



**Tinderbox 2
for
Adobe After Effects**

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Tinderbox 2 User Guide

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INTRODUCTION

Welcome to Tinderbox 2 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 gives you 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 2 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

Tinderbox is distributed as a software download from our web site. You will find installation and licensing instructions there as well. (<http://www.genarts.com>)

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.

See "Background Rendering" on page 1.

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 a watermark on the image. Render license keys will allow you to render Tinderbox using After Effects Render Engine, but not the full After Effects program.

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

For a list of GenArts 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 1. To hide the help dialog, just click on it after it has

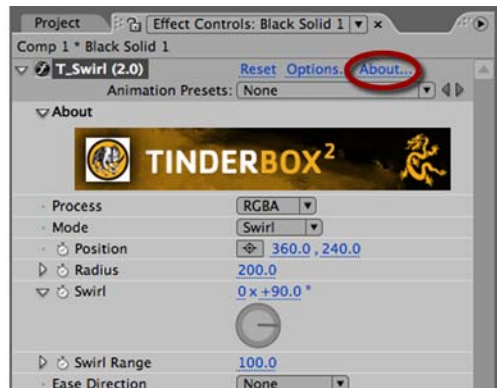


Figure 1. About.

appeared. The help gives a short description of the plug-in, the exact version number of Tinderbox (Figure 3) and the System ID (Figure 4). 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 2. Help.



Figure 3. Version.



Figure 4. System ID.

Reset

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



Figure 5. Reset.

Options...

Options will launch a web browser to get a license key for the plug-ins.

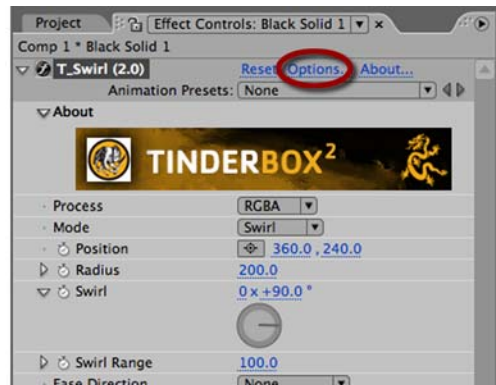


Figure 6. Options.

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 7) in the Effect Controls panel.



Figure 7. 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 8 and Figure 9 shows the output of

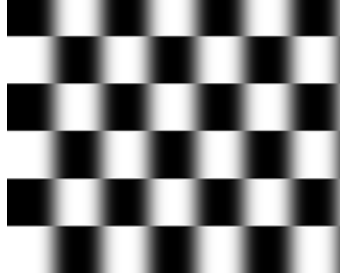


Figure 8. T_Blur Aspect = 100.

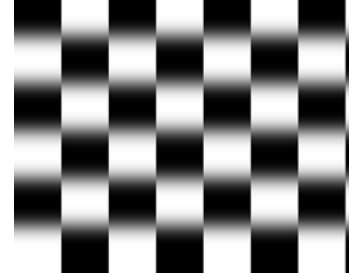


Figure 9. T_Blur Aspect = -100.

T_Blur on a checker pattern with two values for the Aspect. The Aspect controls can be used to fake perspective. Figure 10 shows



Figure 10. T_Droplet.

Aspect in T_Droplet being used to sit 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 11 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 12 to Figure 14.

- **RGBA** - the red, green, blue and alpha channels are processed. Figure 12.



Figure 11. Two layer composite.



Figure 12. RGBA.

- **RGB** - only the red, green and blue channels are processed. Figure 13.
- **Alpha** - only the alpha channel is processed. Figure 14.



Figure 13. RGB.



Figure 14. 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 15 where T_Caustic has been applied to the polar bear layer and the triangular alpha channel is ignored.



Figure 15. RGBA processing with T_Caustic.

Ignore Transparent Pixels

If you're wondering what this handy switch does then read on. Consider this picture of a polar bear with a triangular matte. Figure 16 shows the RGB Straight pixels. Figure 17 shows the



Figure 16. RGB Straight.



Figure 17. Alpha.

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

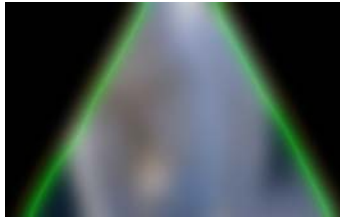


Figure 18. Ignore Transparent Pixels Off.



Figure 19. Ignore Transparent Pixels On.

pixels at the edge of the triangular matte. Figure 18 shows green pixels being dragged into the picture as a result of the blur. This is usually unwanted. switching Ignore Transparent Pixels on will mean that the source image will be composited on transparent black before the effect is applied. Figure 19 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.*

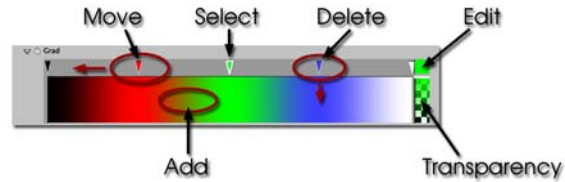


Figure 20. Gradient Controls.

Changing a Colour

Select a tag by clicking on it. Click on the colour box (labelled Edit in Figure 20) 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. 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 21. Lighting Off.



Figure 22. 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)

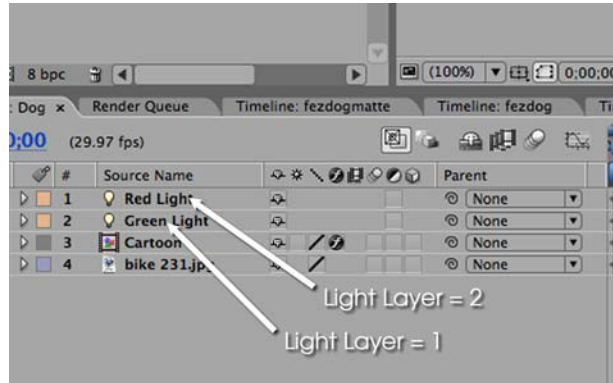


Figure 23. To pick the Red Light set Light Layer to 2.

Type

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



Figure 24. None.

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



Figure 25. Infinite.

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



Figure 26. 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.

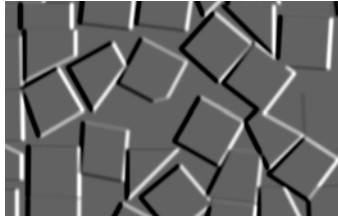


Figure 27. Direction = 90.

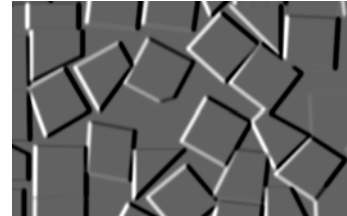


Figure 28. Direction = 270.

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 light source to the image centre.

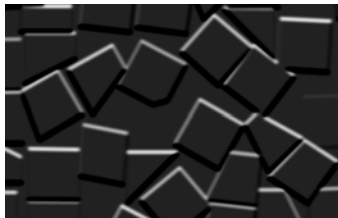


Figure 29. Elevation = 5.

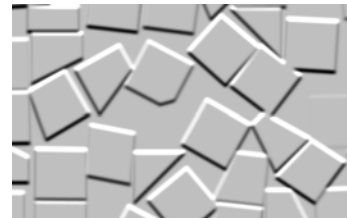


Figure 30. Elevation = 30.

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 31 on page 15.
- **Source** - switches on diffuse lighting and uses the source image colours in the diffuse colour calculations, Figure 32.

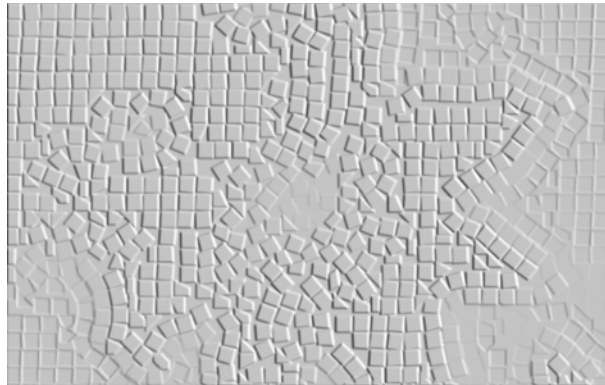


Figure 31. Diffuse Colour.



Figure 32. 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 33.
- **Source** - switches on specular lighting and uses the source image colours in the specular colour calculations, Figure 34 on page 16.

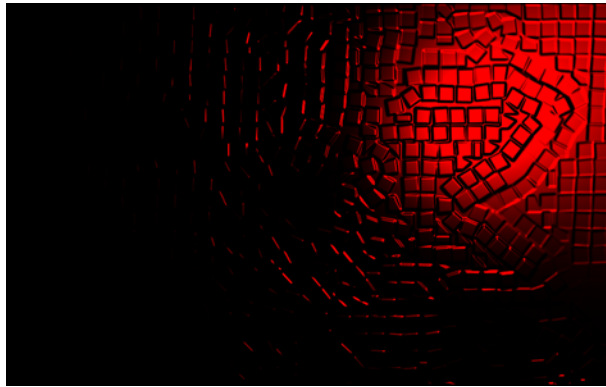


Figure 33. Specular Colour.



Figure 34. Specular Source.

Colour - the colour of the specular highlights.

Strength - the amount of reflected specular light.

Fall-off - controls how tight (Figure 36) or diffuse (Figure 35) the highlights are on the surface. This equates to the apparent shininess of the surface.

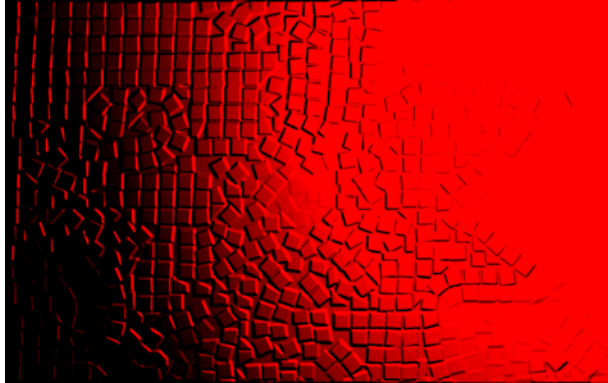


Figure 35. Low Fall-off.

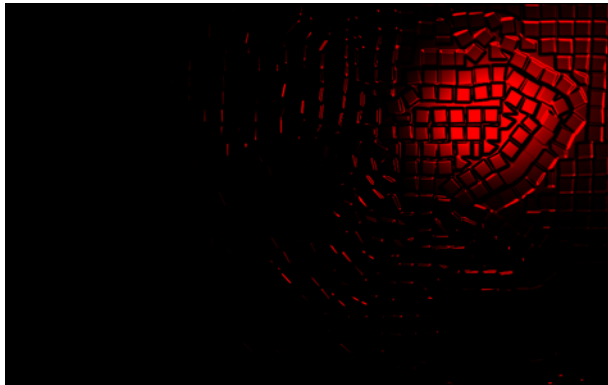


Figure 36. High Fall-off.

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 18), 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 switch 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 37. 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 38) to get the output image as shown in Figure 39.



Figure 38. Source Image.

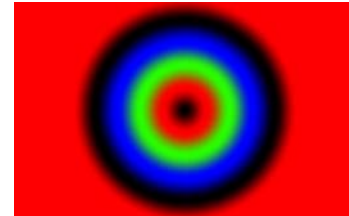


Figure 39. Output Image.

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 39. 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.

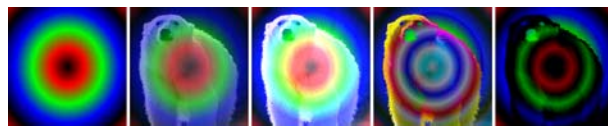


Figure 40. None, Mix, Add, Difference, Subtract Source.

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.

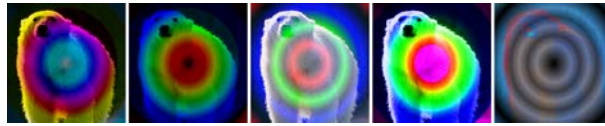


Figure 41. Subtract Effect, Darken, Lighten, Colour, Luminosity.

- **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 42. 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 blend

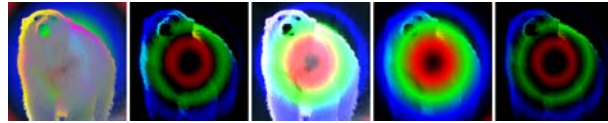


Figure 43. Exclusion, ColourBurn, ColourDodge, HardLight, LinearBurn.

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 44. 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 overwhites 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 45 and scales and repeats it as shown in Figure 46.

If we attenuate this effect with the matte should in Figure 47 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 in between are scaled accordingly as shown in Figure 48.



Figure 45. Source Image.



Figure 46. Tile.



Figure 47. Matte.



Figure 48. 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 49 shows black



Figure 49. Look at the border. Here the Edge Method = Colour.



Figure 50. Edge Methods = Reflect.

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 53.

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 51.

- **Repeat** - repeats the last line of pixels. Figure 52.



Figure 51. Colour.

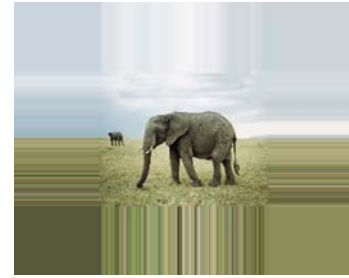


Figure 52. Repeat.

- **Reflect** - mirrors the image at the crop line. Figure 53
- **Wrap** - tiles the image at the crop line. Figure 54.

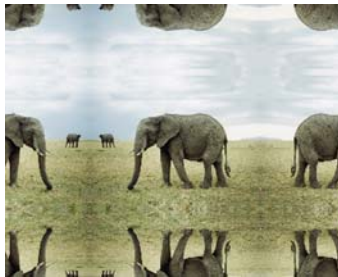


Figure 53. Reflect.



Figure 54. 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 51 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 2

T_Bandlimit

Description

This plug-in converts an image into fourier space, removes or keeps user specified frequencies, then converts it back into an image. High, low or intermediate frequencies can be removed or retained. What you get is a very stylized result.



Figure 55. Source Image.

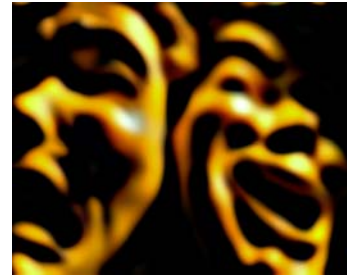


Figure 56. T_Bandlimit.

It may help to say a little about frequency space. For example, a black to white ramp would be a low frequency image (large features), whereas a frame of video noise is a good example of a high frequency image (small features). Noise over a ramp would have both high and low frequencies. T_Bandlimit can be used to

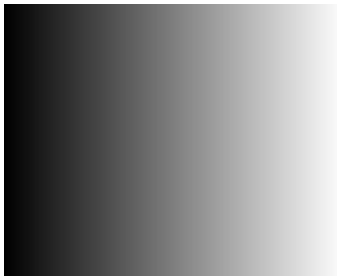


Figure 57. Low frequency ramp.



Figure 58. High & low frequency noisy ramp.

remove or show specified frequencies.



Figure 59. Showing the high frequency noise but not the ramp.



Figure 60. Showing the low frequency ramp but not the noise.

Ringing (banding) is a by-product of this technique and can lead to some interesting visual effects. On the images below, T_bandlimit has been applied to colour bars.

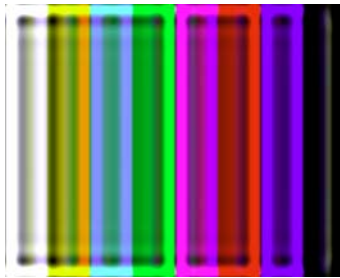


Figure 61. Feature Size = 15.

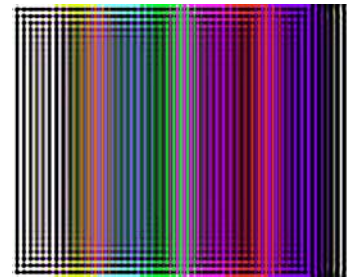


Figure 62. Feature Size = 50.

Type

Effect.

Controls

About Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 3.

Process - sets which channels to process.

Feature Size - the particular size of the image features that is to be shown or removed. Low values correspond to small features (high frequencies). High values correspond to large features (low frequencies).

Aspect - the weighting of horizontal and vertical pixels used in the effect. If, for example, an image displays high vertical frequencies but low horizontal frequencies, changing the aspect can be used to compensate for this.

Feature Spread - the extent of the fall-off at the selected feature size (frequency). Increase this value for a smoother result.

Gain - the overall luminance of the effect. If you increase the slider, the image will get brighter.

Selected Features

- **Remove** - throws away the selected feature size.
- **Show** - keeps the selected feature size.

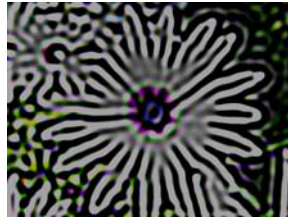


Figure 63. Remove.



Figure 64. Show.

Maintain Luminance - ensures that the overall luminance of the output picture is the same as the input picture, before the gain is applied.

Blending How to mix between the source image and the effect. See “Blending” on page 20.

Source Crops Cropping tools and edge methods. See “Source Crops” on page 26.

Hints & Tips

T_Bandlimit can give interesting ripple effects on text. Set the Selected Features to Remove.



Figure 65. Source Image.



Figure 66. Ripples.

In some images, T_Bandlimit can be used to give a soft painterly effect (Figure 68) by setting the Feature Size and Spread to low

values and showing (not removing) the Selected Features.



Figure 67. Source Image.



Figure 68. Painterly effect.

T_Blob

Description

T_Blob renders smoothly shaded blobs that gloop together when they get close to one another.

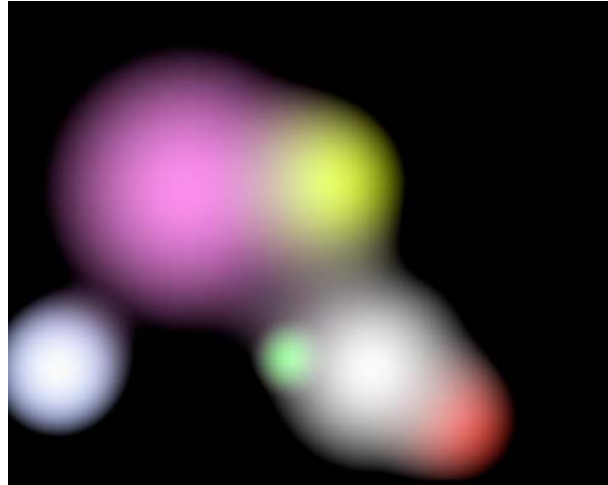


Figure 69. T_Blob.

Type

Generator.

Controls

About Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 3.

Process - sets which channels to process.

Softness - the extent to which adjacent blobs gloop together.

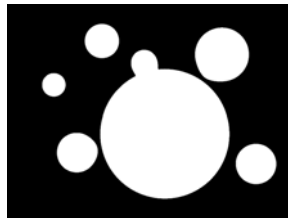


Figure 70. Low Softness.

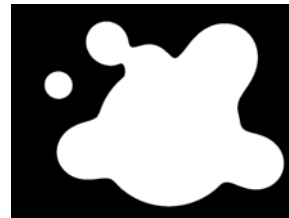


Figure 71. High Softness.

Colours

- **Grey** - all blobs are shades of black and white.

- **Colour per Blob** - each blob has its own colour.
- **Colour Gradient** - each blob takes its colours from the Colour Gradient.

Number - sets the number of blobs rendered. Up to eight blobs can be drawn.

Blob1 The characteristics of the first blob.

Position - the horizontal and vertical position of the blob.

Radius - the size of the blob.

Colour - the colour of the blob.

Colour Alpha - the transparency of the blob.

Colour Gradient The colours used in the blobs when Colours is set to Colour Gradient. Up to six colours can be used.

Colour 1 - the first colour.

Colour 1 Alpha - its transparency.

Use Colour 2 - switch this on to use the next colour.

Smooth Gradient - switch this on to use cubic interpolation between adjacent colours. When switched off linear interpolation is used.

Hard Edges - switch this on to render the blobs with sharply defined edges.

Dithered - switch this on to add noise to the gradient to reduce the effect of undesirable colour banding between smoothly shaded colours.

Filtering - the quality of the anti-aliasing used when processing the effect. See “Filtering” on page 19.

Blending How to mix between the source image and the effect. See “Blending” on page 20.

Source Crops Cropping tools and edge methods. See “Source Crops” on page 26.

Hints & Tips

T_Blobs can be used to produce interesting distortion effects when combined with Tinderbox 2 T_Glass or Tinderbox 1 T_Distorto.



Figure 72. Tinderbox T_Blobs and T_Glass.

T_BlurMasked

Description

T_BlurMasked takes an image and a matte and blurs the image based on values in the matte. It does not blur the whole image and then composite the foreground through the matte. In some circumstances it can be used to simulate depth of field. Where the matte is black no blurring will take place. Where the matte is white the blur parameter value is used. Matte values in between black and white scale the blur value accordingly.



Figure 73. Blurred Masks using a circular attenuation matte (black in the middle fading out to white).

T_BlurMasked uses a Gaussian blur and being sub-pixel accurate can be smoothly animated over time.

Type

Blur.

Controls

About Click the picture to display the on-line help, Tinderbox version number and lmhostid. See “About...” on page 3.

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

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

Radius - the strength of the blur. Increase this value to increase the defocussing or sharpening.

Aspect - the weighting of horizontal and vertical pixels used in the blur. Increase this value to blur horizontally. Decrease this value to blur vertically.

Matte - the image and channels used to control the radius of the blur.

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 20.

Source Crops Cropping tools and edge methods. See “Source Crops” on page 26.

Matte Layer Crop 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

If you are not using an attenuation matte and simply want to blur an image, you should use Tinderbox 1 T_Blur which is much faster for large blurs.

If you need to add depth of field to a composition, you will need a filter that can use a graduated matte to selectively defocus objects that are in the distance. In some circumstances BlurMasked can be used to do this. In the images below, a linear ramp (made using

Tinderbox 1 Grad) is used on some computer generated planets to



Figure 74. CGI Planets.

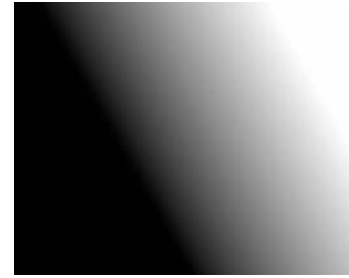


Figure 75. Linear Ramp.

simulate depth of field. The final effect using Tinderbox T_BlurMasked is shown below.



Figure 76. CGI Planets with Simulated Depth of Field.

T_BlurMasked can also be used to great effect when the matte is taken from the luminance of the input image. This can be used to blur just the highlights (or shadows) by selecting the Matte as Matte layer Luminance (or Inverse Luminance).

T_Chromatic

Description

T_Chromatic blurs and separates the colour components of an image to simulate the colour fringing seen when light is refracted through poor quality lenses.



Figure 77. Car head lamps with starburst filter.



Figure 78. T_Chromatic.

T_Chromatic is a convolution filter using three concentric circles each with a colour as the filter kernel. The spread is the thickness of the rings. Colour 3 is the colour of the outer ring.

Type

Effect.

Controls

About Click the picture to display the on-line help, Tinderbox version number and lmhostid. See “About...” on page 3.

Process - sets which channels to process.

Radius - the size of the filter kernel. Increase this for more colour separation.

Aspect - the horizontal and vertical weighting of the effect.

Rings Controls the colour and width of the rings.

Colour 1 - inner ring colour.

Colour 2 - middle ring colour.

Colour 3 - outer ring colour.

Spread - the width of the colour rings.



Figure 79. Spread = 0.



Figure 80. Spread = 20.

Blending How to mix between the source image and the effect. See “Blending” on page 20.

Source Crops Cropping tools and edge methods. See “Source Crops” on page 26.

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

Hints & Tips

This effect works particularly well on high contrast images with well defined lines, like white text on a black background.



Figure 81. T_Chromatic with increasing Radius.

T_Contour

Description

T_Contour draws closed lines along pixels of similar luminance. There are controls to change the number and quality of lines drawn.



Figure 82. Contours on a church.



Figure 83. Red contour, increased Step Level, composited over the original.

Type

Effect.

Controls

About Click the picture to display the on-line help, Tinderbox version number and lmhostid. See “About...” on page 3.

Process - sets which channels to process.

Step Level - the number of contours. Increase this value to reduce the number of contours.

Contour Grow - the thickness of the contour lines.

Step Offset - shifts the contour position up and down the luminance levels.

Amplify Contours - the strength of the contour lines. Increase this for darker lines.

Softness - the smoothness of the contour lines. Increase this to smooth out tight curves in the lines. This pre-blurs the image before the lines are computed.

Colours The colours for the lines and background.

Background Colour - the colour behind the contour lines.

Foreground Colour - the colour of the contour lines.

Blending How to mix between the source image and the effect. See “Blending” on page 20.

Source Crops Cropping tools and edge methods. See “Source Crops” on page 26.

Hints & Tips

For curvier lines increase the Softness. For fewer lines increase the Step Level.

To composite the lines over the underlying layers set Process to RGBA and Blending to None.

To comp over the source image set Blending to Composite Effect as shown in Figure 85.



Figure 84. Masks.



Figure 85. T_Contour with Blending set to Composite Effect.

T_Glass

Description

T_Glass gives the impression of viewing an image through a layer of distorting glass. Lights can also be applied to illuminate the glass.



Figure 86. T_Glass.

Type

Effect. 3D.

Controls

About Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 3.

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.

Glass - the image and channels used to control the glass effect.

- **None** - no layer is used giving no glass distortions.
- **Source [Channel]** - the current layer with all the effects applied will be used as the glass matte.
- **Glass [Channel]** - pick this option if you want to use a raw layer with no effects applied. If you pick one of these options you must specify the layer you want to use with the Glass Layer parameter.

Glass Layer - the raw composition layer used for the glass if Glass is set to Glass Layer Luminance/Alpha. Any effects that have been applied to this layer will be ignored when using it for the glass.

Mask - the image and channels used to control the compositing of the image back over the effect.

Mask Layer - the raw composition layer used as a mask if Mask is set to Mask Layer Luminance/Alpha.



Figure 87. Mask used to Restore the Source Image.

Figure 87 shows T_Glass applied to a flower with an “s” shaped matte as the glass layer. Image softness has been applied to blur the image in the glass. Using the “s” shaped matte as the Mask layer brings the background back into focus.

Bump Amount - the amount the glass matte appears to deform the image in the z axis. Positive values push out from the screen. Negative values indent.

Distortion Scale - the amount light rays are refracted (bent) when entering the glass. This is also known as the refractive index of the glass. Changing this parameter alters the amount of distortion of the source image in the glass.

Clip Min - pixels in the glass matte at or below this luminance value are set to black.s

Clip Max - pixels in the glass matte at or above this luminance value are set to white.

Glass Softness - the amount of blurring applied to the glass matte.



Figure 88. Softness = 10.



Figure 89. Softness = 50.

Glass Aspect - the horizontal and vertical weighting of the blur on the glass matte.

Aberration - introduces colour fringing in the distortions.

Image Alteration Parameters to control the source image.

Image Softness - the amount of blurring applied to the image. This gives the effect of pulling the glass into focus and the background, seen through the glass, out of focus.

Image Aspect - the horizontal and vertical weighting of the blur on the source image.

Light See “Light” on page 12.

Host Light - switch this on to use the After Effects light. If more than one light is in the composition, the top layer light is used.

Type

- **None** - no lights are used. Lighting parameters are switched off.
- **Infinite** - simulates the parallel rays from a distant light source, like the sun.

Direction - the direction of the light source.

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

Position - the location of the Local light.

Distance - the distance of the Local light from the image plane.

Specular Lighting See “Specular Lighting” on page 16.

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 19.

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

Blending How to mix between the source image and the effect. See “Blending” on page 20.

Source Crops Cropping tools and edge methods. See “Source Crops” on page 26.

Glass Layer Crops Cropping tools and edge methods.

Mask Layer Crops Cropping tools and edge methods.

Hints & Tips

A simple example showing an image used as both the image and glass inputs.



Figure 90. Stained Glass Window.



Figure 91. T_Glass.

T_Glow

Description

T_Glow makes images glow with light. A breakup parameter gives an organic edge to the effect.



Figure 92. Moon.

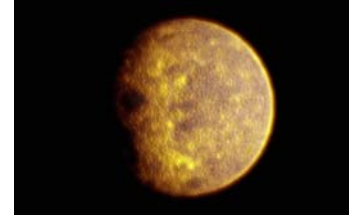


Figure 93. T_Glow.

Type

Effect.

Controls

About Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 3.

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.

Render -

- Clipped Glow Matte -
- Processed Glow Matte -
- Glow -

Glow Method

- **Solid** - makes the whole image glow.
- **Halo** - makes the edges glow.



Figure 94. Solid.



Figure 95. Halo.

Glow Spread - the softening and expansion of the glow.



Figure 96. Glow Spread = 5.



Figure 97. Glow Spread = 30.

Core Spread - the softening and expansion of the core colour.

Breakup - the amount of pixel scattering added to the glow shape.



Figure 98. Breakup = 0.



Figure 99. Breakup = 20.

Aspect - the horizontal and vertical weighting of the effect.

Time Constant Breakup - switch this on to freeze the scatter pattern on each frame.

Core Colour - the inner colour.

Edge Colour - the outer colour.

Brightness - the intensity of the glow.

Burnout - the positions of the colours in the glow. With the default colours this corresponds to a burning out of the glow with yellow.

Clip Levels Controls for the thresholding of the mask.

Clip Min - sets the black level of the mask used in the glow. In other words, luma values below the level set by Clip Min are set to black.

Clip Max - sets the white level of the mask used in the glow. In other words, luma values above the level set by Clip Max are set to white.

Mask - the image and channels used to control the mask.

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

Masking - what to do with the Mask Layer input.

- **Before Glow** - applies the mathematical operator AND to the glow and Mask Layer and uses the result as the glow source.
- **After Glow** - cuts out the glow using the Mask Layer. Only the parts of the glow that overlap with full alpha in the mask input are displayed.
- **Before & After** - performs the Before Glow operation followed by the after Glow.

Blending How to mix between the source image and the effect. See “Blending” on page 20.

Source Crops Cropping tools and edge methods. See “Source Crops” on page 26.

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

Hints & Tips See also Tinderbox 4 T_SoftGlow.

T_Grain

Description

T_Grain adds simulated grain to images. Grain is applied to perfectly rendered computer generated imagery during compositing so that it blends seamlessly into film footage. Forgetting to add grain to an element will make it appear far too clean when viewed. The grain has been sampled from a range of Kodak and Fuji film stocks.

Type

Tool.

Controls

About Click the picture to display the on-line help, Tinderbox version number and lnhostid. See “About...” on page 3.

Grain Type - a list of 18 sampled stocks are provided from fine to coarse grain. It's pretty hard to show effectively here but



Figure 100. Grain Type = 1.



Figure 101. Grain Type = 18.

Figure 100 and Figure 101 show two extremes.

Scale - the size of the grain granules.

Gain - the brightness of the grain granules.

Blending How to mix between the source image and the effect. See “Blending” on page 20.

Source Crops Cropping tools and edge methods. See “Source Crops” on page 26.

Hints & Tips

Matching digital grain to real film grain takes some skill and practice. You should observe the density and size of the grain, as

well as the colour and brightness variations. Note also that grain will vary on the *same* film stock if it has undergone abnormal exposure or development. For that reason you should always check the grain by eye, and always on a clip not a single frame.

You should be aware that sharpening an image (Tinderbox 1 T_Blur has an option to sharpen images) will enhance the grain. Colour correction and enlarging images will also affect the grain. You should remove the grain first (Tinderbox 1 T_Degrain) before sharpening and then reapplying grain afterwards.

Grain is quite a good way of reducing the colour banding on limited bit depth CG images. Or try T_Deband.

T_LensBlur

Description

Tinderbox LensBlur simulates the true defocusing properties of a camera lens to give realistic focus pulls. It includes controls for the shape of the camera diaphragm, highlight blooming and chromatic aberration. Figure 102 shows Hong Kong's skyline at night.



Figure 102. Source Image.



Figure 103. LensBlur (enlarged).

Figure 103 is a close-up of part of the image showing the pentagon shaped bloomed highlights.

Type

Blur.

Controls

About Click the picture to display the on-line help, Tinderbox version number and Imhostid. See "About..." on page 3.

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 strength of the blur. Increase this value to increase the defocussing.

Aspect - the horizontal and vertical weighting of the effect.

Overall Gain - the brightness of the image. A value of 50 will halve the luminance. A value of 200 will double the luminance.

Diaphragm Rotation - the rotation of the camera diaphragm.

Polygonal Diaphragm - switch this on for polygonal highlights and off for circular highlights.

Number of Sides - the number of sides of the polygonal highlights.

Lens Shape - the type of lens used.

- **Normal Lens** - the light is refracted through the lens before exposure onto the film.
- **Catadiatropic Lens** - the light is reflected by mirrors before reaching the film. This method produces a dark circle at the centre of the highlight.



Figure 104. Normal Lens.



Figure 105. Catadiatropic Lens.

Catadiatropic Core Size - the size of the dark circle at the centre of the highlight.

Chromatic Aberration - the defects of the lens that causes the image to display coloured fringes.

Depth Depth of field can be simulated using these parameters. A z-depth matte is used to drive the blurring. This is an extremely CPU intensive process, so to speed things up the matte is sliced into discreet layers that are blurred.

Depth - the image and channels used to control the depth matte.

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

Near - the near clipping plane. Luminance values in the depth matte at this value or below are set to black.

Far - the far clipping plane. Luminance values in the depth matte at or above this value are set to white.

Accuracy - the number of slices made. Large values will dramatically increase render times.

Focal Point - the luminance value in the depth matte which is in focus.

Output Type

- **Result** - the blurred image.
- **Depth** - the matte used to blur the image.

Blooming These parameters control the over exposure of the effect when blooming is switched on.

Bloom Clamping - controls the value of pixels outside the legal range for the project.

- **Clamp To Pixel Max** - the blooming will produce colours up to peak white.
- **Clamp To Image Max** - the brightest pixels of the output image will not exceed the brightest pixels of the original image.

Blooming - switch this on to allow the overexposure of highlights on the film.

Threshold - the luminance level above which pixels will bloom.

Amplify - the brightness of the blooming.



Figure 106. Amplify = 200.



Figure 107. Amplify = 800.

Matte - the image and channels used to control the attenuation of the blooming. The image attenuates the threshold value between the current parameter value if the matte is white to a threshold value of 100 if the matte is black.

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

Scissoring Controls the clipping of the highlights into irregular shapes.

Scissored Shutter - switch this on to activate the

diaphragm clipping.



Figure 108. Scissored Shutter.

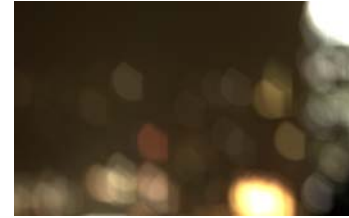


Figure 109. Scissored Shutter.

Scissored Position - the extent to which the left and top clip planes intersect the bloomed highlights. At 50 the lines will intersect the centre of the highlights.

Scissored Angle - the rotation of the top clipping plane around the centre of the highlight.

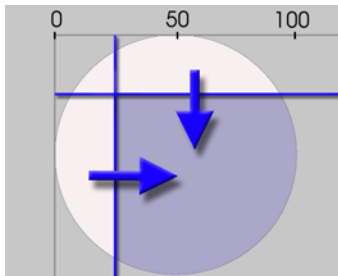


Figure 110. Scissored Position.

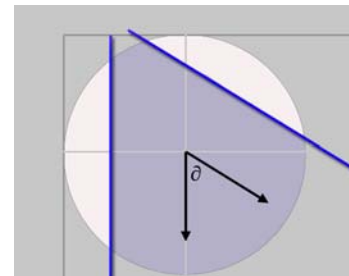


Figure 111. Scissored Angle.

Blending How to mix between the source image and the effect. See “Blending” on page 20.

Source Crops Cropping tools and edge methods. See “Source Crops” on page 26.

Depth 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

Digital Gaussian blurs are commonly used to simulate out-of-focus elements. This can be perfectly acceptable in many situations, but if a true camera defocus is required a filter that will bloom highlights

ought to be used. The picture below shows a well-focused scene.



Figure 112. A well-focused scene.

Now look at the two images below. On the left we have changed the focus of the lens so that the image is no longer sharp. Note what happens to the candle flames and the sparkles from the candle holders. They exhibit noticeable blooming rather than just a softening and take on the characteristic shape of the camera's aperture. Note also that the edges are well defined. You can often see these polygonal shapes in lens flares. See "T_LensFlare" on page 56. The image on the right shows a digital Gaussian blur. Note the difference.



Figure 113. T_LensBlur.



Figure 114. Gaussian blur.

T_LensFlare

Description

Camera lenses are designed to focus light onto a photo-sensitive surface. The lens housing often contains many individual glass lenses through which the light is refracted. However, a small percentage of light is reflected from the surface of the lenses and this reflected light forms the lens flare patterns we see on the photographed image. Lens flares are most noticeable when the lens is pointed towards a very bright light.



Figure 115. T_LensFlare on the Burg al Arab in Dubai.

T_LensFlare generates realistic and highly customized lens flares. It can be used over a background image or to generate an image from scratch.

The lens flare is made up from 12 elements. These are:

1. Rays
2. Spikes
3. Uniform Spikes
4. Diced Spikes
5. Halo Ring
6. Chromatic Ring
7. Chromatic Radial
8. Chromatic Ripple
9. Arc
10. Light Shard
11. Disc
12. Polygons

These are described in more detail below. You can make your lens flare by adding together these elements. Simply select the number of elements you want and then edit their parameters.

Type Effect.

Controls

About Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 3.

Process - sets which channels to process.

Position Layer - you can drive the position of the highlight from a matte. Select a layer that has a bright white spot moving in it. If set to None, then keyframe the Highlight Position.

Highlight Position - the position of the source of the light.

Pivot - the position of the pivot point usually the centre of the image. The polygons are drawn in a line from the highlight position through the pivot point.

Overall Gain - the overall brightness of all elements in the lens flare. This parameter can be driven by the Obscure With parameter - for example, to get the lens flare to automatically flick on and off as it goes behind a line of trees.

Number of Elements - up to 12 components can be added to form the lens flare.

Reset Element Params on Type - switch this on to reset the parameters of an element if the type changes.

Element 1: Rays Renders light rays of equal length and unequal spacing around the centre to form the bright highlight glow.



Figure 116. Rays.

Type - the element type.

Gain - the brightness of the rays.

Radius - the length of the rays.

Aspect - the horizontal and vertical weighting of the effect.

Offset - the shift in position of the ray centre from the highlight position to the pivot position.

Rotation - the rotation of the rays.

Width - the width of the rays.

Spoke Number - the number of rays drawn from the highlight.

Fractal Depth - essentially controls the amount of detail in the rays. If set to 1, a smooth glow ball is drawn. As the detail is increased soft gaps appear in the glow. As the detail increases further the gaps become more numerous and are thinner.

Glow Radius - the size of the bright glow at the centre of the highlight.

Core Colour - the inner colour of the glow and the rays.

Edge Colour - the outer colour of the glow and the rays.

Addition - the compositing method used to blend the lens flare components together.

Element 2: Spikes Renders light rays of unequal length and unequal spacing around the centre.

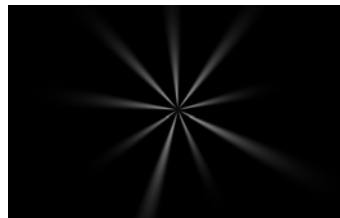


Figure 117. Spikes.

Type - the element type.

Gain - the brightness of the rays.

Radius - the length of the rays.

Aspect - the horizontal and vertical weighting of the effect.

Offset - the shift in position of the ray centre from the highlight position to the pivot position.

Rotation - the rotation of the rays.

Width - the width of the rays.

Spoke Number - the number of rays drawn from the highlight.

Fractal Depth - essentially controls the amount of detail in the rays. If set to 1, a smooth glow ball is drawn. As the detail is increased soft gaps appear in the glow. As the detail increases further the gaps become more numerous and are thinner.

Glow Radius - the size of the bright glow at the centre of the highlight.

Core Colour - the inner colour of the glow and the rays.

Edge Colour - the outer colour of the glow and the rays.

Addition - the compositing method used to blend the lens flare components together.

Element 3: Uniform Spikes Renders light rays of equal length and spacing around the centre.

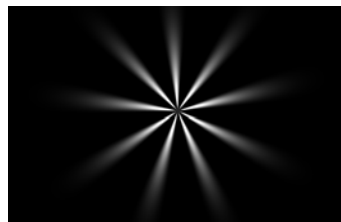


Figure 118. Uniform Spikes.

Type - the element type.

Gain - the brightness of the rays.

Radius - the length of the rays.

Aspect - the horizontal and vertical weighting of the effect.

Offset - the shift in position of the ray centre from the highlight position to the pivot position.

Rotation - the rotation of the rays.

Width - the width of the rays.

Spoke Number - the number of rays drawn from the highlight.

Fractal Depth - essentially controls the amount of detail in the rays. If set to 1, a smooth glow ball is drawn. As the detail is increased soft gaps appear in the glow. As the detail increases further the gaps become more numerous and are thinner.

Glow Radius - the size of the bright glow at the centre of the highlight.

Core Colour - the inner colour of the glow and the rays.

Edge Colour - the outer colour of the glow and the rays.

Addition - the compositing method used to blend the lens flare components together.

Element 4: Diced Spikes Same as Spikes but with luminance variations along each light ray. These luma variations are controlled by the Glow Radius.

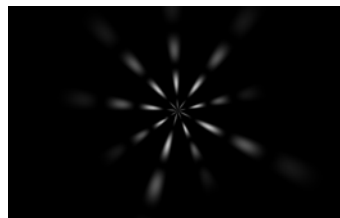


Figure 119. Diced Spikes.

Type - the element type.

Gain - the brightness of the rays.

Radius - the length of the rays.

Aspect - the horizontal and vertical weighting of the effect.

Offset - the shift in position of the ray centre from the highlight position to the pivot position.

Rotation - the rotation of the rays.

Width - the width of the rays.

Spoke Number - the number of rays drawn from the highlight.

Fractal Depth - essentially controls the amount of detail in the rays. If set to 1, a smooth glow ball is drawn. As the detail is increased soft gaps appear in the glow. As the detail increases further the gaps become more numerous and are thinner.

Glow Radius - in this mode it controls the luma variations along the length of each ray. Reduce the Glow Radius to get more variations.

Core Colour - the inner colour of the glow and the rays.

Edge Colour - the outer colour of the glow and the rays.

Addition - the compositing method used to blend the lens flare components together.

Element 5: Halo Ring Renders a two colour ring.



Figure 120. Halo Ring.

Type - the element type.

Gain - the brightness of the rays.

Radius - the length of the rays.

Aspect - the horizontal and vertical weighting of the effect.

Offset - the shift in position of the ray centre from the highlight position to the pivot position.

Rotation - the rotation of the rays.

Width - the width of the rays.

Core Colour - the inner colour of the glow and the rays.

Edge Colour - the outer colour of the glow and the rays.

Addition - the compositing method used to blend the lens flare components together.

Element 6: Chromatic Ring Renders a rainbow coloured ring intersected with dark rays drawn from the centre of the ring.

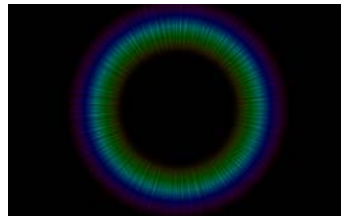


Figure 121. Chromatic Ring.

Type - the element type.

Gain - the brightness of the ring.

Radius - the size of the ring.

Aspect - the horizontal and vertical weighting of the effect.

Offset - the shift in position of the ring centre from the highlight position to the pivot position.

Rotation - the rotation of the ring.

Width - the width of the ring.

Spoke Number - the number of rays drawn from the highlight that form the ring.

Addition - the compositing method used to blend the lens flare components together.

Element 6: Chromatic Radial

Renders a rainbow coloured ring intersected with dark rays drawn from the highlight position. The difference between Chromatic Ring and Chromatic Radial only becomes apparent when the Offset is non-zero.



Figure 122. Chromatic Radial.

Type - the element type.

Gain - the brightness of the ring.

Radius - the size of the ring.

Aspect - the horizontal and vertical weighting of the effect.

Offset - the shift in position of the ring centre from the

highlight position to the pivot position.

Rotation - the rotation of the ring.

Width - the width of the ring.

Spoke Number - the number of rays drawn from the highlight that form the ring.

Addition - the compositing method used to blend the lens flare components together.

Element 6: Chromatic Ripple Renders a rainbow coloured ring intersected with evenly spaced dark rays drawn from the centre of the ring.

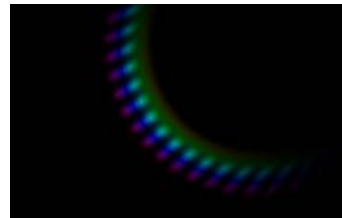


Figure 123. Chromatic Ripple.

Type - the element type.

Gain - the brightness of the ring.

Radius - the size of the ring.

Aspect - the horizontal and vertical weighting of the effect.

Offset - the shift in position of the ring centre from the highlight position to the pivot position.

Rotation - the rotation of the ring.

Width - the width of the ring.

Spoke Number - the number of rays drawn from the highlight that form the ring.

Addition - the compositing method used to blend the lens flare components together.

Element 6: Arc Renders a two colour arc.



Figure 124. Arc.

Type - the element type.

Gain - the brightness of the arc.

Radius - the size of the arc. This affects the curvature.

Aspect - the horizontal and vertical weighting of the effect.

Offset - the shift in position of the ring centre from the highlight position to the pivot position.

Rotation - the rotation of the arc.

Width - the width of the arc.

Core Colour - the inner colour of the arc.

Edge Colour - the outer colour of the arc.

Addition - the compositing method used to blend the lens flare components together.

Element 7: Light Shard The light shard centered on the highlight position.

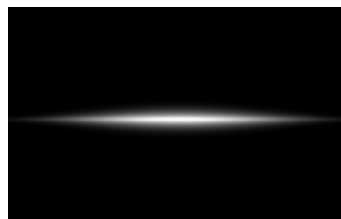


Figure 125. Light Shard.

Type - the element type.

Gain - the brightness of the arc.

Radius - the size of the arc. This affects the curvature.

Aspect - the horizontal and vertical weighting of the effect.

Offset - the shift in position of the ring centre from the highlight position to the pivot position.

Rotation - the rotation of the arc.

Width - the width of the arc.

Core Colour - the inner colour of the arc.

Edge Colour - the outer colour of the arc.

Addition - the compositing method used to blend the lens flare components together.

Element 8: Disc The solid circle offset from the highlight position. This element is

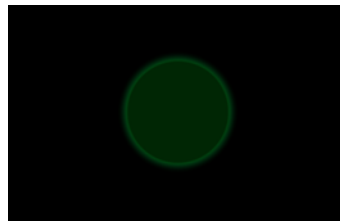


Figure 126. Disc.

made from two overlapping circles.

Type - the element type.

Gain - the brightness of the disc.

Radius - the size of the disc.

Aspect - the horizontal and vertical weighting of the effect. Use this to make an ellipse.

Offset - the shift in position of the ring centre from the highlight position to the pivot position.

Rotation - the rotation of the disc.

Core Colour - the inner colour of the disc.

Edge Colour - the outer colour of the disc.

Inner Radius - the size of the inner disc.

Softness - the blur applied to the discs.

Chromatic - switch this on to render coloured discs.

Grain - the amount of grain added to the disc.

Addition - the compositing method used to blend the lens flare components together.

Element 9: Polygons These are the circular or polygonal coloured glows that lie on a line from the center of the highlight through the pivot point.

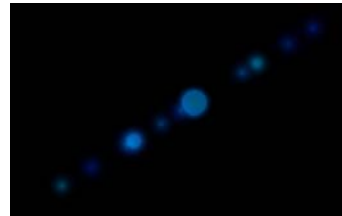


Figure 127. Polygons.

Type - the element type.

Number of Polygons - the number of polygons drawn along the line between the highlight and pivot positions.

Gain - the brightness of the polygons.

Radius - the size of the polygons.

Aspect - the horizontal and vertical weighting of the effect. Use this to squash the circles into ellipses.

Offset - shifts the position of the polygons along the line between the highlight and pivot positions.

Rotation - the rotation of each polygon about its centre.

Sides - the number of sides of the regular polygon. For circles make this value large.

Core Colour - the colour at the centre of the polygon.

Edge Colour - the colour at the outer edge of the polygon.

Inner Radius - the radius of the core circle drawn at the centre of the polygon.

Softness - the edge softness of the polygons.

Chromatic - switch this on to render rainbow coloured polygons and switch it off for two colour polygons.

Curvature - the bending of the lines drawn between the polygon vertices. Increase this value to bow out the poly sides. High values will render circles.

Spacing - the distance between the polygons.

Seed - generates a random number sequence used to position the polygons.

Grain - the amount of grain added to the polygons.

Colour Variance - the deviation in colour of the polygons. a value of zero will ensure all polygons are the same colour.

Gain Variance - the deviation in polygon brightness. A value of zero will ensure that all polygons are the same brightness.

Radius Variance - the deviation in polygon size. A value of zero will ensure that all polygons are the same size.

Position Variance - the deviation in position along the straight line between the highlight and pivot positions.

Addition - the compositing method used to blend the lens flare components together.

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

Luminance/Alpha.

Obscure With - the image and channels used to control the obscuration matte. This matte is used to switch on and off the lens flare. You may want to put the sun behind a row of trees in a panning camera shot. You can use the matte of the trees to switch on and off the lens flare.

Obscure Radius - the extent to which the matte will have an affect on the lens flare. If you have a hard edged matte and want the lens flare to flick off at the boundary then set this value to zero. If you want the lens flare to gradually dim as it approaches the hard edge in the matte then increase this value.

Blending How to mix between the source image and the effect. See “Blending” on page 20.

Hints & Tips

The introduction of a lens flare when creating a scene with a bright light source is quite common. It can play an important part in making the scene look right.

Real lens flares can be shot against a black background and composited into your scene. However, it can be tricky and expensive to match the camera moves of the two sequences so that the lens flare appears correct. Digital lens flares are fast and can easily be animated to track the movement of the light source in your scene.

Lens flares occur when a bright light is shone directly into the camera lens. Each lens flare has a bright highlight caused by the overexposure of the light on the film and a trail of polygons caused by the multiple reflections of the light rays in the lenses that form the focussing assembly of a camera. The shape of the iris that forms the camera’s aperture is responsible for the shape of the polygons formed in the lens flare. Since lens flares are constructed inside the camera, when you come to digitally creating them they should always be composited over everything else in your scene.

The precise form of the lens flare comes from the lens properties and not the light source. This is particularly apparent for anamorphic lenses which produce horizontal lens flares. These can be recreated using the Light Shard element of the Tinderbox LensFlare.

You should also be aware that the polygons will move at different speeds relative to each other whenever the light source or camera is moving. This is caused by the different position of the lenses within the lens assembly. When animating T_LensFlare you should keep the pivot position static in the centre of the image and animate the

highlight position. The relative positions of the rings and polygons will automatically animate in relation to these two coordinates.

It is worth spending time looking at real lens flares to get a feel for the shapes, colours and movement. Just spending an evening in watching television will doubtless prove fruitful in this quest. You should note that lens flares have very subtle imperfections and tend to flicker over time.

You can use T_LensFlare to create rainbows. Switch everything off apart from one chromatic ring.

T_Newsprint

Description

T_Newsprint converts images into their constituent dot patterns that is characteristic of newsprint. There are three different print colour methods. Two Tone that produces black and white dot patterns,

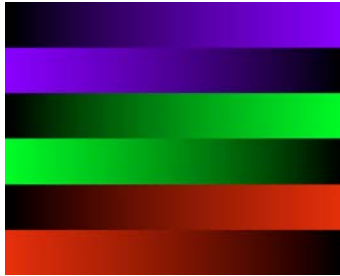


Figure 128. Grey Crossed Ramps.

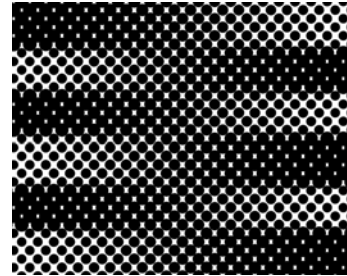


Figure 129. Two Tone.

CMY that reproduces the standard colour printing method with cyan, magenta and yellow dots, and RGB that uses red, green and

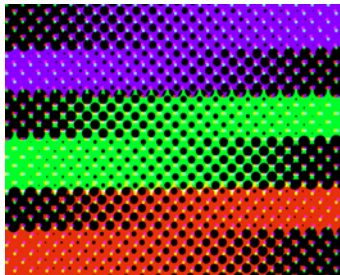


Figure 130. CMY.

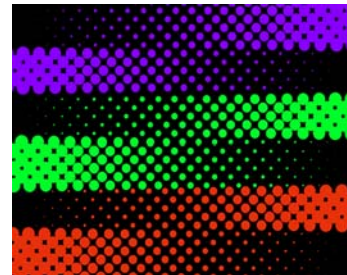


Figure 131. RGB.

blue dots to re-create the image.

Type

Effect.

Controls

About Click the picture to display the on-line help, Tinderbox version number and lnhostid. See “About...” on page 3.

Process - sets which channels to process.

Print Colour - the method by which colour in the image is converted into dots.

- **Two Tone** - produces a black and white image composed of dots. The size of the dots correspond to the brightness of the image.
- **CMY** - produces a colour image based on the superposition of three complementary coloured dots, cyan, magenta and yellow. This method is used in print.
- **RGB** - produces a colour image based on the superposition of three primary coloured dots.

Ink Colour - the colour of the dots.

Ink Colour Alpha - the transparency of the dots.

Paper Colour - the colour behind the dots.

Size - the size of the dots.

Aspect - the horizontal and vertical weighting of the effect.

Rotation - the rotation of each dot.

Bleed - the overlap of the dots.

Print Shift - the position of the dots.

Pre-Blur - the amount of blurring applied to the image before the dots are computed.

Filtering - the quality of the anti-aliasing used when processing the effect. (See “Filtering” on page 19.)

Blending How to mix between the source image and the effect. See “Blending” on page 20.

Source Crops Cropping tools and edge methods. See “Source Crops” on page 26.

Hints & Tips

Animating the size of the dots from large to small is an interesting method of bringing objects into view.

As well as RGB and CMY, colour can be brought into a newsprint pattern by using Two Tone but using the built in blending methods to mix back the original footage.

With heavily back-lit black and white footage, you can get a rather undesirable bobbly look to edges if the Print Colour is set to RGB. This is because the RGB algorithm is making large white dots to

capture the bright highlights. In such circumstances you can get a



Figure 132. Original back-lit image.

better result using Two Tone.



Figure 133. "Bobbling" on edges using RGB.



Figure 134. Better result using Two Tone.

T_NightSky

Description

T_NightSky renders the brightest 9000 stars visible from Earth. It uses real data so you get to see the constellations in their correct positions and with their correct colour.



Figure 135. The view from London at the time of writing if everyone switched their lights off.

There are two modes of operation, each specifying a default start position, which can be further animated using an After Effects camera. The first allows specification of the latitude and longitude of the viewer, where the resultant camera defaults to look directly south. Alternatively it is possible to specify celestial coordinates as the camera target, where the camera origin is the centre of the earth, then animate the camera around the sky from that point

Type

Generator. 3D.

Controls

About Click the picture to display the on-line help, Tinderbox version number and lmhostid. See “About...” on page 3.

Process - sets which channels to process.

Preset - choose between a list of constellations or positions on Earth.

Form The shape, size and colour of the stars.

Star Shape - the geometry of the star.

- 4 Pointed Stars
- 5 Pointed Stars
- 6 Pointed Stars
- 8 Pointed Stars
- Many Pointed Stars
- Circular Dot Stars

Maximum Size - the size of the largest star.

Size Spread - the range of star sizes generated. A value of zero will force every star to be the same size.

Increasing this value will increase the difference in scale between the largest and smallest star.

Brightness - the overall brightness of the stars. The brightness of individual stars may vary.

Saturation - the colour saturation of the stars. A value of zero will render white stars. The colour of the stars are taken from the star database.

Twinkle The flickering of the stars due to the Earth's atmosphere bending the light.

Flicker Rate - the speed of luminance variation of the stars.

Flicker Amount - the amount of luminance variation during flickering.

Camera The camera displacement from the original position set up by the internal camera system (either geographic or celestial). See "Camera" on page 18.

Geographic Coordinates and Date Allows the user to configure the camera origin to some point on the surface of the Earth using latitude and longitude sliders. By default the camera points South towards the horizon. The stellar positions are then calculated based on the time (Year, Month, Day and Hour) and time zone specified.

Latitude - the latitude of the camera. Above and below the equator.

Longitude - the longitude of the camera. East and west of Greenwich.

Time Zone - choose from 24 time zones around the world. London is at time zone 0. Cities to the West have negative values and cities to the East have positive values.

Year

Month

Day - the slider day range is from 0 to 31. However, you can set day values outside this range and if you do they will effectively count forwards or backwards in time. For example, the 32 February 2006 is the same as 1 March 2006. Since the Month parameter cannot be keyframed, if you want to smoothly animate the time over several months you should keyframe the day between, say, 0 and 50.

Hour

Celestial Coordinates Allows the user to specify the altitude and azimuth of the camera target, where its origin is the centre of the Earth.

Altitude - the height of a celestial object above sea level.

Azimuth - the horizontal direction of a celestial object measured from the south point of the horizon.

Draw Guides - switch this on to draw lines on the display representing the horizon and stellar divisions.

Background Colour - the colour of nothingness.

Blending How to mix between the source image and the effect. See “Blending” on page 20.

Hints & Tips

If you want a general star background as viewed from space, remember to turn the twinkle parameters off as this represents atmospheric distortion.

It is not a random star generator and is not designed for fly-throughs. For that see Tinderbox 3 T_Starfield.

T_Paint

Description

T_Paint processes images into ones that look as though they had been created with acrylic paint. The algorithm paints brush strokes along contour lines in the image. By varying the parameters stippled effects or sweeping brush strokes can be achieved.



Figure 136. Paint.

Type

Effect.

Controls

About Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 3.

Process - sets which channels to process.

Presets - some common paint styles.

Brush Controls for the brush feel.

Brush Width Max - the maximum width of a brush stroke. The actual width will be random.

Brush Width Min - the minimum width of a brush stroke. The actual width will be random.

Softness - the amount of blurring of the image prior to painting. Increase this value for smoother brush lines.

Strokes Controls for the paint strokes made with the brush.

Stroke Length Max - the maximum length of a brush stroke. The actual length will be random.

Stroke Length Min - the minimum length of a brush stroke. The actual length will be random.

Stroke Separation - the distance on the canvas between successive applications of paint.

Rotate - the maximum of amount of rotation applied to the brush strokes. The actual amount will be random.

Smear - the amount of paint smearing as a percentage of the stroke width.

Drag - the amount of paint drag from earlier strokes as a percentage of stroke width.

Paint How the paint is laid down.

Bleed - the amount of paint that is allowed to run.

Edge Tolerance - the amount of paint that is allowed to deviate from the image contours.

Luminance Variation - the brightness variation of the paint applied between each brush stroke.

Pre-Copy Source - switch this on to paint over the original image. When switched off you'll see paint strokes over a black background.

Seed Controls for the randomness of the painting.

Boost Pixel Seed - the range of possible seed values used. Increasing this parameter increases the probability of a paint stroke being applied.

Seed Method - the randomness of the paint brushes. This randomness controls whether a paint stroke is applied and what the brush strokes look like.

- **Seed with Frame** - the randomness depends on both the frame number and the seed value and thus changes on each frame of the clip.
- **Fixed Seed** - the randomness is purely dependent on the seed value. If this value is not animated the randomness will not change on any frame.
- **Seed with Pixel** - the randomness is based on the colour of each pixel only and the seed parameter is ignored. In some circumstances this may result in no brush strokes being applied to the canvas. If this is the case the Boost Pixel Seed parameter can help.

Seed - sets the number used to generate the random number sequence.

Mask - the image and channels used to control whether painting is done. In areas of the mask that are black painting will be switched on. In areas of the mask that are grey or white painting will be switched off.

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

Blending How to mix between the source image and the effect. See “Blending” on page 20.

Source Crops Cropping tools and edge methods. See “Source Crops” on page 26.

Mask Layer Crops Cropping tools and edge methods.

Hints & Tips

T_Paint does not take into account movement over time when applying paint strokes, making it more suitable to producing single images. Some feature films, like *The Thomas Crown Affair*, require pictures of art for some of the shots and these are sometimes specially commissioned works used as physical props. In some circumstances, T_Paint could be used instead to quickly produce impressionist works which can then be corner pinned into a blank picture frame hung on a wall.



Figure 137. Swan.



Figure 138. Digitally Painted Swan Composited into Scene.

T_PseudoColour

Description

T_PseudoColour maps the luminance of an image to a colour to give a false colour effect.

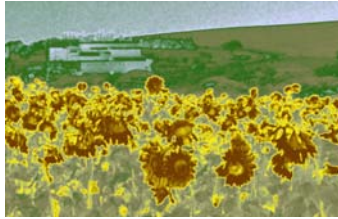


Figure 139. Natural.

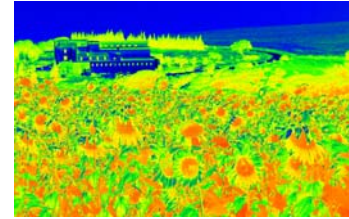


Figure 140. Psychedelic.

Type

Effect.

Controls

About Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 3.

Process - sets which channels to process.

Minimum Luminance - the luminance level of the image which is mapped to the left-most colour tag in the Colour Gradient

Maximum Luminance - the luminance of the image which is mapped to the right-most colour tag in the Colour Gradient.

Grad - the colour gradient that is mapped to the luminance values in the image.

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.

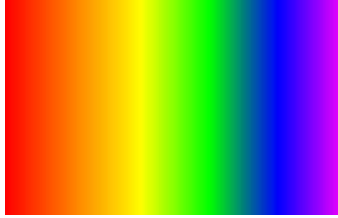


Figure 141. Copies = 1.

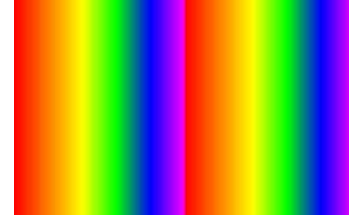


Figure 142. Copies = 2.

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

Filtering - the quality of the anti-aliasing used when processing the effect. See “Filtering” on page 19.

Pre-Blur - softens the image before applying the effect.

Map With - choose difference methods to map the new colours.

Blending How to mix between the source image and the effect. See “Blending” on page 20.

Source Crops Cropping tools and edge methods. See “Source Crops” on page 26.

Hints & Tips

With the careful selection of colour and a bit of painting, a thermal camera effect can be simulated.



Figure 143. Source Image.

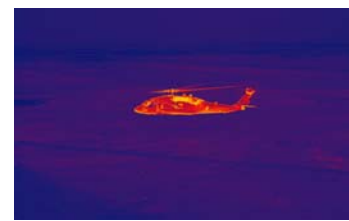


Figure 144. Thermal Camera.

T_RadialBlur

Description

T_RadialBlur smears pixels in all directions from a point. Radial blurs are sometimes known as crash zooms and can be used to transition between one clip and another. They can also be used to simulate light rays.



Figure 145. T_RadialBlur.

Type

Blur.

Controls

About Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 3.

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 horizontal and vertical position of the source of the radial blur.

Amount - the amount of smearing.

Holdout Radius - the size of the un-blurred circle at the center of

the effect.



Figure 146. Holdout = 0.



Figure 147. Holdout = 50.

Blur Profile - the blur method used.

- **Box** - quicker but lower quality.
- **Gaussian** - slower but of the highest quality.

Filtering - the quality of the anti-aliasing used when processing the effect. See “Filtering” on page 19.

Blending How to mix between the source image and the effect. See “Blending” on page 20.

Source Crops Cropping tools and edge methods. See “Source Crops” on page 26.

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

Hints & Tips

T_RadialBlur can also provide an effective simulation of light rays. See also Tinderbox 1 T_Rays.



Figure 148. Stained Glass.



Figure 149. Rays with RadialBlur.

See also Tinderbox 1 T_Blur and T_DirBlur and Tinderbox 3 T_CircularBlur and T_GradientBlur.

T_Ripple

Description

T_Ripple distorts an image using a series of parallel waves travelling in the same direction. An optional attenuation matte can be used to control the amount of wave distortion.



Figure 150. Compression Waves.

Type

Warper. 3D.

Controls

About Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 3.

Process - sets which channels to process.

Amount - the wave height or distortion.

Wavelength - the distance between wave peaks.

Direction - the direction of the waves. With a value of zero the waves travel from left to right.

Phase - the motion of the wave at the start point. i.e. whether it's moving up or down. Increasing this value over time will animate the wave (or move the wave in the direction of motion)

Speed - this controls how fast the ripples move.

Mode - there are two types of waves.

- **Compression**
- **Displacement**

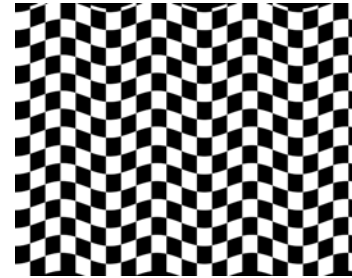
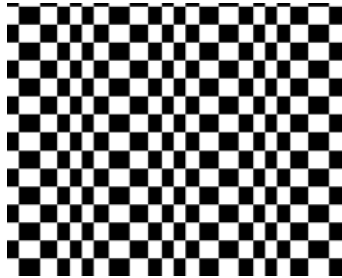


Figure 151. Compression Waves. Figure 152. Displacement Waves.

Light See “Light” on page 12.

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

Type

- **None** - no lights are used. Lighting parameters are switched off.
- **Infinite** - simulates the parallel rays from a distant light source, like the sun.

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 16.

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 19.

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

Matte - the image and channels used to control the Amount of wave distortion. Where the matte is black no distortion takes place. Where the matte is white the distortion is at the level set by the Amount parameter. Values in-between are scaled accordingly.

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 20.

Source Crops Cropping tools and edge methods. See “Source Crops” on page 26.

Matte Layer Crops Cropping tools and edge methods.

Hints & Tips

Ripple can be used as a transition effect between two clips. See also Tinderbox 1 T_Droplet and Tinderbox 4 T_Water.

T_Swirl

Description

T_Swirl is a distorting plug-in that twists an image around a point. There are two types of distortion - Swirl and Vortex.



Figure 153. Swirl.

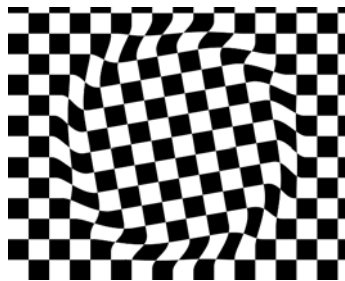


Figure 154. Swirl.

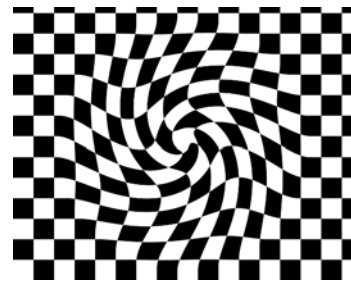


Figure 155. Vortex.

Type

Warper.

Controls

About Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 3.

Process - sets which channels to process.

Mode

- **Swirl** - the centre of the distortion is rotated by the Swirl amount.

- **Vortex** - is a logarithmic swirl. At the circumference there is no rotation. Half-way to the centre the rotation is the Swirl amount. Half-way again is another rotation by this amount and so on.



Figure 156. Swirl.



Figure 157. Vortex.

Position - the centre of the distortion.

Radius - the swirl radius. The radius is the distance in pixels between the center and the circumference of the effect.

Swirl - the amount of distortion of the image. The value is expressed as an angle in degrees.

Swirl Range - the extent of the distortion when the mode is set to Swirl. The effect is split into two sections. The inner circle is a rotation without distortion. The outer ring is the swirling effect. The Swirl Range parameter controls the extent of the swirl ring. A value of 100 will just give a rotated disc. A value of 75 will give a large rotated disc and a small swirled ring.

Ease Direction - where the effect is ramped.

- **None** - no ramping of the effect.
- **In** - smooth transition at the circumference.
- **Out** - smooth transition at the centre.
- **In and Out**

Aspect - the horizontal and vertical weighting of the effect.

Rotation - the rotation of rendered effect. This is only apparent if the Aspect is set to something other than zero.

Filtering - the quality of the anti-aliasing used when processing the effect. See “Filtering” on page 19.

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

Matte - the image and channels used to control the attenuation of the Swirl 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 20.

Source Crops Cropping tools and edge methods. See “Source Crops” on page 26.

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

Swirl can be used as a transition between clips. Use the Swirl parameter to twist the first clip and the Swirl Range to untwist as the cross fade kicks in.

T_Wobble

Description

T_Wobble simulates camera shake on a clip or random vibrations on an object. Frames can be translated, rotated and scaled randomly and motion blur can be applied.

A random motion path is generated from the seed value. This path is constrained within the area defined by Wobble X and Wobble Y. Small fractal perturbations (X Detail and Y Detail) are added to the path to make the movement more interesting. There is a choice of 2 motion paths - Independent and Orbit. In the Independent method

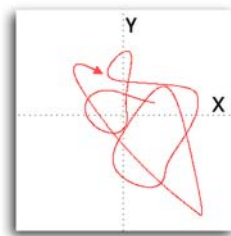


Figure 158. Independent.

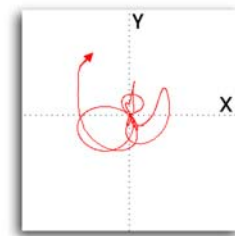


Figure 159. Orbit.

the x and y coordinates will move around independently of one another to give a random motion path about a central position. In the Orbit method the x and y coordinates are linked so that the position moves in and out of the center in arcs.

Type

Effect.

Controls

About Click the picture to display the on-line help, Tinderbox version number and Imhostid. See “About...” on page 3.

Process - sets which channels to process.

Style - sets the algorithm used to displace the image position.

- **Independent** - the x and y coordinates will move around independently of one another to give a random motion path about a central position.
- **Orbit** - the x and y coordinates are linked so that the position moves in and out of the center in arcs.

Wobble X - the width of the rectangular area within which the random path is constrained.

Wobble Y - the height of the rectangular area within which the random path is constrained.

Speed - the rate at which the image moves along the path. Increase this for a more rapid movement.

X Detail - the amount of smaller horizontal perturbations that can be added to the path.

Y Detail - the amount of smaller vertical perturbations that can be added to the path.

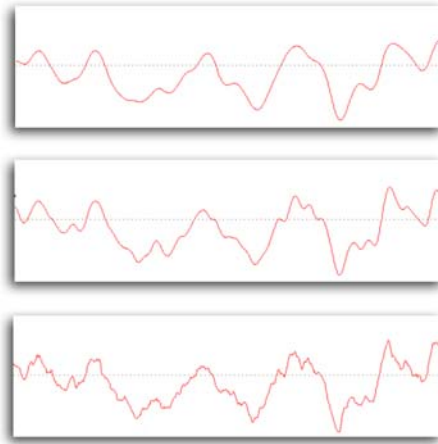


Figure 160. This image shows three paths with increasing amounts of fractal detail added from the parameters X Detail and Y Detail. Note that the basic shape of the path remains the same.

Shutter - the time the camera shutter is open. Increase this value for a more blurry image.

Note *This parameter will only work if the Wobble Method is Simple. For Complex wobbles, the Samples parameter provides the motion blur.*

Seed - the number used to generate the random path. Change this for a different wobble.

Use Complex Parameters - switch this on to use the complex parameters rather than the default ones.

Complex These parameters supersede those above.

Speed X - the rate at which the image shakes

horizontally. Increase this for more shaking.

Speed Y - the rate at which the image shakes vertically. Increase this for more shaking.

Speed Rotation - the rate at which the image rotates.

Speed Scale - the rate at which the image is scaled.

Wobble Rotation - the maximum amount of rotation. The actual amount is random.

Wobble Scale - the maximum amount of scaling. The actual amount is random.

Wobble X Scale - the maximum amount of horizontal scaling. The actual amount is random.

Wobble Y Scale - the maximum amount of vertical scaling. The actual amount is random.

Detail Rotation - the amount of small rotational perturbations added to the underlying rotational movement.

Detail Scale - the amount of small scaling perturbations added to the underlying scaling motion.

Zoom - the overall size of the image. This can be used to clip out unwanted off screen pixels when shaking.

Samples - the number of sub-samples per frame. Increase this for smoother motion blur.

Filtering - the quality of the anti-aliasing used when processing the effect. See “Filtering” on page 19.

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

Blending How to mix between the source image and the effect. See “Blending” on page 20.

Source Crops Cropping tools and edge methods. See “Source Crops” on page 26.

Hints & Tips

T_Wobble can be used to apply camera shake to a clip. If you're simulating an earthquake or explosion this can be a useful method of applying motion blurred and random shaking to the image.

Moving the image, during a simulated camera shake, will introduce black pixels at the edges. This can be eliminated by either setting the Source Crops Edge Methods to Reflect or using the Zoom parameter. The first method will remove any black pixels by reflecting pixels at the image edges. The second method increases the size of the image to remove the unwanted black pixels, but will soften the image.

Appendix A

GENARTS TINDER PLUG-INS

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