only the green channel will be affected.
- **Blue** - only the blue channel will be affected.
- **Luminance** - the luminance of the image will be affected.
- **U** - only the U video signal will be affected.
- **V** - only the V video signal will be affected.
- **Chroma** - the U and V channels will be affected.

You should note that some plug-ins operate on the alpha channel of the source image, like T\_Blur in the example above, and other plug-ins generate their own alpha replacing any alpha that was part of the source image. You can see this in Figure 19 where T\_Caustic has been applied to the polar bear layer and the

triangular alpha channel is ignored.



Figure 19. RGBA processing with T\_Caustic.

## Ignore Transparent Pixels

If you're wondering what this handy switch does then read on.



Figure 20. RGB Straight.



Figure 21. Alpha.

Consider this picture of a polar bear with a triangular matte. Figure 20 shows the RGB Straight pixels. Figure 21 shows the triangular matte. Compositing this picture over a background will only show the polar bear and the background. You're never going to see the green pixels.

If we apply T\_Blur to the polar bear, let's consider what happens to pixels at the edge of the triangular matte. Figure 22 shows

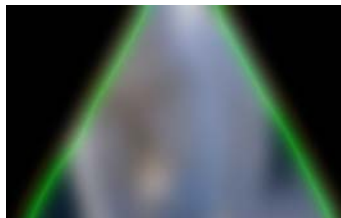


Figure 22. Ignore Transparent Pixels Off.



Figure 23. Ignore Transparent Pixels On.

green pixels being dragged into the picture as a result of the blur. This is usually unwanted. switching Ignore Transparent Pixels on will means that the source image will be composited on



transparent black before the effect is applied. Figure 23 shows the result you're after.

## Gradient

Several of the Tinderbox plug-ins require the colours to be set in a gradient or ramp. These plug-ins will have a Gradient control. The coloured area at the top is used to create, delete and position the individual colours in the gradient by manipulating the small triangular colour tags.

Note *The tags on the extreme left and right cannot be moved or deleted but their colours can be modified.*

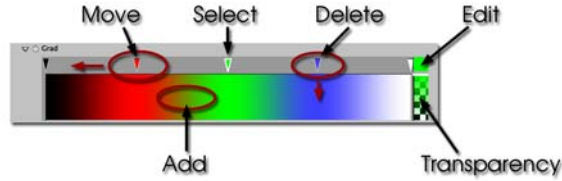


Figure 24. Gradient Controls.

### Changing a Colour

Select a tag by clicking on it. Click on the colour box (labelled Edit in Figure 24) to launch the After Effects colour dialog.

### Moving a Colour

Select a tag and drag it left or right.

Note *The tags on the extreme left and right cannot be moved.*

### Adding a Colour

Click in the colour gradient to add a colour.

### Deleting a Colour

Click and drag a tag into the colour gradient.

## Lighting

Some plug-ins include controls for adding lighting. There are two types of lighting models that can be used in these plug-ins:

1. The GenArts lighting models.
2. After Effects lighting models.

### GenArts Model

Has two light types, local and infinite.

### After Effects Model

Has four light types, parallel, point, spot, ambient.

Ambient, diffuse and specular lighting models are included for some plug-ins and point, infinite or After Effects lights can be used.



Figure 25. Lighting Off.



Figure 26. Lighting On.

**Light Host Light** - this checkbox appears only when there is a host light available in the current composition. If the control is switched on, the internal lighting model will be disabled.

**Light Layer** - the host light to use in the calculations. This is specified by a number. The host lights are numbered from the bottom light in the composition (Light Layer = 1), upwards to the top light (Light Layer = 2)

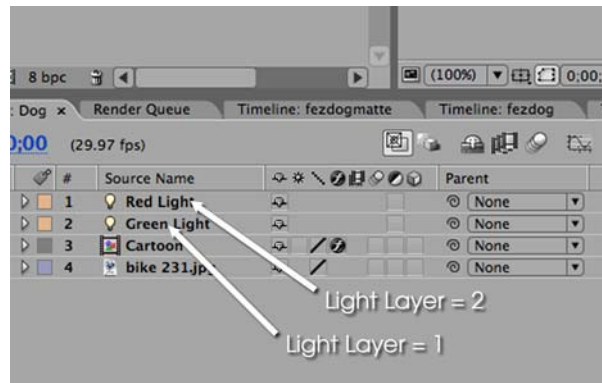


Figure 27. To pick the Red Light set Light Layer to 2.

**Type**

- **None** - no lights are used. Lighting parameters are switched off.



Figure 28. None.

- **Infinite** - simulates the parallel rays from a distant light source, like the sun.



Figure 29. Infinite.

- **Local** - simulates the light rays from a light source close to the surface of the image.



Figure 30. Local.

- **Host** - uses the After Effects light. If more than one light is in the composition, the top layer light is used.

**Direction** - the direction of the light source. If set to 90 the light appears to come from the right. If set to 180 the light appears to come from the bottom of the screen.

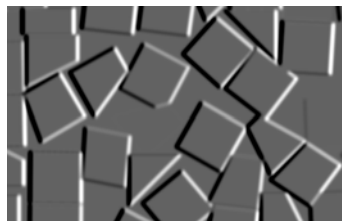


Figure 31. Direction = 90.

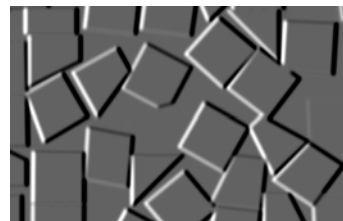


Figure 32. Direction = 270.

**Elevation** - effectively controls the height of the light source above the image plane. Elevation changes the angle between the image plane and a line from the light source to the image centre.



Figure 33. Elevation = 5.

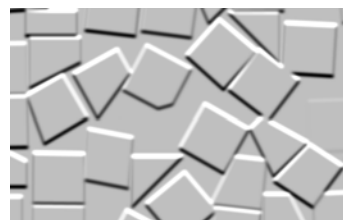


Figure 34. Elevation = 30.

**Position** - the position of the light.

**Distance** - sets the distance between the local light source and the image plane. As distance increases more of the image is

illuminated.

**Ambient Lighting** Ambient light produces a constant illumination on all surfaces regardless of their orientation. Ambient light is an approximation of the light generated from the multiple reflections from every surface in a scene.

**Ambient Method** - controls how to apply the ambient lighting.

- **None** - switches off ambient lighting.
- **Colour** - switches on ambient lighting and uses the ambient colour in the ambient colour calculations.
- **Source** - switches on ambient lighting and uses the source image colours in the ambient colour calculations.

**Colour** - the colour used in the ambient light calculations.

**Strength** - the amount of ambient light.

**Diffuse Lighting** Dull surfaces scatter light equally in all directions so that the surfaces appear to have the same brightness from all viewing angles. These surfaces exhibit diffuse reflection.

**Lighting** - controls how to apply the diffuse lighting.

- **None** - switches off diffuse lighting.
- **Colour** - switches on diffuse lighting and uses the diffuse colour in the diffuse colour calculations, Figure 35 on page 18.
- **Source** - switches on diffuse lighting and uses the source image colours in the diffuse colour calculations, Figure 36.

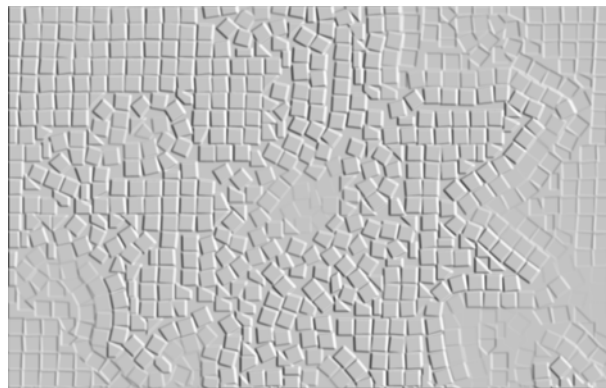


Figure 35. Diffuse Colour.



Figure 36. Diffuse Source.

**Colour** - the colour used in the diffuse light calculations.

**Strength** - the amount of reflected diffuse light.

**Specular Lighting** Specular or highlight reflection is observed on any shiny surface. Illuminate a shiny metal sphere and the highlight is caused by specular reflection while the light reflected from the rest of the sphere is caused by diffuse reflection.

**Lighting** - how to apply the specular lighting.

- **None** - switches off specular lighting.
- **Colour** - switches on specular lighting and uses the colour in the specular colour calculations, Figure 37.
- **Source** - switches on specular lighting and uses the source image colours in the specular colour calculations, Figure 38 on page 20.

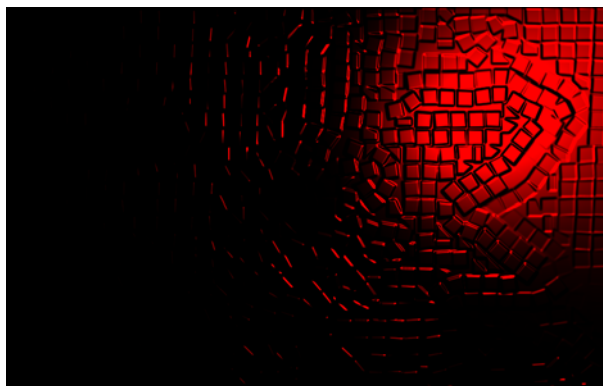


Figure 37. Specular Colour.



Figure 38. Specular Source.

**Colour** - the colour of the specular highlights.

**Strength** - the amount of reflected specular light.

**Fall-off** - controls how tight (Figure 40) or diffuse (Figure 39) the highlights are on the surface. This equates to the apparent shininess of the surface.

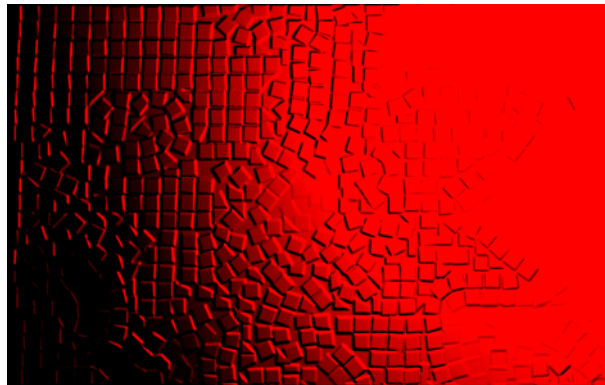


Figure 39. Low Fall-off.

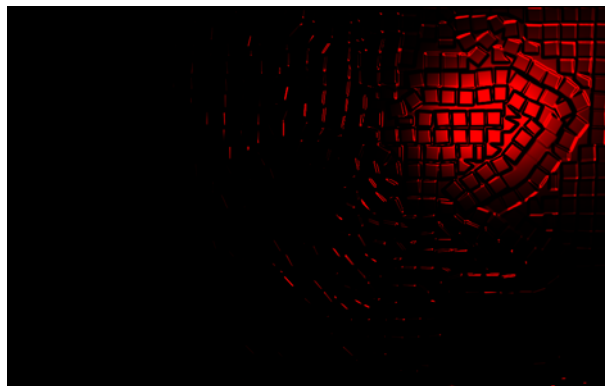


Figure 40. High Fall-off.



## Camera

Some plug-ins include camera controls allowing you to move around the generated effect. To ease animation synchronisation these can also be slaved to an After Effects camera (if one is present) in the same manner as the lights. The camera model used depends on the plug-in. For example, Tinderbox 1 T\_Sky employs a camera which only allows for rotations in 3 degrees of freedom, since the sky is of a sufficient distance from the camera in question that no parallax should be observed in any kind of tracking movement. However, in a plug-in such as Tinderbox 3 T\_Particles, the camera model allows for movement as well as rotation in 3 planes.

In our internal camera parameters, (“Controls” on page 21), only the controls relevant to the current plug-in are enabled and displayed, whilst, if host camera slaving is selected, only the relevant parameters from the host camera are employed.

Our plug-ins employ a two point camera model with an origin target point, and the coordinate system mimics the left handed camera model employed natively by After Effects.

## Controls

**Host Camera** - this checkbox appears only when there is a host camera available in the composition you are working in, so if you want to slave to the host camera first of all ensure that you have created one in the current comp. If the control is switched on, the internal camera controls described subsequently will be disabled.

**Angle of View** - equivalent to the After Effects camera parameter of the same name this governs the width (as a degree) of the scene visible.

**X Rotation** - the rotation around the X axis of the camera head

**Y Rotation** - the rotation around the Y axis of the camera head

**Z Rotation** - the rotation around the Z axis of the camera head

**X Position** - the translation along the x axis

**Y Position** - the translation along the y axis

**Z Position** - the translation along the z axis

**Clip Near & Clip Far** - to aid rendering on generator plug-ins we employ a pair of planes which specify the limits of interest in terms of an axis through the camera and lens. Objects moving in front of the Clip Near or behind the Clip Far are determined as

out of the area of interest and are thus not rendered.

## Filtering

Filtering is used to control the quality of your processed images by reducing the jagged lines characteristic of pixel devices. For high quality images you should switch filtering on. As with all image processing you have a trade off between quality and time. Filtering will increase the quality of your image but will also increase the time it takes to process the image.

Filtering quality is chosen from a popup menu. The options given in the popup menu are:

- **Low** - highly distorted images may show jaggies. This is the fastest option.
- **Medium** - uses a bilinear filter.
- **High** - uses a MIP bilinear filter. This is the slowest option.
- **Global Default** - this uses the quality setting in After Effects to determine the filtering method used in the plug-in.



Figure 41. Low, Medium and High Filtering.

Depending on the effect being filtered, the High filtering option may over-soften the image. To combat this, the Filter Sharpness control can be used to compensate. The default value of 100% is normal sharpness, increasing it will sharpen up the result, decreasing it will soften further.

Note *Filter Sharpness only has an effect when using the High filtering option.*

## Blending

Many of the Tinderbox plug-ins have blending controls which allow you to specify how to mix between the output image and the source image. Controls are also available to affect the gain on the output image and source image. In our examples, we have applied T\_Grad to a source image (Figure 42) to get the output image as shown in Figure 43.



Figure 42. Source Image.

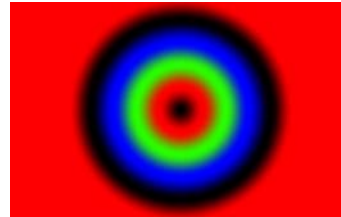


Figure 43. Output Image.

Although the same results could be achieved using the layer modes and Adjust processes provided in After Effects, it would require the use of many more layers and effects in the composition.

**Method** - sets how to blend the output image effect with its original source image by the amount set in the blend control.

- **None** - no blending is applied, only the output image is returned as in Figure 43. Blend, Effect Gain and Source Gain have no affect when in this mode.
- **Mix** - blends the source and output images.
- **Add** - adds the source and output image pixel values.
- **Difference** - the absolute value of the source image minus the output image. Similar colours will return black pixels.
- **Subtract Source** - output image minus the source image.

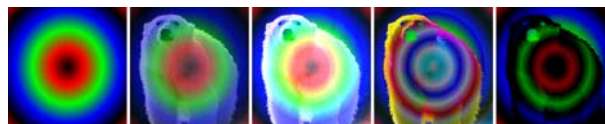


Figure 44. None, Mix, Add, Difference, Subtract Source.

Negative values are set to black.

- **Subtract Effect** - source image minus the output image. Negative values are set to black.
- **Darken** - returns the darker of either the output image or the source image.
- **Lighten** - returns the brighter of either the output image or the source image.
- **Colour** - returns the hue and saturation of the output image and the luminance of the source image.

- **Luminosity** - returns the hue and saturation of the source image and the luminance of the output image.

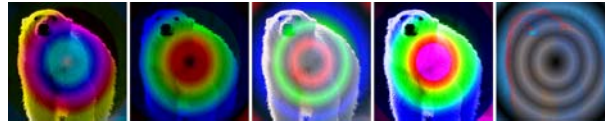


Figure 45. Subtract Effect, Darken, Lighten, Colour, Luminosity.

- **Hue** - returns the hue of the output image and the saturation and luminance of the source image.
- **Saturation** - returns the hue and luminance of the source image and the saturation of the output image.
- **Screen** - is a soft add making everything brighter but ramping off the whites. Light colours have more of an effect than dark colours. The result is always a lighter colour. Blending with black leaves the pixel unchanged, blending with white always returns white. The result is similar to projecting multiple slides on top of each other.
- **Multiply** - source image multiplied by the output image. The result is always darker. Blending with black gives black and with white returns the colour unchanged.
- **Overlay** - mixes colours while preserving the highlights and shadows.

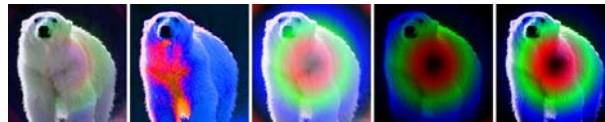


Figure 46. Hue, Saturation, Screen, Multiply, Overlay.

- **Exclusion** - creates a result similar to the Difference mode but lower in contrast. Blending with white inverts the colour, blending with black produces no change.
- **ColourBurn** - darkens the underlying colour to reflect the blend colour by increasing the contrast.
- **ColourDodge** - brightens the underlying colour to reflect the blend colour by decreasing the contrast.
- **HardLight** - lightens highlights and darkens shadows. If the pixel value in the source image is lighter than 50% grey, the result lightens as if it were screened. If the pixel value in the source image is darker than 50% grey, the result is darkened as if it were multiplied.

- **LinearBurn** - darkens the underlying color to reflect the

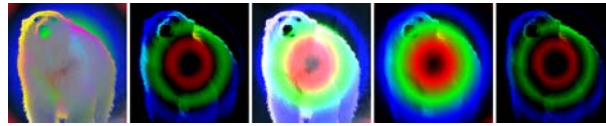


Figure 47. Exclusion, ColourBurn, ColourDodge, HardLight, LinearBurn.

blend color by decreasing the brightness. Blending with white produces no change.

- **LinearDodge** - same as Add.
- **LinearLight** - is a mix in which the brightness depends on the output image. If the output image pixel is brighter than mid grey, the source image is lightened by mixing in a brighter output image. If the output image is darker than mid grey the source image is darkened by mixing in a darker output image. If blending with a mid grey output image, the source image is returned.
- **SoftLight** - similar to LinearLight but more subtle. Unlike LinearLight, blending with white will lighten the source image but not return white.
- **Composite Effect** - if the plug-in generates an alpha then this will composite the plug-in effect over the source image. This saves you having to set Blending to none and add another layer to your composition.
- **Composite Source** - layers the source image over the output

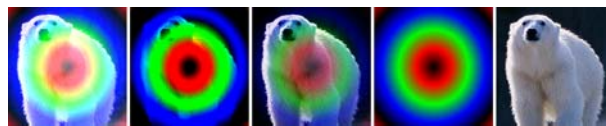


Figure 48. Linear Dodge, Linear Light, SoftLight, Composite Effect, Composite Source.

image taking into account any alpha channel on the source image.

**Blend** - when blending, sets the percentage mix between the output image and the source image. A value of 100% will show just the output image effect. A value of 0% will show just the source image. The inputs to this Blend are affected by the values set for Effect Gain and Source Gain.

**Effect Gain** - when blending, sets the gain of the image effect. The result of this is used in the Blend. The Effect Gain also affects the alpha of the image. Setting Effect Gain to 50% will half the brightness of the effect image and will also half the value

of its alpha. This will result in the underlying layers, or black if there are none, appearing through the effect image.

**Source Gain** - when blending, sets the gain of the original source. The result of this is used in the Blend. The Source Gain also affects the alpha of the image. Setting Source Gain to 50% will half the brightness of the original source and will also half the value of its alpha. This will result in the underlying layers, or black if there are none, appearing through the original source.

**Clamp 0-1 (32bpc)** - switch this on to clamp out-of-range pixels so that the blending methods give expected results. Many blending operations (like screen) rely on the pixels to be in the range 0 to 1 to get a sensible result. In 32 bpc projects some images may have pixel values much greater than 1. These over-range values are called over-whites or superwhites and will give incorrect and unexpected results for these blending methods. Switching this clamp on will cut off any pixel values greater than 1 (and less than 0) so that the blend looks right. Without clamping you will get unexpected results, for example, negative pixels when you ought to be getting very bright pixels.

## Matte

The way the Matte and Matte Layer parameters work are common to many plug-ins and are described here.

**Matte** - the image and channels used to control the effect.

- **None** - no matte is used.
- **Source Luminance** - the luminance of the current layer, with any effects applied to it, is used.
- **Source Inverse Luminance** - the inverted luminance of the current layer, with any effects applied to it, is used.
- **Source Alpha** - the alpha of the current layer, with any effects applied to it, is used.
- **Source Inverse Alpha** - the inverted alpha of the current layer, with any effects applied to it, is used.
- **Matte Layer Luminance** - the luminance of the raw image specified in the Matte Layer parameter below is used.
- **Matte Layer Inverse Luminance** - the inverted luminance of the raw image specified in the Matte Layer parameter below is used.
- **Matte Layer Alpha** - the alpha of the raw image specified in the Matte Layer parameter below is used.
- **Matte Layer Inverse Alpha** - the inverted alpha of the raw image specified in the Matte Layer parameter below is used.

So the important bit is that if you pick **Source** you get the current layer with any effects applied, and if you pick **Matte Layer** you get the image specified below with no effects applied.

## Matte Layer

**Matte Layer** - the layer used if Matte is set to Matte Layer Luminance, Matte Layer Inverse Luminance, Matte Layer Alpha or Matte Layer Inverse Alpha.

- **None** - no layer is specified and none used.
- **1. Layer** - this layer is used as the Matte Layer.
- **2. Layer** - his layer is used as the Matte Layer.

The Matte Layer is the layer without any effects applied.

## Attenuation

Often the matte is used to attenuate the strength of the effect. By this we mean that pixel values in a matte are used to vary a parameter in the plug-in. You should note that this is not the same as applying the effect to only a portion of the image using masks or a track matte.

Let's consider the plug-in T\_Tile that takes an image like Figure 49 and scales and repeats it as shown in Figure 50.



If we attenuate this effect with the matte should in Figure 51 then where the matte is black on the left, none of the effect will be applied. Where the matte is white the full scaling factor in T\_Tile will be applied. Values inbetween are scaled accordingly as shown in Figure 52.



Figure 49. Source Image.



Figure 50. Tile.

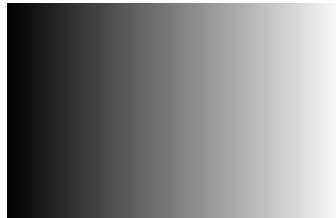


Figure 51. Matte.



Figure 52. Attenuating Scale.

## Source Crops

Many Tinderbox plug-ins require access to pixels that lie off the edge of the source image. For example, T\_Blur needs to use pixels off the sides when blurring at the edges. Figure 53 shows



Figure 53. Look at the border. Here the Edge Method = Colour.



Figure 54. Edge Methods = Reflect.

black pixels being dragged in from the sides which happens if the edge methods are set to “Colour”. By setting the edge method to “Reflect” you can overcome this problem, as shown in Figure 57.

In addition, there are controls to crop the image.

## Edge Methods

The edge methods control the behaviour of the image at the crop boundaries. This is usually at the edge of the composition but can be brought into the picture with the Left, Right, Top and Bottom crop tools. The left and right edges can have a different edge method from the top and bottom.

**X Method** - how to treat the left and right edges.

- **Colour** - see Figure 55.

- **Repeat** - repeats the last line of pixels. Figure 56.



Figure 55. Colour.

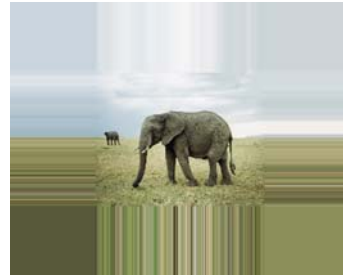


Figure 56. Repeat.

- **Reflect** - mirrors the image at the crop line. Figure 57
- **Wrap** - tiles the image at the crop line. Figure 58.

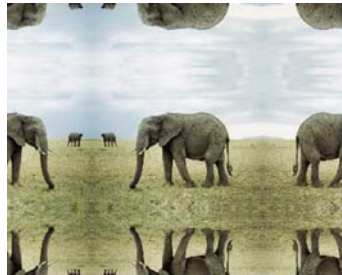


Figure 57. Reflect.

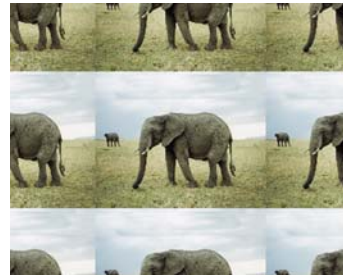


Figure 58. Wrap.

**Y Method** - how to treat the top and bottom edges.

**Edge Colour** - the colour used at the crop boundary if the edge method is set to Colour. In Figure 55 the edge colour is black.

**Edge Colour Alpha** - the transparency of this colour is set using the Edge Colour Alpha.

**Left** - the left crop position.

**Right** - the right crop position.

**Bottom** - the bottom crop position.

**Top** - the top crop line.

## Matte Layer Crops

This is only available where there is the option of selecting a Matte within a Tinderbox plug-in. Matte Crops work in exactly the same way as Source Crops but apply to the Matte.



# TINDERBOX 1

## T\_Beam

### Introduction

T\_Beam draws a spotlight in 3D space. The position of the light source can be animated and the beam can be rotated in all directions. The beam can either be composited over the underlying layers, blended with its source image or used to generate a new image.



Figure 59. St. Paul's Cathedral.



Figure 60. St.Paul's lit up.

### Type

Generator.

### Controls

**About** Click the picture to display the on-line help, Tinderbox version number and Imhostid. See "About..." on page 7.

**Show On-Screen Tools** - switch this off to remove the yellow rotation and translation tool.

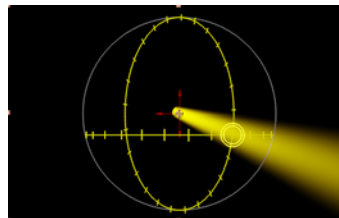


Figure 61. Position, Rotation and Elevation tool.

**Process** - sets which channels to process.

**Position** - the screen position of the light emitting disc.

**Rotation** - the direction of the beam. With a value of 0 the beam points right. With a value of 180 the beam points left. With a value of 270 the beam points away from the camera. With a value of 90 the beam points towards the camera.

**Elevation** - the vertical pitch of the beam. With a value of 0 the beam will be horizontal. 90 points down and -90 point up.

**Form** This groups the properties of the light beam.

**Cone Angle** - the spread of light from the emitting disc. Small values produce narrow focussed beams. Large values produce wide spread out beams.

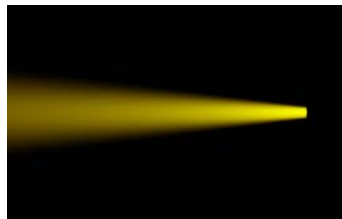


Figure 62. Cone Angle = 15.



Figure 63. Cone Angle = 50.

**Radius** - the size of the light emitting disc producing the beam.

**Softness** - blurs the edges of the beam. A value of 0 will produced a hard edged cone. The default value of 100 gives a soft edge to the beam.

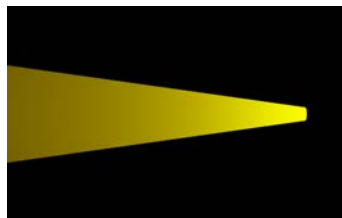


Figure 64. Softness = 0.



Figure 65. Softness = 100.

**Fall-off** - increasing the fall-off reduces the light penetration in the direction of the beam.



Figure 66. Fall-off = 50.



Figure 67. Fall-off = 90.

**Intensity** - the brightness of the beam. Large values produce brighter beams.

**Beam Colour** - the colour of the centre of the beam.

**Corona Colour** - the colour of the outer part of the beam.

**Remove Light Emitting Disc** - removes the disc of light used to generate the beam. Removing this is most noticeable when the beam is pointing directly towards the camera.

**Filtering** - the quality of the anti-aliasing used when processing the effect. Most noticeable when Softness is 0. See “Filtering” on page 23.

**Blending** How to mix between the source image and the effect. See “Blending” on page 24.

## T\_Blur

### Description

T\_Blur is a time constant, sub-pixel, gaussian blur. T\_Blur can operate on the whole image, individual colour channels or just the chroma. It can be used to defocus or sharpen an image. It's



Figure 68. Source Image.



Figure 69. Blur.

fast even for very large blurs.

### Type

Blur.

### Controls

**About** Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 7.

**Process** - sets which channels to process.

**Ignore Transparent Pixels** - switch this on to remove unwanted pixels creeping into your image at the edges of the alpha.

**Mode** - sets whether to blur or sharpen the image.

- **Blur** - softens the image.
- **Sharpen** - emphasizes the edges within the image.



Figure 70. Source Image.



Figure 71. Sharpen.

**Radius** - the strength of the blur. Increase this value to increase the blur effect.



**Aspect** - the horizontal and vertical weighting of the effect. An Aspect of 100 will only blur horizontally.



Figure 72. Aspect = -100.



Figure 73. Aspect = 100.

**Blending** How to mix between the source image and the effect. See “Blending” on page 24.

**Source Crops** Cropping tools and edge methods. See “Source Crops” on page 30.

**Expand Output** - grows the size of the layer to prevent clipping of the effect at the layer boundary. Figure 74 show a white text



Figure 74. Text Layer.

layer smaller than the composition size. When T\_Blur is applied we get the clipped result shown in Figure 75. Switching on Expand Output gives us Figure 76 without having to pre-compose layers.



Figure 75. Expand Output Off.



Figure 76. Expand Output On.

## Hints & Tips

Sharpening the chroma enhances the chroma in areas of the image with strong colour variations whilst leaving flat areas relatively unchanged. This can be useful in sharpening the edges

of the subject before key pulling.

See also Tinderbox 2 T\_LensBlur for defocussing with highlight blooming. Tinderbox 1 T\_DirBlur for a directional blur, Tinderbox 2 T\_RadialBlur to smear pixels out from a centre and Tinderbox 3 T\_GradientBlur to soften along gradient vectors.

## T\_Caustic

### Description

T\_Caustic simulates the patterns created when light rays are reflected or refracted by a curved surface. Caustics can often be seen at the bottom of a swimming pool in bright sunlight or on objects viewed underwater.

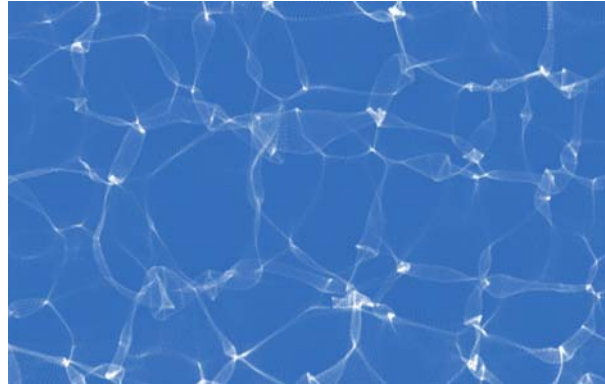


Figure 77. T\_Caustic.

### Type

Generator.

### Controls

**About** Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 7.

**Process** - sets which channels to process.

**Size** - zooms into or away from the caustics.



Figure 78. Size = 15.

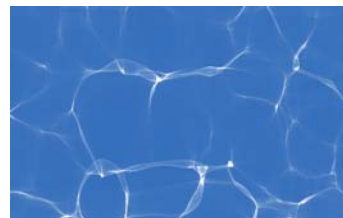


Figure 79. Size = 50.

**Fractals** - the detail in the caustic lines.

**Focus** - alter this to bring the caustic lines into focus.



Figure 80. Focus = 50.



Figure 81. Focus = 250.

**Seed** - this number generates a number sequence that is used to randomly vary the caustics pattern.

**Speed** - the rate at which the caustics move.

**Samples** - increasing this value will increase the quality of the caustic lines.

**Background** - the colour of the background.

**Foreground** - the colour of the caustics.

**Foreground Brightness** - the amount of reflected light emitted from the caustics. The higher this value, the brighter the caustic lines.

**Height Map** Rather than generating the caustics from an algorithm, they can be sourced from an animating height matte. Here's an example showing the caustic lines following a matte. It works better if the height map is animating. In fact unless it animates the caustics won't animate. Try pre-composing After Effects's Fractal Noise

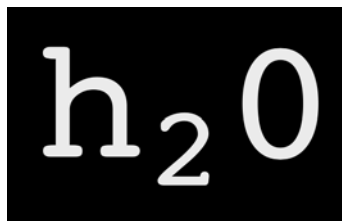


Figure 82. Height Map.



Figure 83. Caustics.

(make sure it animates) and use that as the height map.

**Height Map** - the image used to create caustics. This parameter is explained more fully in an example. See "Example" on page 41.

- **None** - no height map is used and the caustics are generated by the algorithm.

- **Source** - the height map is taken from the current layer with any effects that may have been applied.
- **Height Map** - the height map is taken from the image set in the Height Layer below.

**Height Layer** - the raw image used as the height map if Height Map is set to Height Map Luminance/Alpha.

**Softness** - the blur applied to the height map.

**Blending** How to mix between the source image and the effect. See “Blending” on page 24.

**Source Crops** Cropping tools and edge methods. See “Source Crops” on page 30.

## Example

Let’s explain the Height Map parameter with an example. In this composition we have a picture of a koi carp (Figure 84) that has the effect T\_Bars applied (Figure 85).



Figure 84. Koi Carp.

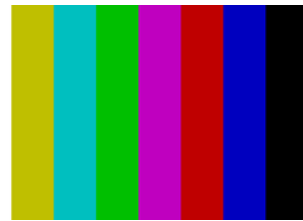


Figure 85. T\_Bars.

Now add another effect, T\_Caustics, and you’ll get the image shown in Figure 86. Now we’ll specify the Height Map. Set this to Source Luminance and you’ll get the image shown in Figure 87. As you can see the Source Luminance is the source layer (koi carp) with any effects applied (T\_Bars). If you wish to use the raw layer with no effects applied set the Height Map to Height Layer Luminance and choose the koi carp from the Height Layer parameter. Do that and you’ll get Figure 88.

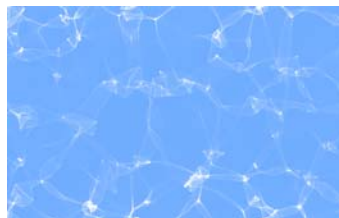


Figure 86. T\_Caustics.

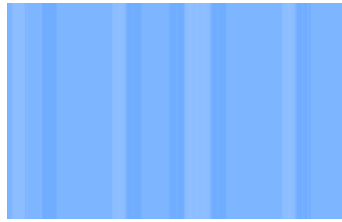


Figure 87. Height Map = Source Luminance.

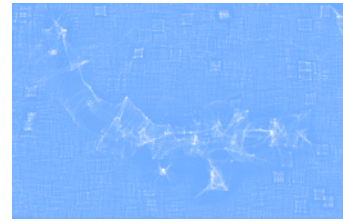


Figure 88. Height Map = Height Layer Luminance.

### Hints & Tips

T\_Caustic can be used to generate mattes for use with other plugins. Try using a caustics matte with Tinderbox 1 T\_Distorto.

---

## T\_Deflicker

### Description

T\_Deflicker is designed to reduce spatially variable flicker from a sequence. Most current flicker reduction tools are global, that is, they try to reduce the same amount of flicker from the whole of the image. If only parts of an image are flickering this technique will fail as it will reduce the flicker from one part but introduce it in another. The difficulty in automatically correcting for spatial variable flicker is differentiating between flicker and motion. It is worth repeating that this plug-in will reduce flicker in most cases, but it is unlikely to remove all traces of flicker.

In this plug-in we divide the image up into blocks and adjust the contrast and brightness in these regions to correct complex localised flicker. We also analyse motion vectors between the current and reference frames and use a global luminance change for blocks that have significant motion.

### Quick Start

The only decision that's worth making at the start is whether to deflicker relative to the previous frame of the sequence or to a specified frame. To decide this you'll need to look carefully at the flickering clip. If the flicker is in a part of the image that is not moving much, then choose **Specified** as the Reference method. For example, you may have a locked off shot with action in the foreground, but the flicker is only in one of the corners in the static background. For most other circumstances, choose **Previous**. For example, if the camera is panning then everything is moving.

If you have chosen to deflicker to the previous frame render using the defaults. With this method you may see a drift in the mean luminance value during the render. You can correct for this by increasing the **feedback**, however, this will reduce the amount of flicker removed.

If you have chosen to deflicker to a single frame, switch **Reference** to **Specified**, select a **Reference Frame** and render.

### Tuning

If the sequence still flickers there are one or two changes you can make to try to improve the result. To put this in context it's worth explaining a little more about the algorithm. Our deflicker fits a block based model to the image. We split the source and reference images into multiple blocks of size **Block Size** measured in pixels. We then try and modify the brightness and

contrast (the flicker parameters) of the source block to make it equal to the brightness and contrast of the reference block. In practise, if there is motion in the sequence the pixels in the two blocks will not be the same which will result in incorrect flicker parameters. To minimise this effect, when the image is divided into blocks they are overlapped by a small region. To this region we apply the flicker parameters calculated for both adjacent blocks. If the results from these two calculations are not consistent we assume that the parameters have been calculated incorrectly due to motion and we discard them both, replacing them with the global brightness and contrast parameters for the whole image. The criterion for discarding parameters is set by **Motion Threshold**. So, if you think the flicker is only in parts of the image that are static, it is quite safe to increase this value.

It's worth repeating this. Where there is motion, only global deflickering takes place. You can view areas that are considered moving by turning on the **Motion Matte**. Movement is shown in white as shown in Figure 90.



Figure 89. Bus moving left to right.

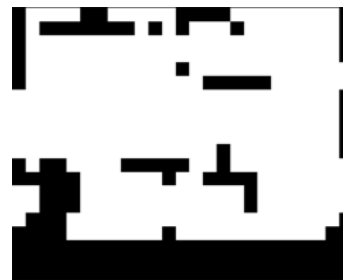


Figure 90. Motion Matte.

If there is little information in the block, for example in a plain area (a region of constant colour), it is difficult to obtain reliable estimates for the local flicker parameters. We check for this by discarding the parameters for any blocks with a variance below **Variance Thresh**. The discarded areas are shown as non-black channels in the **Variance Matte** as shown in Figure 92. For information on what the colours mean see Variance Matte on page 45. Having obtained a reliable set of flicker parameters for



Figure 91. Bus.

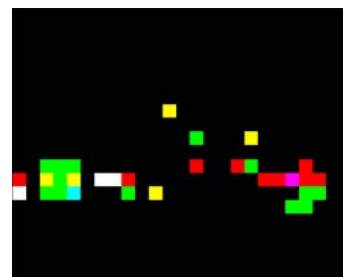


Figure 92. Variance Matte.



each block these are then smoothed using a combing technique. The number of smoothing iterations is set by **Smoothness**.

## Type

Tool.

## Controls

**About** Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 7.

**Output** - the image to display.

- **Result** - the deflickered sequence.
- **Variance Matte** - renders a picture showing areas that are discarded due to lack of detail and hence reliable local deflicker parameters. These areas are colour coded by red, green and blue channel. A white area will have unreliable data in all three channels. A yellow area will have unreliable data in the red and green channel, but the blue channel will undergo localised deflickering (as long as the motion matte there is also black). A red area will have unreliable data in the red channel but the green and blue channels will be locally deflicker (subject to the motion matte). See Figure 92 on page 44.
- **Motion Matte** - renders a picture showing movement. This can be useful when fine tuning the Motion Thresh. White areas are considered to be moving and will only have global deflickering applied. Black areas are considered static and may have localised deflickering applied. See Figure 90 on page 44.

**Mask** - a mask can be used to define an area that should be ignored in the deflicker calculations. White parts of the matte are used and black areas ignored.

**Mask Layer** - the image used as a mask.

**Reference** – the comparison frame to deflicker against.

- **Previous** - removes flicker from the current frame by comparing it with the previous frame’s deflickered output. Note, this won’t work for distributed renders as it relies on the previous frame result being in memory.
- **Specified** - removes flicker from the current frame by comparing it with a specified frame.

**Reference Frame** - the frame used as a comparison if Reference is set to Specified.

**Tuning Parameters** If the deflicker fails on the default parameter values you can adjust some of these parameters.

**Block Size** – the size of the blocks in pixels that are analysed for flicker. Smaller blocks will allow more complex flicker to be modelled but will produce less accurate and robust results and will take longer to render.

**Feedback** – when the reference method is set to previous, feedback trades off the colour drift against the amount of flicker removed. You should try and keep this value as low as possible to remove as much flicker as possible. If you're getting colour drift, increase this parameter although doing this will remove less flicker. If the reference method is Specified, this parameter has no effect.

**Variance Threshold** – the threshold value for plain areas above which blocks are discarded due to the lack of reliable flicker data. If your results are poor, it's worth decreasing this value.

**Motion Threshold** – the threshold value below which localised deflicker is abandoned in favour of a global deflicker because of motion in the frame. The algorithm has difficulty distinguishing between luma flicker on an area of the image that has no movement and on areas that have movement but no flicker. This threshold determines at what point we force the deflicker to be global because there's too much movement.

Setting the Motion Threshold to 0 will turn off localised deflicker for all moving objects and apply global luminance changes to reduce the flicker.

If you're getting errors (colour changes) around areas that are moving then you should lower the Motion Threshold. If parts of the frame that are static are not being deflickered then you should increase the Motion Threshold.

**Smoothness** – the number of times the flicker parameters are smoothed between blocks.

**Blending** How to mix between the source image and the effect. See "Blending" on page 24.

**Source Crops** Cropping tools and edge methods. See “Source Crops” on page 30.

**Mask Layer Crops** Cropping tools and edge methods.

### **Hints & Tips**

It’s worth bearing in mind that T\_Deflicker is unlikely to remove all traces of flicker, but it should be able to reduce the flicker on most shots.

Tinderbox 4 T\_Colourist can also be used to deflicker sequences. It can’t deal with localised flicker though.

## T\_Degrain

### Description

This plug-in is used to remove grain from an image. The aim is to remove as much grain as possible whilst doing as little damage to the image as possible. It uses spatial filtering to average pixels



Figure 93. Test Image showing close-up of the Grain Structure.

within the same frame. This can lead to the blurring of the image and so, to keep this to a minimum, a wavelet based technique is used that decomposes the image into a number of different frequencies and scales before attempting to remove the grain.

It does not use any temporal information to reduce grain.

### Type

Tool.

### Quick Start

Position the sample region over a plain area of the image as shown in Figure 95.

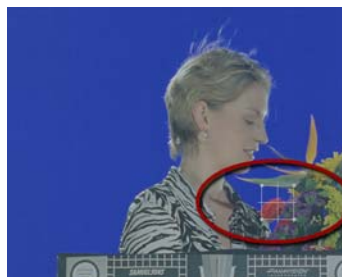


Figure 94. Bad Sample Region.

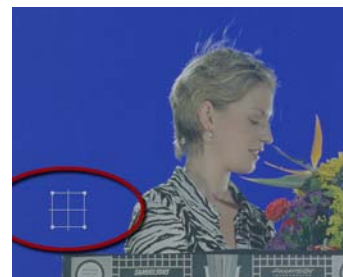


Figure 95. Good Sample Region.

**Warning!** *It is very important to position the selection box over a region with little image detail. Failure to do this will give poor results as the algorithm will think the image detail is grain and remove it.*

**Warning!** *Do not use T\_Degrain in proxy (Half, Third, Quarter) mode. You should always set the resolution to Full when using this plug-in.*

If either not enough grain has been removed or the picture has been softened by removing too much grain it will be necessary to tune the parameters. Increasing **Tune** will remove more grain, reducing it will remove less. You may find it useful to view the grain using the Output parameter. This will display the grain that is being subtracted from the image. It is scaled by **Exaggerate Grain** to make it more obvious. Only grain should be visible in this image. If you can see a lot of picture detail it means the degrainer is working too hard and removing too much image which will lead to a soft result.

## Controls

**About** Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 7.

**Show On-Screen Tools** - switch this off to remove the yellow rectangle defining the Sample Region.

**Output** - sets what to display.

- **Preview** - degrades just the region inside the sample box. This is quicker than degrading the whole image and should be used when tuning the grain. Do remember to switch it back to Result before you render a sequence.
- **Result** - shows the degraded image.
- **Grain** - shows the grain that is being removed. It is multiplied by the Exaggerate Grain value to make it more visible.

**Exaggerate Grain** - scales the grain before it is displayed by Output - Grain. This is just to make any artifacts more visible.

**Analysis Frame** - the frame analysed for grain.

**Sample Position** - the position of the rectangle used to define the area sampled for grain.

**Sample Width** - the width of the rectangular sample region.

**Sample Height** - the height of the rectangular sample region.

**Tune** - the amount of grain removed or retained. Increasing this parameter will remove more grain and decreasing it will leave more in.

**Source Crops** Cropping tools and edge methods. See “Source Crops” on page 30.

**Hints & Tips** See also Tinderbox 2 T\_Grain to add grain to images.

## T\_Diffuse

### Description

T\_Diffuse randomly scatters pixels around in an image. It gives a frosted glass look.



Figure 96. Source Image.



Figure 97. T\_Diffuse.

### Type

Effect. It has an optional matte layer that attenuates the pixel scattering.

### Controls

**About** Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 7.

**Process** - sets which channels to process.

**Ignore Transparent Pixels** - switch this on to remove unwanted pixels creeping into your image at the edges of the alpha.

**Radius** - the amount of scattering. The higher the value, the further the pixels will scatter.

**Aspect** - the horizontal and vertical weighting of the effect.

**Freeze Diffusion** - switch this on to keep the same diffusion pattern from frame to frame. This gives you a frosted glass look.

**Matte** - the image and channels used to control the attenuation of scattering.

**Matte Layer** - the layer used if Matte is set to Matte Layer Luminance/Alpha.

**Blending** How to mix between the source image and the effect. See “Blending” on page 24.

**Source Crops** Cropping tools and edge methods. See “Source Crops” on page 30.

**Matte Layer Crops** Cropping tools and edge methods.

**Expand Output** - grows the size of the layer to prevent clipping of the effect at the layer boundary.

**Hints & Tips** Freeze the diffusion to give the effect of viewing through frosted glass.



## T\_DirBlur

### Description

T\_DirBlur smears an image in a given direction.



Figure 98. Source Image.



Figure 99. T\_DirBlur.

### Type

Blur. It has an optional second input which can be used as a matte to attenuate the blurring.

### Controls

**About** Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 7.

**Process** - sets which channels to process.

**Ignore Transparent Pixels** - switch this on to remove unwanted pixels creeping into your image at the edges of the alpha.

#### Mode

- **Directional Blur** - in this mode the direction of the blur is explicitly set by the Rotation angle of the Directional Blur properties.
- **Track Blur** - in this mode the direction of the blur is taken from the Position data of the Track Blur properties. This mode is useful if you wish to track the movement of an object and use that motion vector to set the direction and strength of the directional blur.

### Directional Blur

These settings are used when Mode is set to Directional Blur.

**Rotation** - sets the direction of the blur calibrated in degrees.

**Length** - controls the amount of blur applied.

**Bias** - weights the smearing forward or backward along the blur vector. Using the bias you can get the blur to trail behind a moving object rather than being centered on it.

## Track Blur

These settings are used when Track Blur mode is selected. This method sets the amount and direction of blurring from a cursor position animating in time and space. Only if the Position value is animating will blur be visible.

Set up the track data as follows:

1. Activate the stopwatch for Position.
2. Move the timeslider to the start of the clip.
3. Select Position and move the cross hairs to a point in the image. You may want to follow an object, for example.
4. Move the timeslider and position the cross hairs again.
5. Repeat this to the end of the clip.

The position of the track will interpolate across the clip following the motion of the object and the directional blur will be applied in the direction of the motion. You should note that to see any blurring in Track Mode, the track points position has to be animated and moving.

**Position** - the position of the track point on the screen.

**Scale** - the amount of blur applied.

**Bias** - weights the smearing forward or backward along the blur vector. Using the bias you can get the blur to trail behind a moving object rather than being centered on it.

**Blur Profile** - defines the weighting of the pixels that are blended together in each blur line.

- **Box** - weighs each pixel equally. Faster than Gaussian.
- **Gaussian** - weighs each pixel using a gaussian distribution. Pixels at the end of the line have less effect than pixels in the middle of the line. Slower than Box.

**Filtering** - switching this on improves the quality of the effect, but will slow down the rendering time. See “Filtering” on page 23.

**Dither** - switch this on to add noise to reduce colour banding.

**Matte** - the image and channels used to control the blurring.

**Matte Layer** - the layer used if Matte is set to Matte Layer

Luminance/Alpha.

**Blending** How to mix between the source image and the effect. See “Blending” on page 24.

**Source Crops** Cropping tools and edge methods. See “Source Crops” on page 30.

**Matte Layer Crops** Cropping tools and edge methods.

**Expand Output** - grows the size of the layer to prevent clipping of the effect at the layer boundary.

## Hints & Tips

T\_DirBlur can be used to simulate motion blur on a moving object. If you have the Adobe After Effects Production Bundle, you can use the Motion Tracker to track a point on the image and apply it to the T\_DirBlur Position.

## T\_Distorto

### Description

T\_Distorto distorts an image using a matte. The amount of distortion corresponds to the brightness of the matte, and the distortion takes the form of a scale, translation or rotation of the image. Where the matte is black there is no distortion. Where the matte is white the full distortion is applied. A matte with smooth changes in luminance will gently ramp in the distortion to give fluid like effects.



Figure 100. Source Image.



Figure 101. T\_Distorto.

### Type

Warper.

### Controls

**About** Click the picture to display the on-line help, Tinderbox version number and lmhostid. See “About...” on page 7.

**Process** - sets which channels to process.

**Ignore Transparent Pixels** - switch this on to remove unwanted pixels creeping into your image at the edges of the alpha.

**Distortion Source** Sets which image to use as the distortion matte and controls its position. The behaviour at the edges of the image is controlled by the Matte Crops.

**Matte** - the image and channels used to control the distortion.

**Matte Layer** - the layer used if Matte is set to Matte Layer Luminance/Alpha.

**Position** - the centre of the matte.

**Rotation** - the rotation of the matte.

**Scale** - the size of the matte.

**X Scale** - the horizontal size.

**Y Scale** - the vertical size.

**Softness** - blurs the matte before applying the distortion. Use this to gradually ramp in the distortion.

**Aspect** - the horizontal and vertical weighting of the effect.

**Strength** - the amount of distortion applied based on the settings under Deformation Controls.

**Deformation Controls** Sets the type of distortion applied to the image.

**Position** - the deformation offset.

**Rotation** - the deformation rotation.

**Scale** - the overall deformation scale.

**X Scale** - the deformation scale horizontally.

**Y Scale** - the deformation scale vertically.

**Source** Controls the position of the source image. The behaviour at the edges of the image is controlled by the Source Crops.

**Position** - the centre of the source image.

**Rotation** - the rotation of the source image.

**Scale** - the overall scale factor.

**X Scale** - the horizontal scale.

**Y Scale** - the vertical scale.

**Display**

- **Source** - shows the transformations of the source image.
- **Distortion Source** - shows the transformations of the distorting source (matte).
- **Result** - shows the result of the deformations.

**Filtering** - the quality of the anti-aliasing used when processing the effect. (See “Filtering” on page 23.)

**Filter Sharpness** - sharpens the image when Filtering is set to High. (See “Filtering” on page 23.)

**Blending** How to mix between the source image and the effect. See “Blending” on page 24.

**Source Crops** Cropping tools and edge methods. See “Source Crops” on page 30.

**Matte Layer Crops** Cropping tools and edge methods.

## Hints & Tips

T\_Distorto is used extensively in post production to fake and control reflections in curved surfaces. Computer generated 3D objects need to interact with their surroundings to give the impression the scene has been filmed and not created from separate elements. T\_Distorto enables compositors to control reflections at the compositing stage rather than taking the video footage and using it as environment maps in 3D.



Figure 102. Still.



Figure 103. T\_Distorto.

## T\_Droplet

### Description

T\_Droplet is a distorting plug-in that creates a ring of waves simulating the effect of a droplet of water splashing into a fluid.



Figure 104. Source Image.



Figure 105. Droplet.

### Type

Warper. 3D.

### Controls

**About** Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 7.

**Process** - sets which channels to process.

**Ignore Transparent Pixels** - switch this on to remove unwanted pixels creeping into your image at the edges of the alpha.

**Position** - the centre of the circular waves.

**Radius** - the distance of the rings from the centre position.

**Amount** - the strength of the distortion.

**Wavelength** - the distance between the peaks of each wave that are inside the ring.

**Number of Waves** - sets the number of waves which make up the ring.

**Aspect** - the horizontal and vertical weighting of the effect. See “Aspect” on page 10. This will squeeze the rings into an ellipse.

**Rotation** - the rotation on the droplet rings. Rotation is only visible if the Aspect is not set to 0.

**Mode** - how to distort the image.

- **Squeeze** - distorts by squeezing pixels in and out of the centre.
- **Shift** - distorts by pushing the pixels in a direction.
- **Zigzag** - distorts by pushing the pixels around the ring.

**Shift Angle** - the direction to shift the pixels in. Shift Angle is used in combination with the Shift mode.

**Light** See “Light” on page 15.

**Type**

- **None** - no lights are used. Lighting parameters are switched off.
- **Infinite** - simulates the parallel rays from a distant light source, like the sun.
- **Host** - uses the After Effects light. If more than one light is in the composition, the top layer light is used.

**Direction** - the direction of the light source.

**Elevation** - the height of the light source above the image plane.

**Specular Lighting** See “Specular Lighting” on page 19.

**Colour** - the light colour.

**Strength** - the brightness of the light source.

**Fall-off** - controls how quickly the light fades away with distance from the light source.

**Filtering** - the quality of the anti-aliasing used when processing the effect. (See “Filtering” on page 23.)

**Filter Sharpness** - sharpens the image when Filtering is set to High. (See “Filtering” on page 23.)

**Matte** - the image and channels used to control the Amount so that the distortions can be attenuated. (See “Matte” on page 28.)

**Matte Layer** - the layer used if Matte is set to Matte Layer Luminance/Alpha.



**Blending** How to mix between the source image and the effect. See “Blending” on page 24.

**Source Crops** Cropping tools and edge methods. See “Source Crops” on page 30.

**Matte Layer Crops** Cropping tools and edge methods.

**Hints & Tips** See also Tinderbox 1 T\_Lens and Tinderbox 2 T\_Ripple.

## T\_Etch

### Description

T\_Etch simulates a hand drawn picture using charcoal. Lines are drawn along edges and cross hatching is used to fill in regions.



Figure 106. Source Image.



Figure 107. T\_Etch.

### Type

Effect.

### Controls

**About** Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 7.

**Process** - sets which channels to process. Choose RGBA to draw the lines over an underlying layer.

#### Etch Method

- **Outline and Shade** - applies both the Outline and Shading parameters to give the complete effect.
- **Outline** - only applies the Outline parameters. The result is of a sketched outline of the objects within the image.
- **Shade** - only applies the Shading parameters. The result is of a charcoal drawing without heavily defined object edges.

**Outlines** Controls for drawing along edges.

**Edge Threshold** - determines what is an edge and therefore whether a line is drawn. If this value is high, areas of the image with little contrast will be considered to be an edge, therefore will be outlined. If this value is low, only areas of the image with high contrast will be outlined.

**Pen Pressure** - controls the pressure at which the strokes are applied. The lower the value the lighter the lines. The higher the value, the darker the lines. This does not change

the width of the lines.

**Softness** - controls the softness of the lines. When set high, this gives the impression that a fat charcoal stick was used and less lines will be shown. When set low, this gives the impression that a thin charcoal stick was used and more detail will be shown.

**Stroke Length** - sets the length of the straight lines that form the outlines.

**Stroke Separation** - controls the gap between the lines drawn. The lower this value, the more lines will be drawn, resulting in a stronger outline of objects.

**Shading** Controls for filling in between the edges.

**Edge Threshold** - determines what is an edge and therefore whether a line is drawn. If this value is high, more of the image is considered to be an edge, therefore less of the image is shaded. If this value is low, less of the image is considered an edge, therefore more of the image is shaded.

**Pen Pressure** - controls the pressure at which the strokes are applied. The lower the value the lighter the lines. The higher the value, the darker the lines. This does not change the width of the lines.

**Softness** - controls the softness of the lines. When set high, this gives the impression that a fat charcoal stick was used and less areas of the image will be shaded. When set low, this gives the impression that a thin charcoal stick was used and more areas of the image will be shaded.

**Stroke Length** - sets the length of the lines that form the cross hatched shading pattern.

**Stroke Separation** - controls the gap between the shading lines. The lower this value, the more lines will be drawn, resulting in denser shading.

**Seed** - random number generator that sets the shading pattern.

**Random Seed Method** - determines how the seed number varies.

- **Seed with Frame** - the pattern changes with each frame.

- **Fixed Seed** - the pattern does not change.
- **Seed with Pixel** - the pattern changes according to varying pixel values.

**Blank Threshold** - determines whether shading is applied in areas of little variation.

Note *The amount of the image which is considered to have little variation is affected by the Edge Threshold controls in Outlines and Shading.*

**Paper** - sets the background colour.

**Pen** - the colour of the lines and shading.

**Pen Alpha** - the transparency of the lines drawn by the pen.

Note *The Pen Alpha will only take effect if Process is set to RGBA.*

**Blending** How to mix between the source image and the effect. See “Blending” on page 24.

**Source Crops** Cropping tools and edge methods. See “Source Crops” on page 30.

## Hints & Tips

A variety of effects can be created by using T\_Etch with different blending methods.



Figure 108. Source Image.



Figure 109. T\_Etch with Blending Method Add.



Figure 110. Nelson's Column.



Figure 111. T\_Etch with Blending Method Colour.

T\_Etch can be used to accentuate the edges of objects within an image. Use T\_Etch in Outline mode with a Fixed Seed and set Blending Method to Multiply.

## T\_Grad

### Description

T\_Grad creates colour gradients. Gradients are often used as mattes to control other effects. The result of T\_Grad can either be composited over the underlying layers, blended with its source image or used to generate a new image or matte.



Figure 112. Directional T\_Grad.

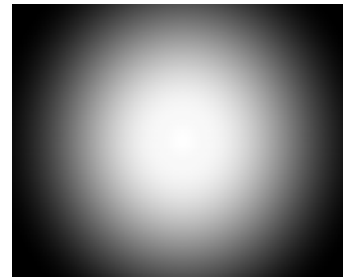


Figure 113. Circular T\_Grad.

### Type

Generator.

### Controls

**About** Click the picture to display the on-line help, Tinderbox version number and lmhostid. See “About...” on page 7.

**Show On-Screen Tools** - switch this on to draw the overlay tools that control the position and rotation.

**Process** - sets which channels to process. Selecting Yes will produce an alpha based on the alpha values set under Gradient. The resulting image will be composited over the underlying layers.

**Gradient Type** - sets the gradient pattern.

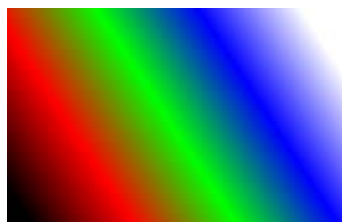


Figure 114. Directional.

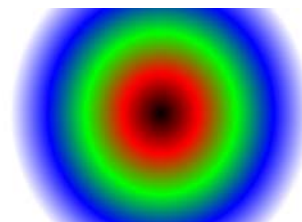


Figure 115. Circular.

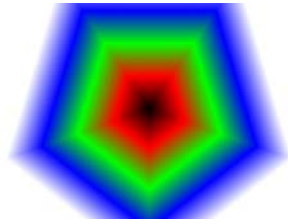


Figure 116. Polygonal.

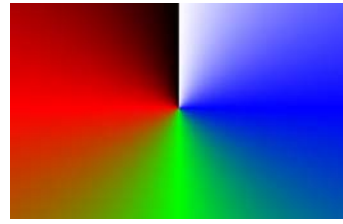


Figure 117. Radial.

- **Directional** - Figure 114.
- **Circular** - Figure 115.
- **Radial** - Figure 117.
- **Polygonal** - Figure 116

**Grad** - See “Gradient” on page 14.

**Grad Cyclic** - repeats the colour gradient by the number defined by Copies. In this case the two end colours will be forced to be the same. Changing one will change the other. Switching this on when there are no intermediary colours set in the colour ramp will result in a single colour image.

**Grad Smooth** - use cubic interpolation between adjacent colours to produce a smoother ramp. When it is switched off a linear interpolation is used, which can give hard edges between colours.

**Phase** - offsets the position of the colour ramp in the effect. Phase only has an effect when in Grad Cyclic mode.

**Copies** - the number of times to repeat the colour ramp in the effect. If you are repeating the colour ramp in an effect when Grad Cyclic is switched off, you will get a harsh colour transition between the cycles.

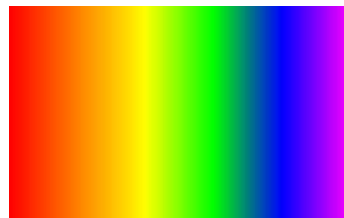


Figure 118. Copies = 1.

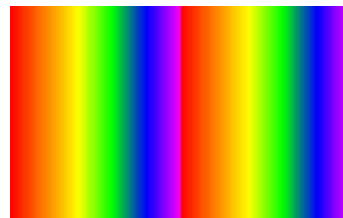


Figure 119. Copies = 2.

**Dithered** - adds noise to the gradient to reduce the effect of colour banding between smoothly shaded colours. Only required for 8bpc projects.

**Start** - one end of the Directional gradient.

**Stop** - the other end of the Directional gradient.

**Radius** - the size of the circular gradient when mode is set to Circular or Polygonal.

**Aspect** - the horizontal and vertical weighting of the effect.  
(See “Type” on page 9.)

**Number of Sides** - the number of sides (max 12) of the polygon when in Polygon mode.

**Rotation** - controls the rotation of the gradient. Rotation only works when in Circular, Radial or Polygonal mode. When in Circular mode, Rotation will only have an effect if the Aspect is not set to 0.

**Blending** How to mix between the source image and the effect. See “Blending” on page 24.

**Source Crops** Cropping tools and edge methods. See “Source Crops” on page 30.

## Hints & Tips

T\_Grad can be used to create mattes which can then be used to control other effects such as colour correction or blurs.

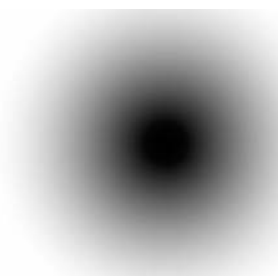


Figure 120. Circular Matte.

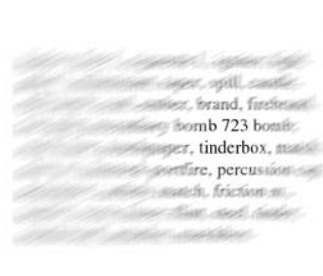


Figure 121. Used with T\_DirBlur.



## T\_HeatHaze

### Description

T\_HeatHaze simulates the distortion of an image that is characteristic of viewing it through hot air.



Figure 122. Heat Haze - although hard to see on a static image.

### Type

Effect. It has an optional second input which can be used as a matte to attenuate the Displacement.

### Controls

**About** Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 7.

**Process** - sets which channels to process.

**Ignore Transparent Pixels** - switch this on to remove unwanted pixels creeping into your image at the edges of the alpha.

**Displacement** - the amount of image warping.

**Speed** - how fast to move the haze in the direction of travel.

**Franticness** - how fast the haze will boil. The higher this value is set, the hotter it will appear.

**Wavelength** - the distance between wave peaks. The higher this value is set, the smoother the distortion.

**Layers** - the number of layers of heat haze which are blended together.

**Wave Count** - the number of waves used over the entire image.

**Direction** - the direction the heat haze will appear to travel.

**Aspect** - the horizontal and vertical weighting of the effect. (See “Type” on page 9.)

**Matte** - the image and channels used to control the attenuation of the Displacement parameter.

**Matte Layer** - the layer used if Matte is set to Matte Layer Luminance/Alpha.

**Distort Matte** - switch this on to apply the effect to the matte before using it.

**Filtering** - the quality of the anti-aliasing used when processing the effect. (See “Filtering” on page 23.)

**Filter Sharpness** - sharpens the image when Filtering is set to High. (See “Filtering” on page 23.)

**Blending** How to mix between the source image and the effect. See “Blending” on page 24.

**Source Crops** Cropping tools and edge methods. See “Source Crops” on page 30.

**Matte Layer Crops** Cropping tools and edge methods.

**Expand Output** - grows the size of the layer to prevent clipping of the effect at the layer boundary.

**Hints & Tips** Heat haze is usually visible in the distance and not on objects in the foreground. To simulate realistic heat haze, create a matte of any foreground objects and use this to only apply the effect to the background.

---

## T\_Lens

### Description

T\_Lens is a distorting plug-in that creates a fish-eye lens effect. The bulge can be applied into or out of the image using the Lens parameter.



Figure 123. Source Image.



Figure 124. T\_Lens.

### Type

Warper. 3D.

### Controls

**About** Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 7.

**Process** - sets which channels to process.

**Ignore Transparent Pixels** - switch this on to remove unwanted pixels creeping into your image at the edges of the alpha.

**Position** - the position of the lens centre.

**Radius** - the width of the lens used to create the effect.

**Lens** - the strength of the effect. Large values bend the image more. Negative values squeeze the image instead of expanding it.



Figure 125. Lens = 80.

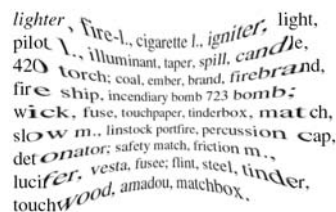


Figure 126. Lens = -40.

**Aspect** - the horizontal and vertical weighting of the effect. See “Aspect” on page 10..

**Rotation** - the rotation of the effect. Rotation is only visible if the Aspect is not set to 0.

**Light** See “Light” on page 15.

**Type**

- **None** - no lights are used. Lighting parameters are switched off.
- **Infinite** - simulates the parallel rays from a distant light source, like the sun.
- **Host** - uses the After Effects light. If more than one light is in the composition, the top layer light is used.

**Direction** - the direction of the light source.

**Elevation** - the height of the light source above the image plane.

**Specular Lighting** See “Specular Lighting” on page 19.

**Colour** - the light colour.

**Strength** - the brightness of the light source.

**Fall-off** - controls how quickly the light fades away with distance from the light source.

**Filtering** - the quality of the anti-aliasing used when processing the effect. See “Filtering” on page 23.

**Filter Sharpness** - sharpens the image when Filtering is set to High.

**Matte** - the image and channels used to control the attenuation of the Lens parameter.

**Matte Layer** - the layer used if Matte is set to Matte Layer Luminance/Alpha.

**Blending** How to mix between the source image and the effect. See “Blending” on page 24.

**Source Crops** Cropping tools and edge methods. See “Source Crops” on page 30.

**Matte Layer Crops** Cropping tools and edge methods.

**Hint & Tips** See also Tinderbox 1 T\_Droplet and Tinderbox 2 T\_Ripple.

## T\_Pattern

### Description

T\_Pattern generates various patterns to wipe between the source image and the underlying layer.



Figure 127. Venetian Grid.



Figure 128. Venetian Fan.

### Type

Effect and Generator. T\_Pattern is a single input plug-in although the result interacts with the underlying layers. It can also be used to generate mattes.

### Controls

**About** Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 7.

#### Type

- **Generator** - renders a black and white matte.
- **Wipe** - transition between source and underlying layers.



Figure 129. Generator.



Figure 130. Wipe.

**Mode** - controls which pattern is used.

- **Simple Wipe** - simple horizontal or vertical soft edged wipes (or any angle).
- **Stripe Top to Bottom.**
- **Stripe Left to Right** - these patterns paint a sequence of stripes across the image.
- **Venetian Top to Bottom** - Figure 131.

- **Venetian Left to Right.**
- **Snake Top to Bottom.**
- **Snake Left to Right** - like Stripe, but alternating the direction of the stripe on each pass.
- **Clock** - a clock wipe.
- **Venetian Circle** - Figure 132.
- **Venetian Square.**
- **Venetian Fan** - Figure 128.
- **Venetian Grid** - Figure 127.



Figure 131. Venetian Top to Bottom.



Figure 132. Venetian Circle.

**Wipe** - controls the percentage of the wipe between the source image and its underlying layers.

**Rotation** - rotates the pattern.

**Number of Passes** - for all patterns which are made up of bands, this controls the number of bands used.

**Softness** - softens the edge of the wipe.

**Uniformity** - for Venetian wipes, this will control whether the bands scale uniformly or not. At 100%, the scaling is uniform. At 50%, the bands on one edge of the effect will scale earlier, giving a “trickle venetian” effect.

**Scaling** sets the scaling controls.

**Scale** - scales the wipe effect when autoscale is off.

**X Scale** - scales the source image horizontally.

**Y Scale** - scales the source image vertically.

**Autoscale** - when this is on, the effect is scaled during rotation so that it still covers the full screen dimensions, When this is off, the scale of the wipe is controlled by the user.

**Blending** How to mix between the source image and the effect. See “Blending” on page 24.

**Source Crops** Cropping tools and edge methods. See “Source Crops” on page 30.

**Hints & Tips** See also Tinderbox 4 T\_InfiniteZoom for an interesting transition effect.



## T\_Rays

### Description

T\_Rays creates a backlit ray effect. The rays are sourced from selected areas of the image's luminance, or a matte. The colour of the rays can come from the source image or a fixed colour.



Figure 133. Source Image.



Figure 134. Rays.

Figure 134 shows Tinderbox Rays applied to a picture of the London Eye on the south bank of the river Thames.

### Type

Effect. It has an optional second input which can be used as a matte defining the source of the rays.

### Controls

**About** Click the picture to display the on-line help, Tinderbox version number and lmhostid. See "About..." on page 7.

**Process** - sets which channels to process.

**Ignore Transparent Pixels** - switch this on to remove unwanted pixels creeping into your image at the edges of the alpha.

**Source Position** - where the rays come from.

**Colour Method** - determines the ray colour.

- **Source** - takes the colours of the rays from the source image.

- **Colouring** - takes the colours of the rays from user selected colours.



Figure 135. Source.



Figure 136. Colouring.

**Gain** - the brightness of the rays. Increase this for brighter rays.



Figure 137. Gain = 75.



Figure 138. Gain = 125.

**Ray Length** - the length of the rays. Increase this for longer rays.

**Colours** This controls the colours of the rays if Colour Method is set to Colouring.

**Highlight** - the colour of the brightest part of the rays.

**Number of Colours** - the number of colours used to colour the rays when Colour Method is set to Colouring.

**Colour 1**

**Colour 2**

**Colour 3**

**Colour 4**

**Colour 5**

**Scintillation** Controls the flickering or shimmering of the rays. This movement can be controlled in three ways.

1. Set the Scintillation Speed to give a random breakup in the rays.
2. Animate the Phase to rotate the shimmer around the Source Position.

3. Animate the Source Position and switch on Change with Position. This moves the shimmer with the ray source. The Speed setting controls the rate of movement of the shimmer pattern in relation to the source position.

**Scintillation** - switches the effect on and off.



Figure 139. Scintillation off.



Figure 140. Scintillation on.

**Scintillation Amount** - the strength of flicker.

**Scintillation Speed** - the rate of flicker.

**Scintillation Detail** - the number of lines that form the flicker.



Figure 141. Detail = 0.



Figure 142. Detail = 200.

**Phase** - animating the phase will rotate the shimmer around the source position.

**Change with Position** - switch this on to control the flicker as a function of the Source Position. You'll need to animate the Source Position.

**Speed** - controls the rate of shimmer if animating using the Change with Position.

By default the rays are sourced from the luminance of the source image, but you can specify another layer instead using these matte controls. When making adjustments to these controls it is useful to turn on Show Matte. Rays will emanate from white areas of the matte.

**Matte** - the image and channels used to control the source of the rays.

**Matte Layer** - the layer used if Matte is set to Matte Layer Luminance/Alpha.

**Matte Clip Min** - pixels at or below this luminance value are set to be black

**Matte Clip Max** - pixels at or above this luminance value are set to be white

**Show Matte** - switch this on to display the source of the rays. You should look at this when setting up the effect so that you can see clearly where the rays will come from. You need to switch Blending to None to see the matte properly.

**Blending** How to mix between the source image and the effect. See “Blending” on page 24.



Figure 143. Add.



Figure 144. Composite Effect.

**Source Crops** Cropping tools and edge methods. See “Source Crops” on page 30.

**Matte Layer Crops** Cropping tools and edge methods.

**Expand Output** - grows the size of the layer to prevent clipping of the effect at the layer boundary. See “Hints & Tips” on page 81.

## Hints & Tips

T\_Rays is often used on text layers that may have a different size to that of the composition. Figure 145 shows just such clipping of



Figure 145. With Clipping.



Figure 146. Without Clipping.

the rays when applied to the text “Expand Output”. There are several ways round this, using an Adjustment Layer or pre-composing the text, but by far the quickest way is to switch on Expand Output in the plug-in as shown in Figure 146.

## T\_Sky

### Description

T\_Sky generates realistic evolving sky backgrounds. This plug-in has a great number of parameters which can give a wide variety of results.



Figure 147. Preset - Moon.



Figure 148. Preset - Cirrus.



Figure 149. Preset - Sunny.



Figure 150. Preset - First Light.

### Type

Generator. 3D.

### Controls

**About** Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 7.

**Process** - sets which channels to process. Selecting Yes will produce a straight (not pre multiplied) RGBA image which will be composited over the underlying layers.

**Note** *There is no user control over the alpha produced.*

**Presets** - this provides some suggested values for different effects. These can be used as a starting point when using T\_Sky.

**Red Shift** - the amount of red light in the atmosphere. This is useful for sky simulations at dawn or sunset.

**Camera** Two camera models are provided. One is using the After Effects camera, the other a built in camera.

**Host Camera** - switch this on to use the After Effects camera. You'll need to add one into your composition.

**Angle of View** - the field of view of the camera. This affects how much of the sky is visible through the camera.

**X Rotation** - rotation of the built-in camera around the x axis.

**Y Rotation** - rotation of the built-in camera around the y axis.

**Z Rotation** - rotation of the built-in camera around the z axis.

**Exposure** - the amount of ambient light entering the camera.

**Noise** - the amount of noise added to the image.

**Sun** There are three components of the sun. The sun itself, the bright glow around the sun (corona) and the radial light streaks that simulate the internal reflections and refractions of bright light within the camera lens (lens flares).

**Colour** - the colour of the sun.

**Brightness** - the intensity of the light emitted from the sun.

**Direction** - the location of the sun in the sky.

Note *If the Sun Direction and the Camera Direction are the same, the sun will appear in the centre of the screen (horizontally).*

**Elevation** - the height of the sun in the sky.

**Fall-off** - the extent to which the brightness of the sun

fades away with distance.



Figure 151. Fall-off = 200.



Figure 152. Fall-off = 2000.

**Corona Brightness** - the intensity of the light glow around the sun.



Figure 153. Corona Brightness = 0.



Figure 154. Corona Brightness = 500.

**Corona Fall-off** - the extent to which the brightness of the corona light fades away with distance.

**Corona Haze** - switch this on to enable the corona glow to illuminate the haze in the atmosphere. This will result in the corona lighting the foreground objects rather than being in the background.

## Flare

The light flares.

**Spokes** - the number of flares around the sun.

**Brightness** - the intensity of the light flares.

**Fall-off** - the extent to which the brightness of the flares fade away with distance.

**Rotation** - the rotation of the flares around the sun.



**Sharpness** - the spikiness of the flares. A value of 2 will



Figure 155. Sharpness = 0.2.



Figure 156. Sharpness = 2.

give sharp spikes.

**Clouds** Controls for the clouds.

**Size** - the size of the clouds.

**Count** - the number of clouds in each tile.

Note *The size of each tile is set under Tile Scale.*

**Edge Detail** - the complexity of the cloud edges.

**Colour** - the colour of the clouds.

**Brightness** - the luminance of the clouds.

**Sharpness** - the cloud definition.

**Density** - the thickness of the clouds. A value of zero removes all clouds.

**Direction** - the direction of the cloud drift.

**Speed** - how fast the clouds move.

**Speed Variance** - the variation in speed of different clouds.

**Bump Scale** - the apparent depth of the clouds. Increase this for cumulus clouds.

**Bump Soft** - the cloud softness which affects the reflected light.

**Light Edges** - switch this on for under cloud lighting.

**Height** - the height of the clouds.

**Under Lighting** - the amount of light reflected from the underside of the clouds.

**Tile Scale** - the size of each tile repeated across the sky.

**Streaky** - switch this on to generate cirrus clouds.

**Seed** - this number generates a number sequence that is used to randomly vary the cloud pattern.

**Atmosphere** The sky or atmosphere is actually a rendered dome with the camera at the centre. You may find it helpful to think of this model when you are altering parameters.

**Brightness** - controls the amount of light in the atmosphere.

**Zenith Colour** - the colour of the sky when you look directly upwards.

**Horizon Colour** - the colour of the sky at the horizon.

**Fog** Fog parameters

**Brightness** - the brightness of the fog layer.

**Distance** - the distance between the fog layer and camera.

**Fall-off** - the extent to which the brightness of the fog falls away with distance. The higher this value, the shorter the distance the fog brightness will penetrate.

**Source** - the colour of the fog.

- **Colour** - the colour of the fog is taken from the Colour box.
- **Horizon Colour** - the colour of the fog is taken from the Atmosphere - Horizon Colour.

**Colour** - the colour of the fog when Source is set to Colour.

**Blending** How to mix between the source image and the effect. See “Blending” on page 24.

## Hints & Tips

As well as using T\_Sky to create complete new skies, it can be used to add detail and contrast to an existing sky.

## T\_Starburst

### Description

T\_Starburst adds sparkles to the highlights of your image. There



Figure 157. Source Image.



Figure 158. T\_Starburst.

is also a mode to add random sparkles regardless of the highlights in the image.

### Type

Effect.

### Controls

**About** Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 7.

**Process** - sets which channels to process.

**Ignore Transparent Pixels** - switch this on to remove unwanted pixels creeping into your image at the edges of the alpha.

**Presets** - activates a number of popular starburst effects.

**Mode** - determines where the sparkles are positioned.

- **Starburst** - adds sparkles to highlights.
- **Sparkles** - adds randomly positioned sparkles.

**Radius** - defines the length of the spokes of the sparkles.

**Aspect** - the horizontal and vertical weighting of the effect.

**Threshold** - defines which areas of the source are considered to be highlights. Increasing this value will restrict the sparkles only to the very brightest highlights.

**Gain** - the brightness of the highlights.

**Rotation** - the angle of the highlight spokes.

**Spoke Count** - the number of spokes per sparkle. Lots of spokes and a gap gives a haloed glow effect as shown in Figure 160.



Figure 159. Source Image.



Figure 160. T\_Starburst.

**Gap** - the distance between the centre of the starburst and the point at which rays are drawn. Increase this to get a gap around the sparkle centre. See Figure 160.

**Chromatic Aberration** - the defects in the lens surface that cause the image to display colour fringing.

**Keep Spoke Brightness** - switch this on to preserve the luminance of the spokes.

**Sparkles** Controls the random sparkles if mode is set to Sparkle. Sparkles



Figure 161. Random Sparkles with a Matte.

are added to the image in random positions rather than on highlights.

**Density** - the number of sparkles. Increase this to pack more sparkles into your image.

**Average Sparkle Size** - the size of the sparkle core. The actual size varies.

**Brightness Variation** - how much the brightness of the sparkles varies.

**Sparkliness** - the rate of flicker. To stop the flickering set this to zero.

**Movement Speed** - the rate at which the sparkles move. Set this to zero to get the sparkles to flicker in the same position, like fairy lights on a Christmas tree.

**Coloured Sparkles** - switch this on for coloured sparkles.

**Seed** - this number generates a number sequence that is used to randomly vary the sparkles.

**Matte** - the image and channels used to control the gain on the sparkles.

**Matte Layer** - the layer used if Matte is set to Matte Layer Luminance/Alpha.

**Blending** How to mix between the source image and the effect. See “Blending” on page 24.

**Source Crops** Cropping tools and edge methods. See “Source Crops” on page 30.

**Matte Layer Crops** Cropping tools and edge methods.

**Expand Output** - grows the size of the layer to prevent clipping of the effect at the layer boundary.

## Hints & Tips

T\_Starburst can be used to add subtle highlights to moving water. Keep the Radius small and the Threshold high for a subtle effect.

T\_Starburst can give some great effects when applied to car

headlights on night footage.

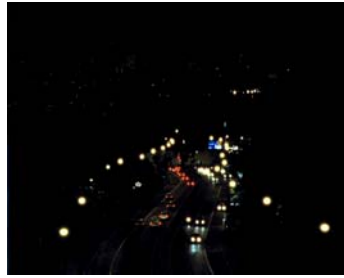


Figure 162. Car Headlights at Night.



Figure 163. Lights Enhanced with T\_Starburst.

## T\_Tile

### Description

T\_Tile translates, rotates, scales and shears the source image. The edge controls can then be used to repeat the pattern to form regular tiles as shown in Figure 165.



Figure 164. Source Image.



Figure 165. Tile.

### Type

Effect. It has an optional second input which can be used as a matte to attenuate the distortions.

### Controls

**About** Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 7.

**Process** - sets which channels to process.

**Ignore Transparent Pixels** - switch this on to remove unwanted pixels creeping into your image at the edges of the alpha.

**Tile** - switch this on to tile the image.

**Position** - the centre position of the tile.

**Rotation** - the rotation of the image tile.

**Scale** - the overall size.

**X Scale** - the horizontal size of the tile.

**Y Scale** - the vertical size of the tile.

**X Shear** - the amount of horizontal shear.



**Y Shear** - the amount of vertical shear.

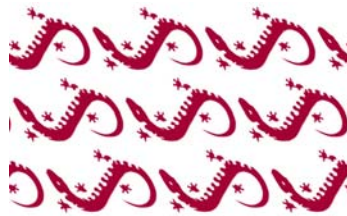


Figure 166. X Shear = 25.



Figure 167. Y Shear = 25.

**Filtering** - the quality of the anti-aliasing used when processing the effect. (See “Filtering” on page 23.)

**Filter Sharpness** - sharpens the image when Filtering is set to High. (See “Filtering” on page 23.)

**Matte** - the image and channels used to control the attenuation of the effect. See Figure 168 on page 93.

**Matte Layer** - the layer used if Matte is set to Matte Layer Luminance/Alpha.

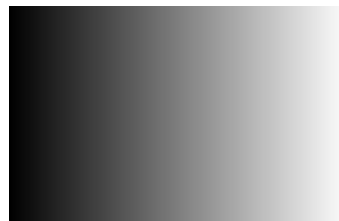


Figure 168. Matte.



Figure 169. Attenuating Scale.

**Blending** How to mix between the source image and the effect. See “Blending” on page 24.



Figure 170. Blending = Mix.



Figure 171. Blending = Difference.

**Source Crops** Cropping tools and edge methods.

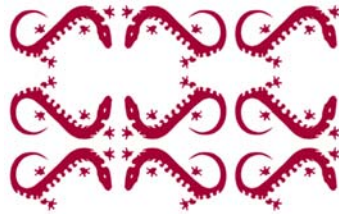


Figure 172. Reflect.



Figure 173. Wrap.

See “Source Crops” on page 30.

**Matte Layer Crops** - controls the behaviour of the edges of the matte image.

**Hints & Tips**

You can use the Source Crops to produce an interesting reveal for objects. Set the Edge Method to Repeat and animate the crops.



Figure 174. Crop and Repeat.



Figure 175. Crop and Repeat.

## Appendix A

### GENARTS TINDER PLUG-INS

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