



User Guide
for Windows® and Macintosh®

Trademarks

MetaCreations and the MetaCreations logo are trademarks of MetaCreations Corporation. Kai's Power Tools and KPT are trademarks of MetaCreations Corporation.

Core Flame fractal technology © 1998
Scott Draves (<http://www.cs.cmu.edu/~spot>).

"Windows" is a registered trademark of Microsoft Corporation. "Pentium" is a registered trademark and "i486" is a trademark of Intel Corporation. "Macintosh" is a registered trademark of Apple Computer, Incorporated. Adobe and Photoshop are registered trademarks of Adobe Systems, Incorporated. All other product names mentioned in the manual and other documentation are used for identification purposes only and may be trademarks or registered trademarks of their respective companies. Registered and unregistered trademarks used herein are the exclusive property of their respective owners. MetaCreations Corporation makes no claim to any such marks, nor willingly or knowingly misused or misapplied such marks.

Copyright

This manual, as well as the software described in it, is furnished under license and may only be used or copied in accordance with the terms of such license.

Program ©1998 MetaCreations Corporation, including the look and feel of the product. MetaCreations KPT 5 User Guide ©1998 MetaCreations Corporation. No part of this guide may be reproduced in any form or by any means without the prior written permission of MetaCreations Corporation.

Notice

Before using this software or reading this user guide, make sure you have read, understood and agreed to the license contained in the back of the KPT Quick Reference Card.

Credits

Kai's Power Tools was conceived by Kai Krause; Engineering by Todd Bogdan, Michael Herf, Moe Doucet, Josh Bates, Ben Weiss, Andrew Bearsley, Ken Musgrave, Matt Fox Wilson and Scott Draves; User Interface Design by Kai Krause with additional contributions from Chris Livingston.

Quality Assurance testing by Steve Yatson, Meredith Keiser, Fernando Corrado, Kevin Prendergast, and Brian Romero.

Product Management by Chris Livingston and Stuart Torzewski.

The KPT 5 User Guide was written by Erick Vera; edited by Stuart Torzewski, Chris Livingston and Vicki Wong; project management by Erick Vera; illustrated by Jackson Ting and Erick Vera.

Photos provided by PhotoSpin Inc. and PhotoDisc.



WELCOME TO KPT 5

Welcome to KPT 5	10
What's New?	10
KPT® ShapeShifter	10
KPT® Orb-It	10
KPT® FiberOptix	10
KPT® Blurrrr	10
KPT® FraxPlorer	10
About Your User Guide	11
Conventions	11
Modifier Keys	11

Customer Support	11
Web Support	11
Phone Support	12
Who Is MetaCreations?	12
For More Information	12
Installing KPT 5	13
Windows 95/98/NT 4 Installation	13
Power Macintosh Installation	14
Installing KPT 5 with Painter® 5	15

A LITTLE THEORY....

What are Masks?	16
Masks and Alpha Channels	17
Creating Masks	17
Using Masks in Painter 5	17

What are Fractals?	18
Fractal Types	18

KPT BASICS

Accessing Filters	20
The KPT Workspace	20
Setting Workspace Size	21
Setting KPT 5 Options	22

Setting Global Options	22
Setting Filter Options	22
Using Common Controls	23
Using Memory Dots	23
Working with the Main Preview Window	24
Working with Preview Modes	25

Working with Panels	27
Using the Color Picker	29
Using Common Panels	30
3D Lighting Panel.	30
Environment Panel	34
Color Gradient Panel	35

Working with the Presets Library	38
Loading Presets	39
Adding and Deleting Presets	39
Editing Preset Information	40
Importing and Exporting Presets	40
Applying KPT Effects	40
Applying KPT Effects to Layers.	40

KPT 5 TUTORIALS

Welcome	42
KPT ShapeShifter Tutorial	42
Getting Started	42
Lesson 1: Creating a Shape	42
Lesson 2: Adjusting Bevels.	43
Lesson 3: Adding a Top Mask	43
Lesson 4: Adding an Environment Map.	44
Lesson 5: Adding Texture to a Shape	45
KPT Orb-It Tutorial	46

Getting Started	46
Lesson 1: Setting Orb Material.	47
Lesson 2: Applying an Environment Map	47
Lesson 3: Setting Sphere Properties	48
Lesson 4: Lighting Spheres.	49

KPT FiberOptix Tutorial	49
Getting Started	49
Lesson 1: Adding a Mask.	50
Lesson 2: Setting Fiber Parameters	51
Lesson 3: Coloring Fibers.	51

KPT BLURRRR

Overview	55
Switching between Blurs.	55
Previewing Blurs	55
Hi-Speed Blur	56
Setting Hi-Speed Blur Radius	56

Kraussian Blur	57
Setting Blur Radius	57
Setting Kraussian Options	57
Camera Optics.	58
Setting Blur Radius	59

Controlling the Blow-Out Effect	59
Motion Blur	59
Setting Motion Blur Radius	60
Setting Blur Direction	60
Spin Blur	60
Setting Blur Radius	60
Zoom Blur	61
Setting Blur Radius	61

Spiral Blur	61
Setting Blur Radius	61
Setting Spiral Rotation Angle.	62
Gaussian Weave Blur	62
Setting Blur Radius	62
Spiral Weave Blur	62
Setting Blur Radius	63
Setting Spiral Rotation Angle.	63

KPT FIBEROPTIX

Overview	65
Previewing your Fibers	65
Creating Fibers	66
Setting Fiber Density	66
Setting Fiber Length	66
Adjusting Fiber Tapering.	67
Setting Fiber Flatness.	67
Setting Fiber Direction	67
Setting Direction Angle	67
Setting Direction Intensity	68
Adjusting Growth Patterns	68
Using Noise Maps with KPT FiberOptix	69
Loading a Noise Map	70

Scaling a Noise Map	70
Blending Noise Maps.	70
Setting Fiber Surface Properties.	70
Using a Gradient as a Tint	71
Using a Tint Color.	71
Setting Luma Variance	71
Setting Fiber Transparency.	71
Lighting Fibers.	72
Using Masks with KPT FiberOptix	72
Setting Bevel Width.	72
Setting Background Surface Properties	73
Previewing Fibers	75

KPT FRAXFLAME

Overview	77
Setting up a Flame Fractal	77
Choosing a Style	77
Mutating a Flame.	78
Viewing your Flame Fractal.	79
Repositioning your View	80
Zooming into your Fractal	80

Coloring your Fractal	80
Rendering your Fractal	80
Setting Gamma	80
Setting Intensity.	80
Setting Preset Rendering Options	80
Setting Custom Rendering Options	81

KPT KPT FRAXPLORER

Overview	83
Exploring Fractals	83
Exploring Julia Variations	84
Exploring Polar Variations	84
Exploring M-Julia Polar Variations.	85
Using the Universe Mapper	85
Navigating in a Fractal	86
Using Navigation Controls	86
Setting Fractal Detail	87

Setting Preview Options	88
Setting Preview Size.	88
Coloring a Fractal	88
Setting the Inside Color.	89
Using a Gradient	89
Using Coloring Modes	89
Rendering Your Fractal	95
Previewing Output	95

KPT FRAX4D

Overview	97
Creating a KPT Frax4D Object	97

4D vs. 3D Fractals.	97
Using the 2D Slice of 4D Space Panel	98
Choosing R and I Parameters	98

Choosing J and K parameters	99
Viewing your Fractal using a W Slice	99
Setting Fractal Complexity	99
Exploring your 4D Fractal	100
Zooming into a Fractal	100
Viewing a Fractal in the Main Preview window	100
Setting Fractal Iterations	100

Adding an Environment Map	100
Setting Up Lighting	100
Rendering your Fractal	100
Extremely Technical Notes	101

KPT NOIZE

Overview	103
Generating Noise	103
Using the Noise Mutator	104
Scaling Noise	105

Setting Up Noise Components	105
Generating RGB Noise	106
Using a Gradient	106
Generating Alpha Noise	107

KPT ORB-IT

Overview	109
Creating Orbs	109
Setting Orb Packing Density	109
Setting Orb Size	110
Size Variation	110
Setting Z-Axis Distribution	110
Controlling Orb Density using Alpha Information	111
Lighting Orbs	111
Setting Up Orb Surfaces	111

Using a Tint Color	112
Setting the Tint Amount	112
Tint to Background	113
Using Glass Refraction	113
Turning Metallic Reflections On/Off	113

Adding an Environment Map	113
Blending the Environment Map with the Orbs	114

KPT RADWARP

Overview	116
Setting Warp Parameters	116
Setting Warp Alpha Controls	117
Setting Warp Beta Controls	117

Adjusting Warp Center	118
Setting Horizontal Center	118
Setting Vertical Center	118
Rotating your Image	118

KPT SHAPESHIFTER

Overview	120
Creating a Shape	120
Working with Bevels	121
Bevel Modes	121
Using Bevel Masking	124
Setting Bevel Scale	124
Setting Bevel Height	124
Lighting your Shape	125
Adding Texture to your Shape	125
Importing a Bump Map	125
Setting Bump Scale	126
Setting Bump Height	126
Adding a Glow	127
Setting Glow Color	127
Setting Transparency	128
Setting Glow Size	128
Setting Glow Position	128

Working with Shadows	128
Setting Shadow Color	129
Setting Shadow Position	129
Setting Shadow Size	129
Setting Shadow Transparency	129
Adding an Embossing Layer to your Shape . .	130
Using a Tint Color with the Top Mask	130
Noise Masking	130
Adjusting Transparency	131
Emboss Scale	131
Emboss Height	131

Adding an Environment Map to your Shape .	131
Blending an Environment Map	132
Using a Tint Color	132
Applying Glass Refraction	133
Setting Internal Reflections	133

Previewing Your Shape	133
--	------------

KPT SMOOTHIE

Overview	135
A Little History...	135
Previewing your KPT Smoothie Effect	135
Smoothing an Image	136
Working with Outer Edges	138
Working with Inner Edges	138

Welcome to KPT 5

Kai's Power Tools is a collection of image filters that let you alter images from a host application. With Kai's Power Tools, you'll produce incredible effects in seconds.

What's New?

The new version of KPT is a collection of new filters that can turn any image into a work of art. You'll find filters that make fractals, filters that provide vast improvements over standard image processing effects, and all new filter that explore technology you just won't find anywhere else.

Listed below are descriptions of just some of the filters you'll find in KPT 5.

KPT® ShapeShifter

KPT ShapeShifter creates shapes and objects with refracting glass edges, 3D light sources on beveled metallic surfaces, soft, curved and lit Web buttons, and text. Resulting elements carry their masks with them, which makes compositing a snap.

Refer to ["KPT ShapeShifter" on page 119](#) for a complete explanation of this filter.

KPT® Orb-It

KPT Orb-It explodes a source image into thousands of spheres with variations in size, density, and realistic 3D lighting. Produce fields of bubbles, raindrops, and giant lenses, incredible text effects, and mind-boggling distortions.

Refer to ["KPT ORB-IT" on page 108](#) for a complete explanation of this filter.

KPT® FiberOptix

KPT FiberOptix creates anything from furry text, green shag carpet, pink plastic silly string, to lush creeping vines. Every strand and fiber is a true 3D object. Masks are generated from the 3D data, enabling easy compositing.

Refer to ["KPT FiberOptix" on page 64](#) for a complete explanation of this filter.

KPT® Blurrrr

KPT Blurrrr is a professional suite of filters including the classic zoom, spin, and other indispensable blurs updated with real-time previews, pro-precision 64-bit color, and 128-bit math with new algorithms and variations.

Refer to ["KPT Blurrrr" on page 54](#) for a complete explanation of this filter.

KPT® FraxPlorer

KPT FraxPlorer is the new, definitive Fractal Explorer featuring real-time fly-throughs, 1000% larger previews, and never-before-seen fractal styles.

Refer to ["KPT KPT FraxPlorer" on page 82](#) for a complete explanation of this filter.

About Your User Guide

This guide provides all the information you'll need to get the most out of Kai's Power Tools. It will help you learn the application and serve as a reference as you attempt more sophisticated techniques.

This guide assumes you are already familiar with basic Macintosh® and Windows® concepts—menus, dialogs, and mouse operations, such as clicking and dragging. If you need more information on these subjects, or on the Macintosh Finder or the Windows desktop, refer to the Macintosh User's Manual or the Microsoft Windows User's Guide, respectively.

Conventions

The KPT Users Guide is for both Macintosh and Windows. By convention, Macintosh commands precede Windows commands in the text. For example, Command/Ctrl+I, is equivalent to the Macintosh Command-I and the Windows Ctrl+I. For simplicity, the term "folder" refers to directories as well as folders. The KPT interface for Macintosh and Windows platforms is identical, unless otherwise specified.

There are also several conventions used to identify paths to certain tools and controls. The convention to a menu follows the rules of the **menu name> menu item**.

Modifier Keys

When a modifier key differs between the Macintosh and Windows platform, the Macintosh modifier is listed first followed by a slash and the Windows modifier key. Option/Alt means Macintosh users press the Option key and Windows users press Alt.

Who Is MetaCreations?

MetaCreations is a major force in 2D and 3D graphic software, developing and marketing next generation products that unite traditional art and design techniques with digital technology. MetaCreations products are engineered to deliver real-time interaction, intuitive functionality, and creativity to design professionals, graphics hobbyists, and consumers who work on desktop computers.

MetaCreations' focus is maintained by three product values:

- Faithfully replicate Natural-Media and real world looks in the digital medium.
- Facilitate and extend the range of creativity by allowing artists to do things they couldn't do before.
- Capture human expression and allow the artist's perspective and intent to show through.

For More Information

For more information about MetaCreations' products, see our Web site on the Internet:

<http://www.metacreations.com>

Installing KPT 5

Kai's Power Tools 5 requires a host application to run. The host application can be any program that fully supports Adobe® Photoshop®-compatible plug-ins.

KPT 5 must be installed in the same folder where your host application looks for plug-ins. In the case of Photoshop, this is the Plug-ins folder within the Photoshop application folder.

Windows 95/98/NT 4 Installation

System Requirements

The following are necessary to run KPT 5 on your PC:

- Pentium 166 MHz (or compatible) or faster. Pentium 266 MHz or faster recommended
- Windows 95/98/NT4
- Photoshop 3/4/5 or 100% compatible host
- 32MB RAM. 64MB or greater recommended
- 50MB free hard disk space
- 24-bit color video, color monitor
- CD-ROM drive

Installation

Installing Kai's Power Tools:

- 1 Insert the Kai's Power Tools 5 CD into your CD-ROM drive.

- 2 Choose Start menu> Run.
- 3 Type the letter that corresponds to your CD-ROM drive followed by “:\setup”. For example if your CD-ROM drive is drive D, type d:\setup.
- 4 Click OK and follow the instructions displayed.
- 5 The installer prompts you to locate your Adobe Photoshop Plug-ins folder. This folder can be a part of the Photoshop application, or any application that accepts 100% compatible Photoshop plug-ins.
- 6 Click Install.
When the install is complete, you can access the plug-ins from within the host application.

Installation Tips

Make sure that:

- Your operating system is Win95/98/NT 4. Kai's Power Tools will not run in Win 3.x. or NT 3 x.x.
- Your display is set to a minimum of 24-bit color (true color).
- You are using a Pentium processor or Pentium class processor. Kai's Power Tools will not run on a 486.
- There are no open applications.
- There are NO applications running in the background. This includes anti-virus, crash-monitoring software, or system diagnostic software.

Troubleshooting

Win 95/98

Closing applications running in the background is very important for a successful install.

To make sure all background programs are closed:

- 1 Press Ctrl + Alt + Delete once.
Don't press the key combination twice in a row as this will reboot your computer.
The Close Program window appears.
 - The basic Windows 95 components are Explorer and Systray. All other items you see on the list are the result of installing hardware or software.
- 2 You can close all unnecessary background programs by selecting one item at a time and clicking the End Task button. This does not change any settings on your system. If you reboot your machine, all the programs will return.
 - Don't select Explorer, (or Systray if you see it on the list).
 - Don't hit the Shut Down button as this will reboot your system.

Once you close an item, the Close Program window disappears. You'll have to hit Ctrl + Alt + Delete again to get it back.

A dialog that says: "This program is not responding. It may be busy " may appear. Press the End Task button to finish closing the program.

By design you should be able to close all background applications this way.

However, your system may reboot when you press End Task, or a program may not close the way it should. If this happens, try leaving it on the Close Program list and install anyway.

Win NT 4

Closing applications running in the background is very important for a successful install.

To make sure all background programs are closed:

- 1 Press Ctrl + Alt + Delete and choose the Task Manager.
Do not hit this key combination two times in a row as this will reboot your computer.
- 2 You can close all unnecessary background programs by clicking the Applications tab, selecting all the items on the list and then clicking the End Task button.
This does not change any settings on your system. If you reboot your machine, all the programs will return.
A dialog that says: " This program is not responding. It may be busy" may appear. Press the End Task button to finish closing the program.

Power Macintosh Installation

System Requirements

The following requirements are needed to run KPT 5 on your Macintosh:

- PowerPC based Macintosh
- MacOS 7.6.1 or later

- Photoshop 3/4/5 or 100% compatible host
- 32MB RAM. 64MB host application RAM or greater recommended.
- 50MB hard disk space
- 24-bit color video, color monitor
- CD-ROM drive

Installation

Installing KPT 5:

- 1 Insert the Kai's Power Tools 5 CD into your CD-ROM drive.
- 2 Double-click the Kai's Power Tools 5 Installer icon.
- 3 The installer prompts you to locate your Plug-ins folder. This folder can be a part of the Photoshop application, or any application that accepts 100% Photoshop-compatible plug-ins.
- 4 Click Install.
When the install's done, you can access the plug-ins from within the host application.

Installation Tips

Make sure that:

- Your operating system is System 7.6.1 or higher.
- Your display is set to minimum of 24-bit color (true color).
- You're not running Virtual Memory or any RAM-enhancing programs like RAM Doubler.

Troubleshooting

If you're having problems installing, you may be having an extension conflict. Try installing with a limited extension set. Try using only the extensions you need for your CD-ROM. Then go back to your regular extension set after the install.

Installing KPT 5 with Painter® 5

If you want to use KPT 5 with Painter 5, you have 2 choices:

- If you've already installed KPT 5 in the Photoshop Plug-ins folder, you can direct Painter to look to this folder for plug-ins. Refer to page 37 of the Painter 5 User Guide for instructions.
- If you want to install KPT 5 for use with Painter 5 only, you should make a new folder before beginning the install.

Give the folder a unique name and place it wherever it's convenient. If you want to make it a sub-folder of Painter, make sure you give it a unique name, like "raster plugins".



Don't install KPT 5 to the Other Plugins or Plugin Brushes folders.

A Little Theory....

To help you get the most out of KPT, there are two topics you should know a little bit about: Masks and Fractals.

Many of the filters in KPT use masks extensively to determine how the filter is applied to your image. So to get the most out of these filters, you should know how to create and apply masks.

Several of the filters deal exclusively with Fractals. These are the filters with Frax in their title. Knowing something about what fractals are, and how they work, will help you when you're using these filters.

What are Masks?

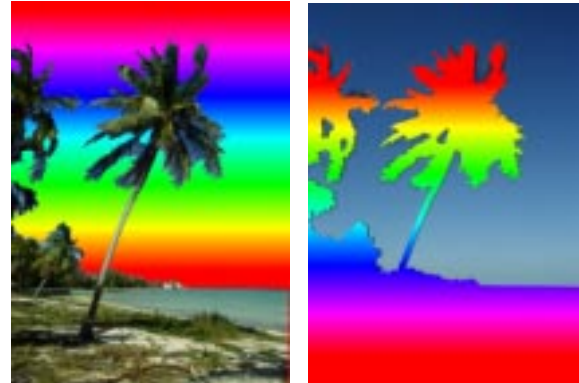
Basically, a mask is a black and white image that defines which areas of your image can be changed and which areas can't.



An image and its mask.

Masks are usually used to protect areas of your image while editing. In this case, any changes you make to your image are applied everywhere except the area inside the mask.

Masks can also be used to define the area where an image effect is applied. When you use it this way, the mask actually protects everything outside the mask area.



A mask used to protect an area and to limit an effect.

In KPT, masks are used to create shapes and to define which areas of your image are affected by the filter.



A mask used with two of the KPT 5 filters.

Masks and Alpha Channels

An alpha channel is an additional channel in an image (i.e. in addition to the RGB channels) that stores a mask or a selection. In KPT, you can use the alpha channel to create a selection before entering a filter, or make a mask image out of the alpha channel and then import it into a filter.

Creating Masks

Creating a mask can be as easy as creating a 32-bit black and white image. However, in most cases you'll want to create a mask from an existing image. Most image-editing applications let you convert selections into masks and then store them as an additional channel with the file.

Creating Masks in Painter 5

In Painter, you can save a selection using the Save Selection button in the **Objects: Mask List** palette. Refer to the Painter 5 User Guide for more information on creating masks.

Using Masks in Painter 5

Masks work differently in Painter than they do in Photoshop. In Painter, the white areas are considered the background while the black areas are used to define the shape. Since KPT uses the white areas to create shapes and define areas, you'll need to invert the mask before entering a KPT filter.

To invert a grayscale image in Painter:

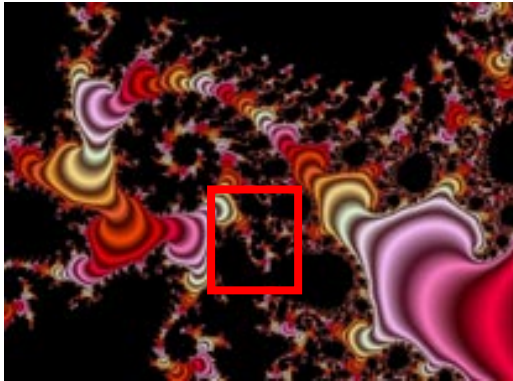
- 1 Load the mask image into Painter.
- 2 Choose **Effects menu > Tonal Control > Negative**.

What are Fractals?

Fractals are mathematical equations that result in incredibly beautiful patterns when they're mapped out on a computer.

One of the distinguishing features of a fractal is self-similarity; this means that reduced versions of the fractal appear throughout a fractal's pattern.

Most fractals are infinitely detailed, so you can zoom in closer and closer to see more detail. As you zoom, you'll see the same patterns recurring.



A Mandelbrot fractal.



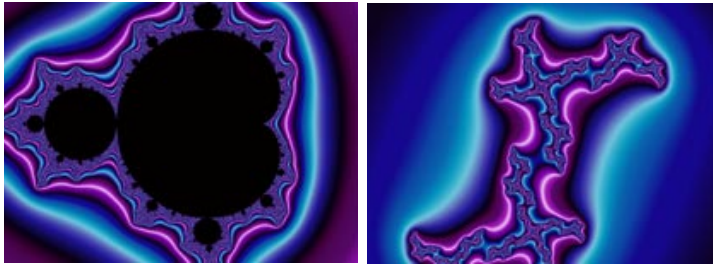
A zoomed in view of the fractal. Notice that the pattern here is similar to the larger view.

KPT's fractal filters, like KPT FraxPlorer, are designed to help you see these repeating patterns. The filter lets you explore fractals by zooming into their pattern. The further in you go, the more patterns you'll see. Normally, this requires a large number of calculations that takes a long time to process, but with KPT you can zoom into any fractal in real-time.

Fractal Types

Over the years, several brilliant mathematicians and scientists have studied fractals and have advanced the knowledge of these patterns. Several of these pioneers created their own formulas for generating fractals, which resulted in different fractal types.

For example, Benoit B. Mandelbrot, sometimes called the father of fractals, created a formula that generated fractals with bulb-like patterns. The Julia Set of fractals are produced by a specific type of chaotic function named after Gaston Julia for his work in this field.



A Mandelbrot and Julia Set fractal.

Besides these two, there are several other types of fractals. Each creates a breath-taking array of infinite patterns.

KPT Basics

This section provides basic information you'll need to use all the filters. It covers the general procedure for using the controls you'll find in the various filters, as well as suggestions on how to get the most out of Kai's Power Tools.

Accessing Filters

KPT filters can be applied to any selection or layer of your image file.

NoTe

KPT only works with RGB images.

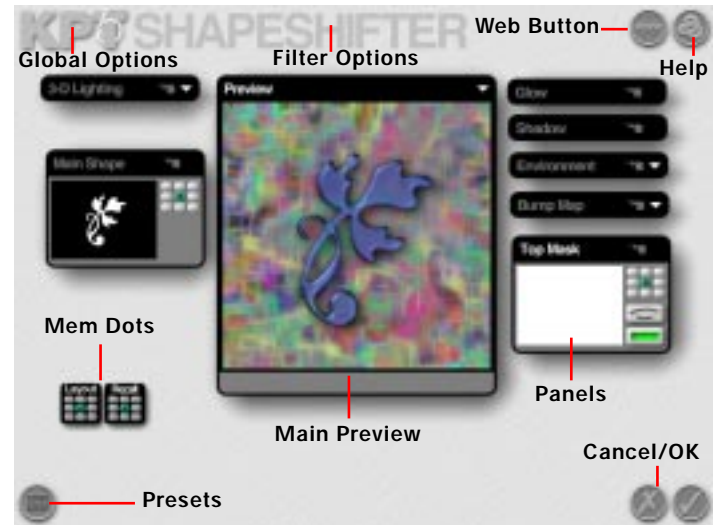
To apply a filter:

- 1 In the host application, open the image you want to apply the filter to.
 - If you want to apply the filter to the entire image, make sure nothing is selected.
 - If you want to apply the filter to a specific area, make a selection.
 - If you want to apply the filter to a specific layer, select it.
- 2 From the Filter menu, choose the KPT 5 sub-menu and then the effect you want to use.

When you select a filter, its window appears.

The KPT Workspace

All the KPT 5 filters are based on the same user interface. There's a main workspace with panels that float over it. The workspace has a number of controls that you can use in any filter.



The KPT workspace.

KPT 5 Title

The KPT logo accesses global options that let you change how the workspace looks. You can also open the About box.

Filter Title

The title of each filter lets you access options for the current filter. These options only affect the active filter. The types of preferences available vary between filters.

Web Button

The @ symbol lets you jump to the Kai's Power Tools Web page on the MetaCreations Website.

MetaCreations Logo

Accesses the on-line documentation for the current filter.

Presets

The heart-shaped button at the bottom of the workspace lets you access the Presets Library. Refer to ["Working with the Presets Library" on page 38](#) for more on using presets.

Cancel/OK

The checkmark at the bottom of the workspace is the OK button. The X is the Cancel button.

Memory Dots

The memory dots that appear on the main workspace let you store the positions of the filter panels and all the values in a filter (i.e. all the values in all the panels.) Refer to ["Using Memory Dots" on page 23](#) for more on memory dots.

Setting Workspace Size

You can control the size of the KPT 5 workspace using the keyboard keys. If you make the workspace smaller than your display, you'll be able to see your desktop.

Resize to 640 x 480	Ctrl/Command - 1
Resize to 800 x 600	Ctrl/Command - 2
Resize to 1024 x 768	Ctrl/Command - 3
Resize to 1152 x 870	Ctrl/Command - 4
Resize to 1280 x 1024	Ctrl/Command - 5
Resize to Full Screen	Ctrl/Command - 0

Setting KPT 5 Options

KPT 5 lets you set several options that control how all the KPT 5 filters appears, as well as providing options that only affect specific filters.

Setting Global Options

The Global Options control how the appearance of the KPT Workspace. These options affect all the filters in KPT 5.



Click the KPT 5 title to access the Global Options menu.

Black Out Screen

This option lets you black out the desktop of your operating system.

Smileys!

This option toggles between Cancel/OK buttons. When the option is enabled, Cancel is represented by a sad face and OK is a happy face (cute no?). When disabled, the standard checkmark and X icons appear.

About KPT 5

This option displays the KPT 5 About box.

Setting Filter Options

The Filter Option menu lets you control how a filter's panels behave in the workspace. These options only affect the current filter.



Click the filter title to access the Filter Options menu.

Panel Auto Popup

When this option is enabled, panels automatically expand as you pass your cursor over them. When you move the cursor to a different location, the panel automatically collapses to its Preview-Only state.

Panel Manual Popup

When this option is enabled, panels only expand and contract when you click them. A cyclers icon appears that lets you cycle through the panel states.



Click the cyclers icon to move between panel states.

Panel Solo Mode

When this option is enabled, only the panel you're currently working with expands. All the other panels are collapsed. This helps you isolate the controls you're working with.

Using Common Controls

Although each KPT filter is unique, they all share similar controls. This section describes some of the controls you'll find in the various KPT filters.

Using Memory Dots

Memory dots let you store and recall values with a single click of your mouse. There are three types of memory dots in KPT: Layout, Recall and panel dots.

The Layout memory dots that appear on the KPT workspace store the state of the interface. You can use them to setup different working environments. For example, you could have all the advanced controls for a filter displayed so that you don't have to expand each control individually.



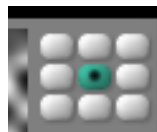
Layout dots.

The Recall memory dots let you retrieve all the values for all the panels in the filter. You can quickly set up all your panels by just clicking a dot. You can also use the Recall dots to store the various stages of your effect as you change settings.



Recall dots.

Each panel also has a set of memory dots that let you store values for an individual control. You can use these dots to return to different stages of an effect.



Memory dots on a panel.

To store interface positions in a memory dot:

- 1 Set up the interface the you want it.

- 2 Click an empty Layout dot. Empty dots are grey.

To store all filter values in a memory dot:

- 1 Set up the values in each of the panels you want to store.
- 2 Click an empty Recall dot. Empty dots are grey.

To store a panel's values:

- 1 Enter the values you want to store in the panel.
- 2 Click an empty dot on the panel.

To recall a memory dot setting:

- 1 Click on a full dot. Full dots appear green.
- 2 The selected dot turns yellow.

To clear a memory dot:

- ⌘ Option/Alt-click a full memory dot. It turns grey to indicate that it's empty.

Restoring Panels to Default

The memory dots on a panel have a reset button. The dot in the center lets you reset all the values in the panel to their factory default values.

To restore a panel to default:

- ⌘ Click the center memory dot. The recall dot has a black dot in the middle.

Working with the Main Preview Window

The Main Preview window is the area that displays the results of the filter. As you change settings, the preview window updates to show you the results.

The behavior of the Main Preview window changes from one filter to another. In most cases, it displays a preview of the effect. However, in some filters, you can click-and-drag inside the Main Preview window to change your view of the effect or rotate an object. These unique behaviors are explained in the filter sections.



The Main Preview window in different filters.

The bar across the bottom of the window can contain navigation controls, like those found in KPT FraxPlorer. Refer to ["Using Navigation Controls" on page 86](#) for more on these controls.

To reposition the Main Preview window:

- ⌘ Drag the window's title bar to any position on the screen.

Preview Window Options

The Main Preview window has three size options: Small, Medium and Large.

The different sizes are designed to let you see the largest possible preview within your display.



The options menu can also contain output options or rendering options. Refer to ["Applying KPT Effects" on page 40](#) for more on output options.

To set Main Preview window size:

- ⌘ Click the triangle icon at the top of the Main Preview window and choose either Small, Medium or Large from the menu.

Working with Preview Modes

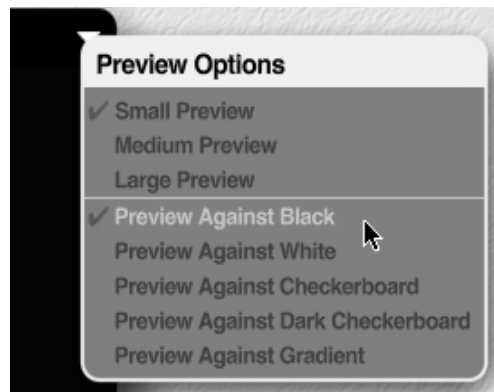
Usually, when you enter a filter, the filter effect is previewed on top of the background image. For some of the more complex filters, this can slow down preview render time. To help you speed up your preview, some filters have preview modes that can replace the background image with flat patterns or colors that make previewing faster.



Preview modes do not affect the final render, only the preview of the effect.

To choose a preview mode:

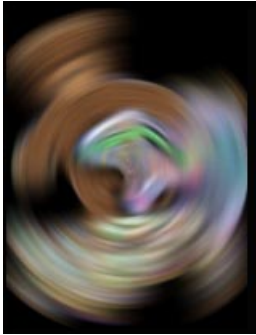
- ⌘ Click the triangle icon at the top of the Main Preview window and choose a mode from the menu.



The Preview Option menu on the Main Preview window.

Preview Against Black

The filter effect is displayed on a solid black background.



KPT Blurrrrr using the Preview Against Black mode.

Preview Against White

The filter effect is displayed on a solid white background.



KPT Blurrrrr using the Preview Against White mode.

Preview Against Checkerboard

The background image is replaced by a pattern of gray squares.



KPT Blurrrrr using the Preview Against Checkerboard mode.

Preview Against Dark Checkerboard

The background is replaced by a pattern of dark gray squares.



KPT Blurrrrr using the Preview Against Dark Checkerboard mode.

Preview Against Gradient

The background is replaced by a grayscale gradient.



KPT Blurrrr using the Preview Against Gradient mode.

Working with Panels

All of the controls for a filter are divided into panels. These panels float over the filter window and can be repositioned to best suit the way you work.

Setting Panel States

Each panel has four states: collapsed, preview-only, standard and expanded. The states are designed to help you focus on a task by hiding unrequired controls.

Collapsed State

A Collapsed panel appears as a small black bar with the name of the control. This is the state you'll use to store controls you're not currently using.



KPT filter panels in their Collapsed state.

To collapse a panel:

- ⌘ Double-click the panel's title bar.

Preview-Only State

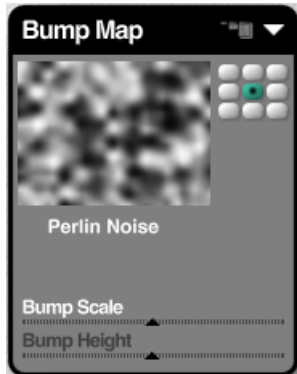
In Preview-Only state, the panel displays a preview thumbnail of any imported images, masks or presets you're currently using. The name of the file appears below the preview.



A KPT panel in Preview-Only state.

Standard State

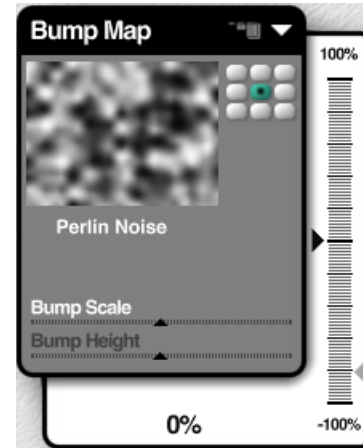
In the Standard state, the panel displays a preview of any imported images, as well as any parameter controls available.



A KPT panel in its Standard state.

Expanded State

In the Expanded state a panel displays two controls that let you set precise values for each control in the panel.



A KPT panel in its Expanded state.

The vertical ruler acts a precise slider. It lets you adjust the value of a control in minute increments. The small ghosted arrow indicates the last value you entered.

To adjust a control in small increments:

- 1 Click the control you want to set.
- 2 Drag the marker up or down. The ticks on the ruler let you see the amount of adjustment you're applying.

The numerical value act as a text entry field. You can type any value you want to replace the displayed numbers.



Click the numerical display on the extended slider to enter a value manually.

To enter numerical values for a control:

- 1 Click the control you want to set.
- 2 Click the number displayed on the panel.
- 3 Enter the desired value.

Setting Panel Options

Each panel has an Options menu. The contents of the menu vary from panel to panel. However, there are several options that are common to all panels.

Load

When this option appears, you can use it to load a file into the panel. For example, in the Environment panel you can load an image to use as an environment map.

Load Preset

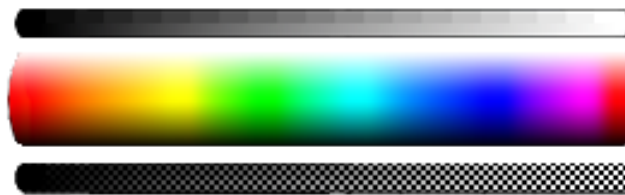
This option let you load a file from the Presets Library. Refer to [“Working with the Presets Library” on page 38](#) for more on the library.

Save Preset

This option lets you save the image or object currently in the panel's preview window to the Presets Library.

Using the Color Picker

The Color Picker lets you set a color for an object. If you see a color dot next to an item in a panel, it means that you can set the item's color using the Color Picker.



The KPT Color Picker.

The picker appears as three floating bars. The top bar displays shades of gray from black to white. The center bar displays a spectrum of colors and shades. The bottom bar displays opacity settings.

The grayscale bar is divided into two sections. The top area of the sections is broken down into increments of grayscale values to make it easier to choose precise grayscale shades. The bottom of the bar is a continuous blend of grays.



The two sections of the grayscale bar.

To choose a color:

- ✱ Click a color dot on a panel. The Color Picker appears. While holding down the mouse button, drag over the color you want to use from the center bar.

When you release the mouse button, the color is selected.

As you move over the colors, the color dot shows you both the new color and the original color.

To choose a shade of gray:

- ✱ Drag the cursor along the top bar in the Color Picker.

To choose an opacity setting:

- ✱ Drag your cursor along the bottom bar in the Color Picker.

Using Common Panels

Several of the panels in KPT are common to several filters. For the most part, these panels work the same wherever they appear. In some cases, a panel may have one or two extra controls that are unique to a filter.

3D Lighting Panel

The 3D Lighting panel lets you position light sources in 3D space and set their colors and brightness. The panel appears in any filter that renders objects in 3D, like KPT Orb-It and KPT Frax4D.



The 3D Lighting panel.

Adding and Deleting Lights

When you first access the 3D Lighting panel, it has a number of lights. You can add more lights to illuminate the image from a number of different angles, or to mix light colors on the surface of your object.

To add a light source:

- ✱ Click the Add Light icon.



Add Light icon.

To delete a light source:

- 1 Select a light source in the light preview.
- 2 Press Option/Alt and click the Add Light icon or press Delete.

Setting Up Light Properties

KPT's light model not only lets you add a light source, but it also offers different types of lights that can be used to create a much more complex lighting effect. Your lights can be either Soft or Sharp, Positive or Negative.

Highlight Types

The two Highlight types determine how your light source casts light. Soft Highlights cast soft-edged, or fuzzy, highlights on your objects. Sharp Highlights cast hard-edged highlights.

To set a light type:

- 1 Click on a light.
- 2 Click the Sharp/Soft toggle button.



Highlight type toggle.

Positive and Negative Lights

The Positive/Negative toggle button lets you control a light's behavior. A positive light source projects regular light that produces highlights.

A negative light source draws light out of an object. The amount of light drawn out is determined by the light's brightness settings. A negative light's color draws out a specific color, leaving its spectral opposite in its place.

To set a light as negative or positive:

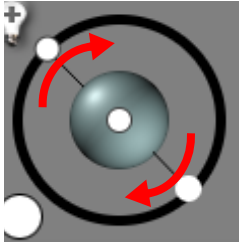
- 1 Click on a light.
- 2 Click the Positive/Negative toggle button.



Positive/Negative light toggle.

Positioning Lights

The graphic in the center of the control represents your object in three-dimensional space. The balls surrounding the large graphic in the center represent light sources.



Drag the circles to reposition lights.

By dragging these light sources to different positions around the ball, you can adjust the lighting angle on your object.



You can also drag the large sphere to reposition all the lights at once.

Sending Lights to the Back or Front of an Object

The Front/Back button lets you quickly move the light to the front or the back of your object.

To send a light to the back of an object:

- 1 Click on a light.
- 2 Click the Front/Back button.



Front/Back light button.

Setting Light Color

A light's color can tint the color of all the objects you're working with. Light color appears in object highlights.

You can also mix light colors. For example, if you have a blue light source and a yellow light, your objects will have a greenish highlight.

To change a light's color:

- 1 Click one of the light sources in the light control.
- 2 Click the color dot. The Color Picker appears. While pressing the mouse button, drag over the color you want to use.

When you release the mouse button, the color is selected.



Light color dot.

Setting Light Brightness

The overall brightness of a light is controlled by the brightness of the light itself as well as the brightness and size of the highlight.

The Light Brightness slider controls the intensity of the light. The Highlight Spread slider controls the size of the highlight that appears on objects. The Highlight Sheen slider controls the intensity of the highlight.



Use these sliders to set light properties.

By combining these three settings, you can completely control how a light affects your objects. For example, larger highlights combined with higher Brightness values can make your objects appear very bright.

You can also create different types of effects with these controls. For example, small bright highlights can make your objects look very shiny or metallic.

To set light brightness:

- 1 Click a light source.
- 2 Drag the Light Brightness slider. Drag to the right to increase brightness, or left to decrease it.

To set highlight size:

- 1 Click a light source.
- 2 Drag the Highlight Spread slider. Drag to the right to increase highlight size, or left to decrease it.

To set highlight brightness:

- 1 Click a light source.
- 2 Drag the Highlight Sheen slider. Drag to the right to increase highlight brightness, or left to decrease it.

Setting Ambient Glow

When there are no specific light sources selected, the 3D lighting panel lets you control the brightness of the ambient light. Unlike light cast from a light source, ambient light comes from all directions.

To set ambient glow:

- 1 Make sure there are no lights selected.
- 2 Drag the Ambient Glow slider.

Environment Panel

The Environment panel lets you load images that are used as environment reflection maps. An environment map image is reflected in an object's surface.

TiPS

Because of the way KPT maps images onto an object, it's not necessary to create large environment map images for larger objects. Your environment map should be no larger than 512 x 512 pixels. In fact, a 256 x 256 pixel image will work fine in most cases.



The Environment panel.

This panel appears in any filter that renders 3D objects with a surface, like KPT ShapeShifter and KPT Frax4D. It may have additional controls that are unique to a particular filter. This section describes the common controls. For descriptions of unique panel controls, see the sections on specific filters.

Loading an Environment Map Image

An environment map image can be any RGB or grayscale image stored on your system. If you want a more natural-looking effect, use a photo-realistic image. You can also load presets from the Environment library.

To load an environment map image:

- 1 In the Environment panel, click the preview window. The Open dialog appears.
You can also click the arrow icon at the top of the panel and choose Load from the options menu.
- 2 Locate the file you want to use and click OK. A preview of the image appears in the panel.

Blending an Environment Map

The Mix Environment control on the panel controls how much the environment map affects the surface of your object. At high settings the image is completely visible in any reflection. At lower settings the image appears faded.

Tinting an Environment Map

A tint shifts all the colors in an image toward a uniform color. For example, if you use blue as a tint color, the more tint you apply, the more blue you'll see in your image until the entire image is just shades of blue.

The Mix Tinting Color value controls how much tint is applied to your image. The higher the tint value, the more the image shifts towards the tint color. At 100%, the image is completely made up of shades of the tint color.

To choose a tint color:

- ✱ Click the color dot on the panel. The Color Picker appears. While holding down the mouse button, drag over the color you want to use from the center bar.

When you release the mouse button, the color is selected.

Adding a Metallic Surface

When you enable the Metallic Surface option, the reflections from the surface of your objects are tinted with the Tint color giving them a metallic look. When it's disabled, reflections look dull, like those made by a plastic surface.

To give objects a metallic surface:

- ✱ Click the Metallic Surface toggle button. When "Plastic" is displayed on the button, metallic surface is disabled.



Metallic Surface toggle button.

Adding Refraction to a Surface

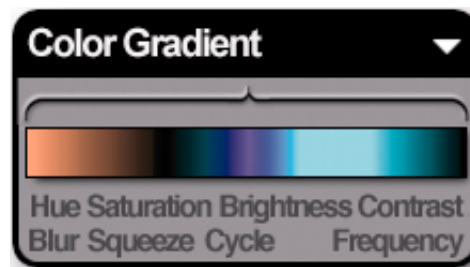
When Refraction is applied to an object's surface, it distorts the reflections, giving it a glass-like look.

To add refraction to a surface:

- ✱ Adjust the position of the Glass Refraction slider. The higher the refraction value, the more distorted the reflections appear.

Color Gradient Panel

The Color Gradient panel lets you design color gradients. Gradients can be used to color many of the objects generated by the filters such as fibers in KPT FiberOptix or fractals in KPT FraxPlorer and KPT Frax4D.



The Color Gradient panel.

With the Color Gradient panel, you can create blends of up to 512 colors, including 256 levels of opacity. The current gradient is displayed in the bar at the center of the panel. As you choose different colors, the bar updates to show the new gradient.

You can also load gradient presets to use in the panel, or you can save the contents of the panel as a new preset.

To increase the size of the panel:

- ✱ Click the triangle icon at the top of the panel and choose Large Gradient Bar from the menu.

Choosing Colors for a Gradient

The bar that appears at the top of the panel, called the Gradient bar, is where you'll choose colors and edit your gradient.

When selecting a new color for your gradient, remember that you're not just selecting a color for the gradient, but also its position within the blend.

If you add a color on the far left side of the Gradient bar, you're setting the color for the beginning of your gradient. If you press on the far right side of the bar, you are setting the color for the end of your gradient.

To select a color:

- 1 Click a point on the Gradient bar and drag the cursor over the color you want.

In addition to the colors in the Color Picker, you can also drag the cursor over any color visible on your monitor, and select that as your color.

Editing a Gradient

The Gradient bracket, located above the Gradient bar, can be used to isolate an area of your gradient for editing. Any changes you make to a gradient only affect the area within the bracket. You can use this feature to create more complex gradients. For example, you can create several smaller gradients within a gradient.



The Gradient bracket.

By default, the bracket encompasses the entire gradient, but you can resize it and move it to work with a smaller portion of your gradient.

To resize the bracket:

- ⌘ Drag either end of the bracket.

If you drag one end of the bracket past the other end, it pivots, leaving one end exactly where it began.

To reset the bracket:

- ⌘ Double-click on the center of the bracket.

To reposition the bracket:

- ⌘ Click the center of the bracket and drag to the left or right.

To cut and paste parts of a gradient:

- 1 Make sure the part of the gradient you want to copy is within the Gradient bracket.
- 2 Click the triangle icon at the top of the panel and choose Copy from the menu.
- 3 Reposition the bracket and choose Paste from the menu.

To flip a gradient:

- ⌘ Choose Flip from the Gradient panel options menu. KPT flips everything within the Gradient bracket.

Gradient Modifiers

There are eight “tweaking” controls you can use to modify the colors and other parameters of your gradient or a portion of your gradient.

To use a modifier:

- ⌘ Drag over the text label for the control you want to use.

Drag to the right to increase a modifier's effect, or to the left to decrease it.

As you drag, the expanded slider appears to help you set the modifier values precisely.

Hue

This control rotates the hues for your gradient. Each hue occupies a unique spot on a virtual color wheel. As you rotate your hues, all of the colors within your gradient rotate, allowing you to cycle through all of the possible colors in the spectrum, but maintaining each color's relative distance from every other color.

Saturation

This control is used to modify the saturation (or intensity) of the colors within your gradient.

Brightness

This control determines the brightness of your colors (i.e. how much white is mixed with each color). Pressing on this control and dragging to the right will increase the brightness, while dragging to the left will decrease the brightness.

Contrast

This control works by comparing the color values of individual pixels with the color values of neighboring pixels. Increasing the contrast exaggerates the differences between colors. Decreasing the contrast homogenizes your colors. You can actually reduce the contrast to the point where your entire gradient would be a uniform gray.

Blur

This control increase or decreases the blurriness of your gradient. Increasing the blurriness of a gradient effectively smudges the edges of your colors.

Squeeze

Dragging over this control squeezes your gradient to one side or the other. The "squeeze" always starts at the center of the Gradient bracket and moves to either end. If you want to squeeze your gradient starting from somewhere other than the center you have to do it manually: hold down Option/Alt and drag within the Gradient bar itself.

Cycle

Dragging over this control lets you reposition the entire gradient so that colors appear in different locations.



Colors repositioned using the Cycle control.

Frequency

This control sets how many iterations of the gradient appear within the gradient itself.



A gradient with a high Frequency setting.

Working with the Presets Library

The KPT Presets Library stores preset images you can use as backgrounds, environment maps, masks, bump maps and more.

Presets are divided into categories. Each category contains 24 presets. Presets are displayed as thumbnail images. The currently selected preset appears in a larger preview at the top of the library. Its name and description appears across the top of the library.



The Presets Library window.

You can add or delete categories, and import or export presets. The library is a great way of saving your own images for later use in other filters.

Global vs. Component Presets

Depending on how you access the Presets Library, it will display global presets for the entire filter, or component presets for a specific panel.

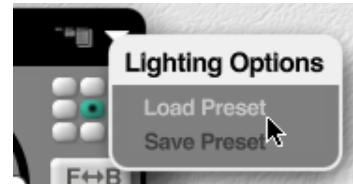
If you access the Presets Library from the main KPT Workspace, the library contains Global presets which, when loaded, set the values in all the filter's panels and load all the images necessary to reproduce the preset exactly.



Click this icon to open the Presets Library.

For example, if you load a global preset for KPT ShapeShifter, all the masks, background images, bump maps, and environment maps that make up the shape are automatically loaded. Also, all the values and options needed to recreate the preset are also loaded in the various panels.

If you access the Presets Library from a panel, it displays presets specifically suited to that control. For example, if you access the Presets Library from the Bump Map panel, a series of bump map images are displayed.



Accessing the Presets Library from a panel's Options menu.

Loading Presets

Loading either a global or a component preset is only a matter of locating the preset you want to use and clicking its thumbnail.

To load a preset:

- 1 Click the heart-shaped icon in the KPT Workspace to load a global preset.
 - To load a component preset, click the triangle icon at the top of a panel and choose Load Preset from the options menu. The Presets Library appears.
- 2 Click on a category name on the right side of the library. A set of 24 thumbnails appears.
- 3 Click the preset you want to use.
- 4 Click the OK icon.

Adding and Deleting Presets

As with loading presets, you can save global presets, by accessing the Presets Library from the KPT workspace or you can save a specific component by accessing the library from a panel.

The library lets you save any files into a specific category or you can create your own.



You can only save 24 presets in a category. If there are no open spots in a specific category, you'll have to save your new preset to another category or create a new category.

When you add files you can also add a title and comments to each image. This information appears every time you click the preset.

To add a global preset:

- 1 Click the heart-shaped button. The Presets Library appears.
- 2 Click the category where you want to add the preset.
- 3 Click the Add Preset text label. The Add Preset dialog appears.
- 4 Enter a name for the new preset and click OK. The new preset appears at the end of the category.

To add a new preset from a panel:

- ✱ Open the panel options menu and choose Save Preset. The current image in the preview window is saved as a preset.

To add a new category in the Presets Library:

- 1 In the Presets Library, click the options menu icon and choose Add New Category. The Add Category dialog appears.
- 2 Enter a name for the category and click OK.

To delete a preset:

- 1 In the Presets Library, choose the category and preset you want to delete.
- 2 Click the Delete Preset text label. The preset is removed from the library.

Editing Preset Information

You can edit the name of any preset or change the comments attached to an image.

To edit a preset's title or comment:

- 1 Click the preset you want to edit. Click the title and a text field appears.
- 2 Enter a new name or comment.

Importing and Exporting Presets

You can import images to use as components in a filter, or export completed effects as complete images.

The Import command lets you choose a file to import from any location on your system.



The images you import must be RGB, Black and White, or Grayscale.

The Export command lets you export any of the presets in the library as images.

To import a preset:

- 1 If you want to import the image into a specific category, click the category name to make it active.
- 2 Click an empty spot in the category.
- 3 Click the Import text label at the bottom of the library. An Open dialog appears.
- 4 Locate the file you want to import and click Open.

- 5 The image appears in the selected spot.

To export a preset:

- 1 Click the category for the preset you want to export.
- 2 Click the preset's thumbnail.
- 3 Click the Export text label at the bottom of the library. A Save dialog appears.
- 4 Select a name and location for the preset and click Save.

Applying KPT Effects

By default, KPT 5 filters are applied to the background image. If you made a selection before entering the filter, then the effect is applied only to the selection.

Applying KPT Effects to Layers

KPT ShapeShifter, KPT FiberOptix, and KPT Orb-It have different output options that control how KPT applies the results of a filter to a layer:

- Composite in Layer
The result of the filter is added to the other elements in the layer.
- Clear Layer before Render
The results of the filter replace all the other elements in the layer.

To choose an output option:

- Click the arrow icon at the top of the Main Preview window and choose an option from the menu that appears.

KPT 5 TUTORIALS



What's in this Section:

Welcome	42
KPT ShapeShifter Tutorial	42
KPT Orb-It Tutorial	46
KPT FiberOptix Tutorial	49

Welcome

The tutorials in this section lead you through the basic features and functions you'll need to get the most out of the KPT 5 filters.

The techniques you'll learn in these tutorials can be applied to other filters since they share some of the same controls.

KPT ShapeShifter Tutorial

Welcome to KPT ShapeShifter, the filter that makes 3D shapes from masks. In this tutorial you'll learn how to import components and set controls to make a 3D button.

Getting Started

Begin by loading the background image for your shape.

To load the tutorial file:

- 1 Choose **File menu > Open** and locate the file **Tutorial: Shapeshifter: ShapeShifter Tutorial.PSD** on the KPT 5 CD-ROM.



The background image.

- 2 There are two ways to use this image:

- If you want to start with a plain background, make sure the background layer is active.
- If you want to start with a discreet shape, like you would for buttons, make sure the Zuni layer is active.

Lesson 1: Creating a Shape

First, you'll load a mask to create a shape from the background image.

To load a shape mask:

- 1 In the Main Shape panel, click the preview window. The Open dialog appears.



The mask image.

- 2 Locate the file **Tutorial: Shapeshifter: ZuniMask** on the KPT 5 CD-ROM and click Open.

If you make a selection before entering the filter, the selected area becomes the mask.

Lesson 2: Adjusting Bevels

The Bevel controls let you adjust the size and severity of the bevel along the edges of the shape. The bevel is what makes your shape look 3D.

To set bevel scale:

- ✱ In the Main Shape panel, set the Bevel Scale slider to 30%.



The shape created after you apply a bevel.

Lesson 3: Adding a Top Mask

A top mask lets you add other shapes on top of the main shape. These new shapes can have an embossed look.

To add a top mask:

- 1 In the Top Mask panel, click the preview window. The Open dialog appears.
- 2 Locate the file **Tutorial: Shapeshifter: Zuni Arrow** on the KPT 5 CD-ROM and click Open.



The top mask image.

To set top mask properties:

- 1 In the Top Mask panel, set Transparency = 60%.
- 2 Set Emboss Scale = 12%.
- 3 Set Emboss Height = 50%.

- 4 Click the color dot and choose a green color from the Color Picker.



The shape with a top mask applied.

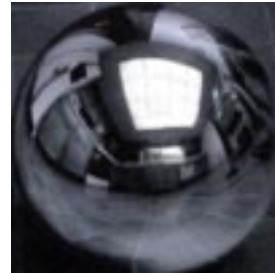
Lesson 4: Adding an Environment Map

An environment map is an image that's projected onto your shape to create reflections.

To add an environment map:

- 1 In the Environment panel, click the preview window. The Open dialog appears.

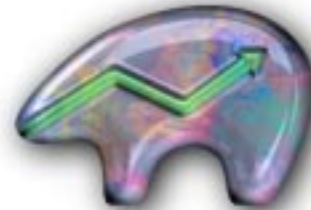
- 2 Locate the file **Tutorial: Shapeshifter: Cool Kitchen** on the KPT 5 CD-ROM and click Open.



The environment map image.

To set environment properties:

- 1 In the Environment panel, click the Tint color dot and choose a blue color.
- 2 Set Mix Tinting Color = 20%.
- 3 Set Mix Environment = 35%.



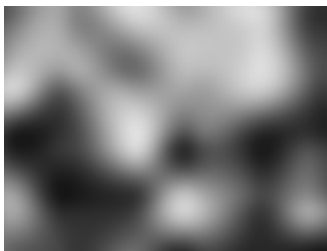
The shape after you apply an environment map.

Lesson 5: Adding Texture to a Shape

You can use a bump map to add texture to the surface of your shape.

To add a bump map:

- 1 In the Bump Map panel, click the text label beneath the preview window and choose Perlin from the menu.



The noise map used to create texture on the shape's surface.

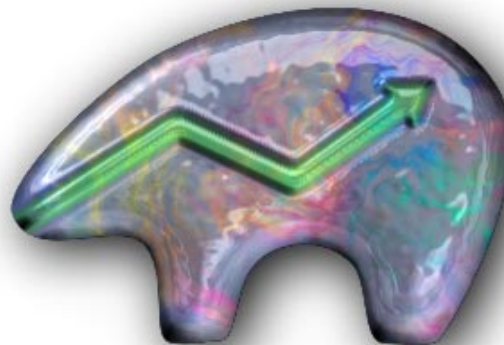
TiPS

You can also import your own noise map by clicking the panel's preview window.

To set bump map properties:

- 1 In the Bump Map panel, set Bump Scale = -25%.

- 2 Set Bump Height = 3%.



The completed button.

Your button is complete. For a complete description of KPT ShapeShifter, refer to ["KPT ShapeShifter" on page 119](#).

KPT Orb-It Tutorial

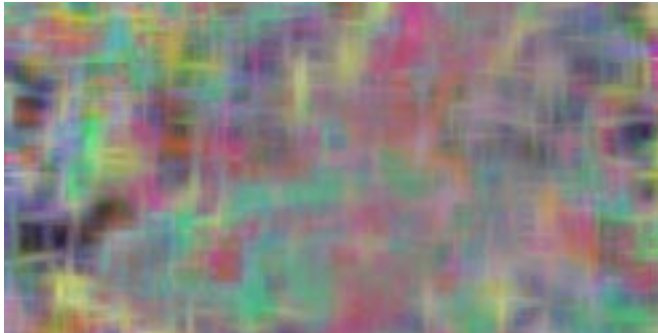
Welcome to KPT Orb-it, the filter that makes 3D spheres over your background image. In this tutorial, you'll learn how to import components and set controls to put a number of orbs over an image.

Getting Started

First, you'll need to load a background image.

To load the tutorial file:

- 1 Choose **File menu > Open** and locate the file **Tutorial: Orb-it: Orb-it Tutorial.PSD** on the KPT 5 CD-ROM.



The background image.

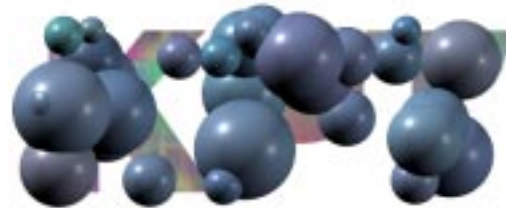
Usually, you would just apply the orbs to the entire image. However, you can create much more interesting Orb-It effects by applying the orbs to a specific selection.

- 2 In the host application, load the file's alpha channel as a selection. Refer to your host application's User Guide for instructions.



The background image with a selection created using the alpha channel.

- 3 Access the KPT Orb-it filter from your host application. When the filter appears, it automatically generates an orb field.



The default orb field generated when first access the filter.

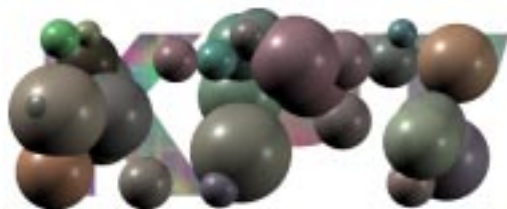
Lesson 1: Setting Orb Material

Since each orb is a 3D object, you can change its material properties to create different looks.

To set sphere color using the background:

- ✱ In the Orb Color panel, set Tint to Background = 100%.

When you use this setting, orb color is picked up from the background image. At 100% the orbs are colored entirely using colors in the image.



The orb field colored using the colors in the background image.

Lesson 2: Applying an Environment Map

You can make the surface of your sphere reflective by importing an Environment map. The map is projected onto the surface of each sphere to create reflections.

To add an environment map:

- 1 In the Orb Color panel, click the preview window. The Open dialog appears.

- 2 Locate the file **Tutorial: Orb-It: Cool Kitchen.JPG** on the KPT 5 CD-ROM and click Open.



The environment map image.

To set environment properties:

- 1 In the Orb Color panel, set Mix Environment = 60%.



The image after you apply an environment map.

Lesson 3: Setting Sphere Properties

You can control the size and number of orbs generated in your sphere field using the controls on the Orb Controls panel. By adjusting a few parameters, you can create vastly different effects.

Example 1:

- 1 In the Orb Controls panel, set Average Size = 4%.
- 2 Set Size Variance = 6%.
- 3 Set Packing Density = 90%.
- 4 Set Z Spread = 80%.



The image after you apply Orb Controls settings.

Example 2:

- 1 In the Orb Controls panel, set Average Size = 17%.
- 2 Set Size Variance = 25%.
- 3 Set Orb Packing Density = 90%.

- 4 Set Z Spread = 75%.



The image after you apply Orb Controls settings.

Example 3:

- 1 In the Orb Controls panel, set Average Size = 2.8%.
- 2 Set Size Variance = 3%.
- 3 Set Packing Density = 75%.
- 4 Set Z Spread = 80%.



The image after you apply Orb Controls settings.

Lesson 4: Lighting Spheres

Since spheres are 3D objects, they can be highlighted using a variety of light sources and colors.

To set up 3D lighting:

- ✱ Using the 3D Lighting panel, add, position and color your lights to match those shown below.



The 3D lighting panel.

Your final image should look like the one shown.



The finished image.

KPT FiberOptix Tutorial

Welcome to KPT FiberOptix, the filter that lets you create amazingly realistic fibers on any image. You can use KPT FiberOptix to make hair, fur, rugs or even really creepy vines.

In this tutorial you'll learn the basics of setting up KPT FiberOptix parameters and working with the images and mask.

Getting Started

Begin by loading the background image for your shape.

To load the tutorial file:

- 1 Choose **File menu > Open** and locate the file **Tutorial: FiberOptix: Fiberoptix tutorial.PSD** on the KPT 5 CD-ROM.



The background image.

- 2 Access KPT FiberOptix from your host application.

Lesson 1: Adding a Mask

You'll notice that the minute you enter KPT FiberOptix, it generates a number of fibers and applies them your image. This is the type of effect you'd want if you were creating a rug.

However, one of the most unique things about the filter is its ability to apply fibers to a specific part of an image. Specific areas are defined using masks.

To add a mask to your image:

- 1 In the Mask panel, click the preview window. An Open dialog appears.
- 2 Locate the file **Tutorial: FiberOptix: TeddyMask.JPG** on the KPT 5 CD-ROM and click Open. The image appears in the panel.



The mask image.

Notice that the fibers now grow out of the teddy's body and not the entire image.



The effect applied to the masked image.

To set mask parameters:

- 1 Set Bevel Width = 75%.

- 2 Set Blend Noise to Mask = 88%.



The results of adjusting Mask parameters.

Lesson 2: Setting Fiber Parameters

Now that you've got the fibers growing where you want, you're ready to adjust the parameters of the fibers themselves. The Fiber Controls panel lets you set everything from the length of the fibers to the direction in which they grow.

To set fiber parameters:

- 1 In the Fiber Controls panel, set Fiber Density = 89.7%.
- 2 Set Length = 8%.

- 3 Set Direction Angle = 314°.

- 4 Set Intensity = 15%.

To set fiber noise parameters:

- 1 In the Noise panel, set Noise Scale = 0%.



The results of adjusting fiber and noise parameters.

Lesson 3: Coloring Fibers

Fibers can be colored by a number of sources. Their color usually comes from the background image. However, that color can be affected by the light color, a tint color. It can also be replaced altogether by a gradient.

To color fibers using light sources:

- ✱ In the 3D Lighting panel, set up your lights as shown.

If you don't know how to use the 3D Lighting panel, refer to ["3D Lighting Panel" on page 30](#) for instructions.



Your 3D Lighting panel should look like the one shown.

To color fibers using a gradient:

- ✱ In the Gradient panel, choose the colors shown.

If you don't know how to use the Gradient panel, refer to ["Color Gradient Panel" on page 35](#) for instructions.



Your Gradient panel should look like the one shown.

To apply a gradient:

- ✱ In the Fiber Color panel, set Mix Gradient Color = 20%.



The results of adjusting Fiber Color parameters.

From here you can use the techniques you've just learned to add other parts to the teddy. You can also use other filters like KPT ShapeShifter to add more elements to the image.



This final teddy was created by using another mask to make different colored hair, then using KPT ShapeShifter to make the eyes and nose.

KPT BLURRRR



What's in this Section:

Overview	55
Hi-Speed Blur	56
Kraussian Blur	57
Camera Optics	58
Motion Blur	59
Spin Blur	60
Zoom Blur	61
Spiral Blur	61
Gaussian Weave Blur	62
Spiral Weave Blur	62

Overview

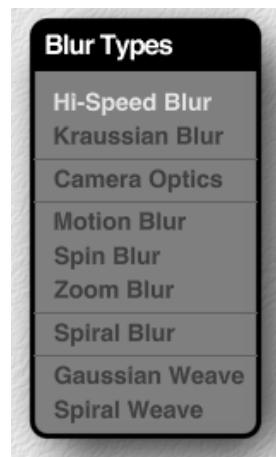
KPT Blurrrr is a collection of blur effects. Some of the blurs work like those found in many host applications, but they've been greatly enhanced. Others are effects you can't find anywhere else.

All the blurs are controlled by the same set of palettes. The controls available change as you switch to different blurs. The Main Preview window automatically updates as you change settings to provide you with a real-time preview of your blur effect.

Blurs are applied to any image or selection you have currently selected in the host application.

Switching between Blurs

The Blur Types palette lists all the available blurs and lets you switch between them with the click of a mouse. As you switch blurs, the controls in the Parameters palette change.



The Blur Types palette.

Previewing Blurs

The thumbnail preview window of the Parameters palette shows you a 1:1 representation (i.e. actual size) of a portion of your image. The rectangular area in the Main Preview window lets

you change the area displayed in the palette preview. You can use this feature to see the effects of the blur on different parts of your image.



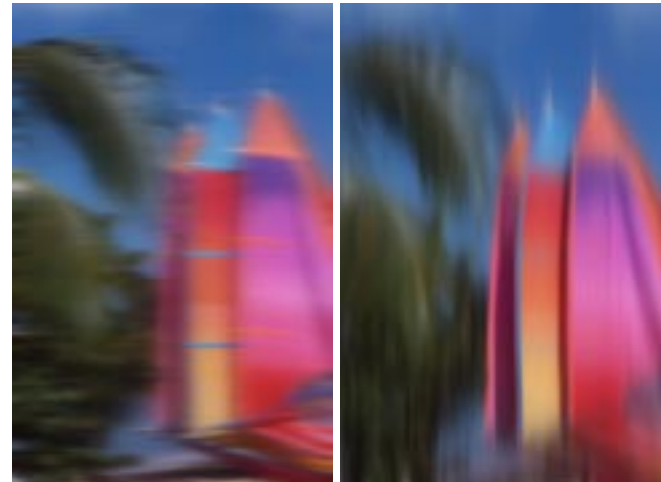
As you drag the rectangle in the Main Preview window, the palette preview changes to show a 1:1 portion of the effect.

Hi-Speed Blur

The Hi-Speed Blur works just like the standard blur in your host application (like the Blur filter in Photoshop) except that this blur is much faster and its blur effect leaves more of the original image intact. Hi-Speed Blur works just as fast on the 2 x 2 inch image as it does on a 300 x 300 image.

Setting Hi-Speed Blur Radius

Using the X Radius and Y Radius sliders in the Parameters palette, you can apply the blur either horizontally, vertically or in both directions.



Hi-Speed Blur applied horizontally (X axis) and vertically (Y axis).

Kraussian Blur

The Kraussian Blur works like a standard Gaussian blur. The difference is that the Kraussian Blur applies a dithering technique that makes colors blend smoothly. This results in a higher quality blur that retains many of the artifacts from the original image.



Before and after a Kraussian Blur.

Setting Blur Radius

The Blur Radius slider controls the intensity of the effect. The higher the setting, the more blur is applied.

Setting Kraussian Options

The six options available for the Kraussian Blur give you complete control over how it's applied. You can enable or disable any or all of the following options:

Fading the Blur

The Fade option lets you fade the blur effect so that more of the original image shows through.

Wrapping the Blur

The Wrap option lets you create seamless blurs. When the option is enabled, the blur effect bleeds off the edges of the image.

Using a Mask with the Blur

The Alpha option uses the alpha channel from the original image to modify the effect of the blur.

Setting Dithering Attributes

The Dither option lets you control how the color in the original image is dithered to produce the blur effect. When the option is enabled, you'll get a higher quality blur as colors blend more smoothly.

Apply the Blur Horizontally or Vertically

When the X Only option is enabled, the blur is only applied horizontally. When the Y Only option is enabled, the blur is only applied vertically. If you turn both options off, the blur is applied in both directions.

Camera Optics

The Camera Optics blur simulates the look you get when you take a picture that's out of focus.



Before and after a Camera Optics blur.

TiPS

By using selections to apply the Camera Optics blur to specific areas, you can create depth of field effects.



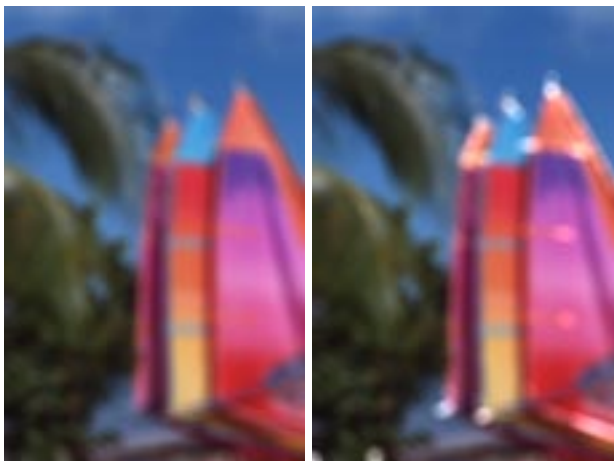
An example of a depth of field effect created using Camera Optics.

Setting Blur Radius

The Blur Radius slider sets the intensity of the camera blur. Higher settings make the image more blurry.

Controlling the Blow-Out Effect

The Blow-Out setting highlights the light areas of the image, creating the type of fuzzy bright spots you see in an out-of-focus photo.



Blow-Out at low and high settings.

Motion Blur

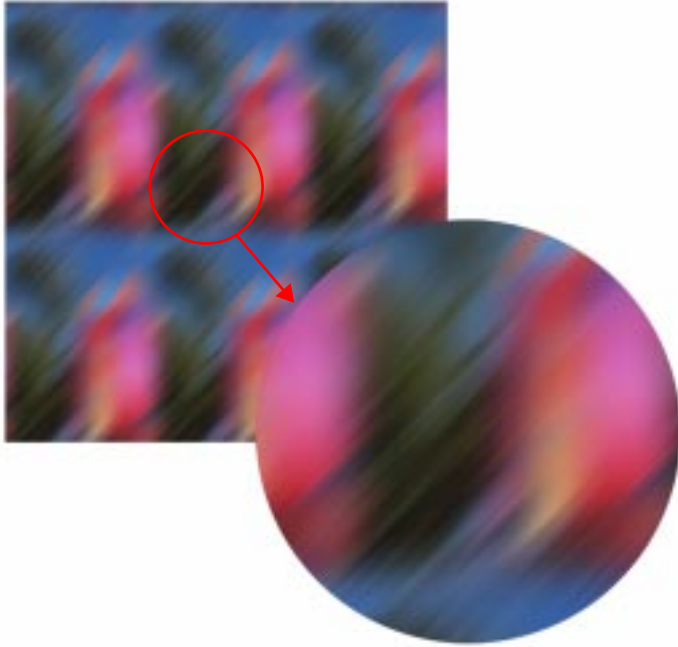
Motion Blur is a gaussian directional wrapping blur. This means that, unlike standard motion blurs, KPT's blur effect extends off the edges of the image. So, if you use a Motion Blurred image as a pattern, it would appear seamless.



Before and after a Motion Blur.

If you create a pattern out of the final Motion Blur image, you'll see how the blur extends outside the image, creating a seamless pattern.

Refer to your host application's User Guide for more on creating patterns.



A pattern created using a Motion Blur image.

Setting Motion Blur Radius

The Radius slider controls the amount of blurring applied to the image.

Setting Blur Direction

The Direction slider sets the angle of the color bleed. Basically you're setting the direction of the motion.

Spin Blur

The Spin Blur works just like a radial blur. All the colors in the image bleed together in a radial pattern. The result looks like you placed your image on a record player.

Unlike most radial blurs, KPT's Spin Blur draws in color from all over the image including the edges. f



Before and after a Spin Blur.

Setting Blur Radius

The Blur Radius slider controls the intensity of the effect. At higher values the color bleed is more severe, making it harder to see the original image.

Zoom Blur

The Zoom Blur simulates the look you'd get if you zoomed in on an area while taking a picture. All the colors in the original image bleed together at a single point.



Before and after a Zoom Blur.

Setting Blur Radius

The Blur Radius slider controls the intensity of the zoom effect. At higher values more color is sucked into the middle of the image.

Spiral Blur

The Spiral Blur works like a radial blur, except that it has an extra control that lets you bleed colors together at an angle. The result is that your image looks like it's being sucked towards a single point.



Before and after a Spiral Blur.

Setting Blur Radius

As with the other blurs, the Blur Radius slider controls the intensity of the spiral effect. The more blur you apply, the more the colors bleed together.

Setting Spiral Rotation Angle

The Rotation Angle slider lets you control the severity of the spiral.

Gaussian Weave Blur

The Gaussian Weave blur works just like a regular Gaussian blur except that it's applied both horizontally and vertically, and then generates a weave effect.



Before and after a Gaussian Weave blur.

Setting Blur Radius

As with the other blurs, the Blur Radius slider controls the intensity of the Gaussian effect. The more blur you apply, the more the colors bleed together. The weave effect also becomes more apparent at higher settings.

Spiral Weave Blur

The Spiral Weave blur works much like the spiral blur, except that once it's applied, it generates a weave effect. The result is an image that contains overlapping spiral patterns.



Before and after a Spiral Weave blur.

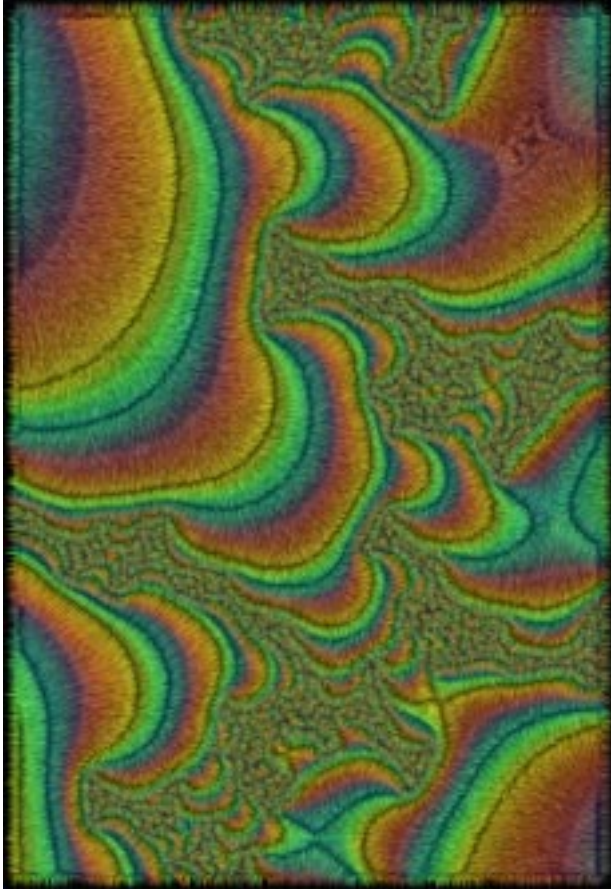
Setting Blur Radius

As with the other blurs, the Blur Radius slider controls the intensity of the blurring effect. The more blur you apply, the more the colors bleed together.

Setting Spiral Rotation Angle

The Spiral Rotation Angle slider lets you control the severity of the spiral. The weave effect becomes more apparent at higher Angle settings.

KPT FIBEROPTIX



What's in this Section:

Overview	65
Creating Fibers	66
Setting Fiber Direction	67
Adjusting Growth Patterns	68
Using Noise Maps with KPT FiberOptix	69
Setting Fiber Surface Properties	70
Lighting Fibers	72
Using Masks with KPT FiberOptix	72

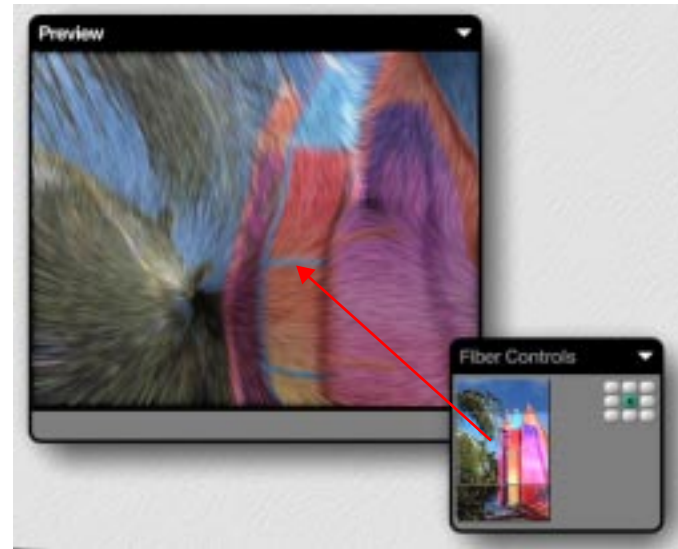
Overview

KPT FiberOptix grows fibers that look like real hair or fur. Each fiber is rendered separately and can have its own color and tint. The KPT FiberOptix panels let you control the growth, color and lighting of fibers.

Using a mask, you can make fibers grow in a specific shape. For example, you can make hair grow out of text.

Previewing your Fibers

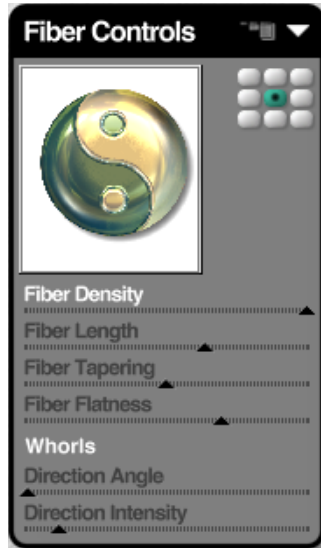
The preview in the Fiber Controls panel can be used to control the Main Preview. The preview in the panel displays a thumbnail of your entire image. The rectangle inside this preview represents the portion of the image displayed in the Main Preview window. You can drag this rectangle to change the portion of your image displayed in the Main Preview.



Use the Fiber Controls preview to control the Main Preview display.

Creating Fibers

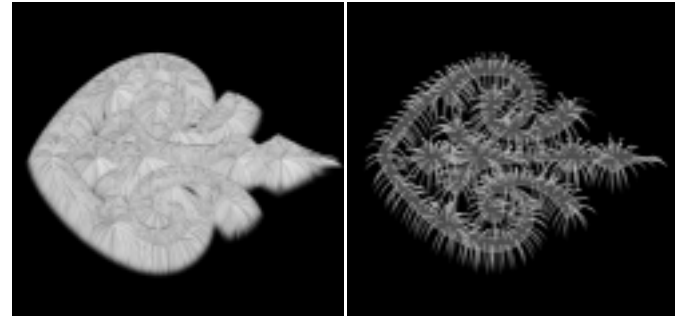
Fibers are automatically generated when you enter the filter. Every time you change a parameter, new fibers are rendered. The Fiber Controls panel lets you control how fibers grow. You can control their length, the direction in which they grow and the amount of fibers generated.



The Fiber Controls panel.

Setting Fiber Density

The Fiber Density slider controls the amount of fibers generated. At high density values, the entire image is filled with fibers creating a furry look. At lower settings, you'll be able to see individual fibers.

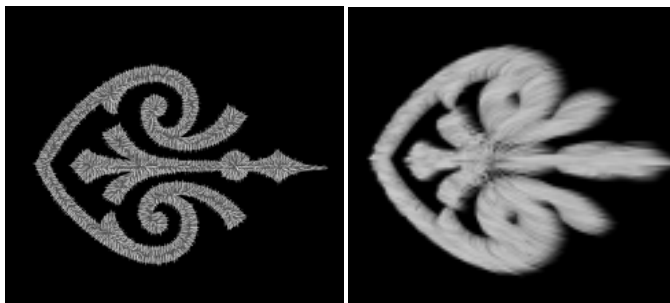


High and low Fiber Density settings.

Setting Fiber Length

Fiber Length controls the length of the fibers that grow from your image or mask. Higher length values take longer to render.

Longer fibers are also affected more by the Direction setting.



Low and high Fiber Length settings.

Adjusting Fiber Tapering

The Tapering setting defines where along the length of the fiber it starts to become transparent. The value of the setting defines how much of the fiber is solid and when the transparency begins to take affect. For example, at 60%, sixty percent of the fiber is solid and forty is transparent.

The setting becomes more important when you're using a gradient to color your fibers. You'll be able to see more of the gradient colors, the higher the Tapering value, since there's fiber to color.

Setting Fiber Flatness

Flatness controls the depth of the fibers. At higher settings, fibers grow out in all three dimensions. At lower values, fibers grow more two-dimensionally.

Setting Fiber Direction

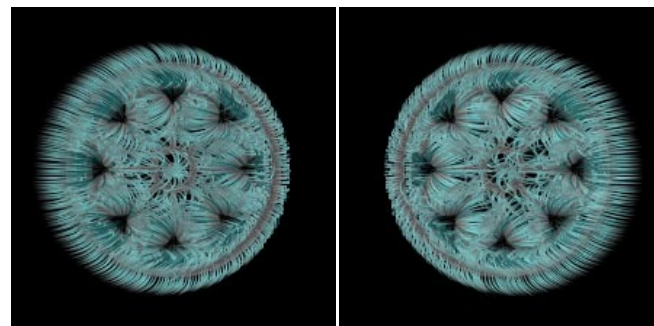
As the fibers grow, you can apply a direction effect to alter their growth patterns. The direction setting pushes fibers in a specific angle as if they were being blown by the wind.



Direction settings on the Fiber Control panel.

Setting Direction Angle

The Direction Angle sets the general direction for fiber growth. Direction angle is set in degrees. For example, at 45°, the fibers tend to grow up and to the right.



Examples of different Direction Angle settings.

Setting Direction Intensity

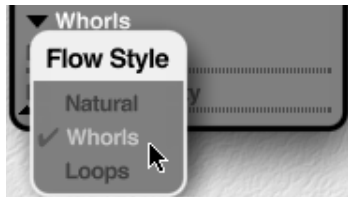
The Direction Intensity slider controls the intensity of the direction effect. It's like setting wind strength. The higher the Intensity setting, the stronger the wind and the more the fibers bend toward the wind direction.

Adjusting Growth Patterns

The Flow Styles let you control the direction of the fiber growth pattern. There are three styles you can use: Natural, Whorls, and Loop.

To change growth pattern modes:

- ✱ In the Fiber Controls panel, click the arrow icon next to the Flow Style text label beneath the panel preview window and choose a style from the menu.



The Flow Style setting on the Fiber Control panel.

Natural

When the Natural option is enabled, fibers grow towards areas of light in the image.



Example of Natural mode.

Whorls

When the Whorls option is enabled, fibers bend as they grow, creating whirling patterns.



Example of Whorls mode.

Loop

The Loop option works like the Natural option, fibers grow towards areas of light, but the effect is more severe, creating pools of fibers.

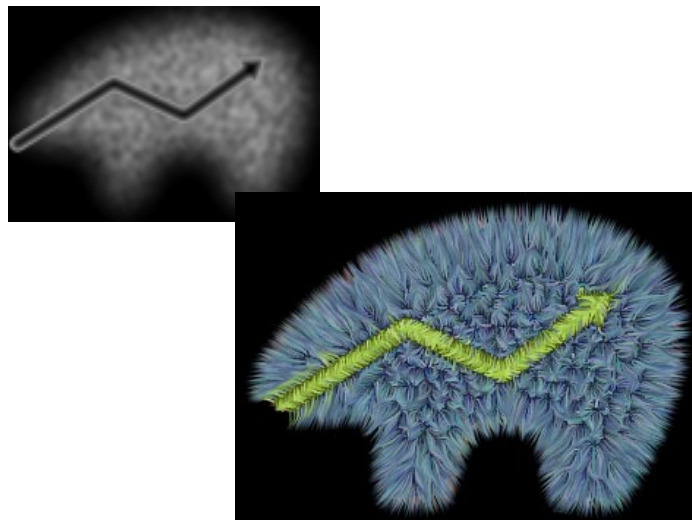


Example of Loop mode.

Using Noise Maps with KPT FiberOptix

A noise map is a mathematically generated pattern of turbulence that disrupts the growth pattern of fibers. When you apply a noise map, you get wavy tendrils instead of hair-like fibers.

A noise map can either be a large random pattern, or a specific pattern. Since the noise affects how fibers grow, you can design a specific noise map image to create a unique effect.



In this example, a very specific noise map image was used to create the growth pattern shown. The dark areas in and around the arrow cause the arrow fibers to grow more toward the center.

Loading a Noise Map

A noise map can be any black and white image. However, noise works better when its a randomly generated pattern. The algorithmic noise presets provide excellent patterns for creating various types of fibers.



The Noise panel.

To load algorithmic noise:

- ❖ Click the title below the preview window and choose a noise from the menu.

To load a noise map:

- 1 In the Noise panel, click the thumbnail preview. The Open dialog appears.
- 2 Locate the image you want to use as a noise map and click Open. You can also use the panel's Option menu to load a map.

Scaling a Noise Map

The scale of your noise map determines how often the noise pattern is repeated within a map. A map that's scaled down creates more turbulence since it repeats more often within the map. A larger noise map produces less turbulence.

Blending Noise Maps

The Blend Noise to Mask slider in the Mask panel controls how much of the noise is applied to the fibers. The higher the value, the more turbulence is added to the growth pattern.

Setting Fiber Surface Properties

Normally, fibers take their color from the original background image. An individual fiber takes its color from the pixels directly beneath it in the original image. However, you can enhance or replace this color using the controls on the Fiber Color panel.

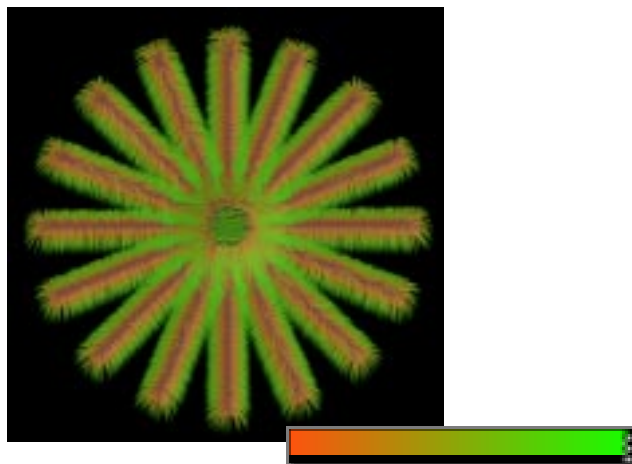


The Fiber Color panel.

Using a Gradient as a Tint

When you apply a tint using a gradient, each fiber is colored using the colors in the Gradient panel.

Use the controls on the Gradient panel to choose colors and set up a gradient. Refer to [“Color Gradient Panel” on page 35](#) for more on designing a gradient.



An image with colored fibers and the gradient used to create it.

To apply a gradient to your fibers:

- ✱ In the Fiber Color panel, drag the Mix Gradient Color slider.

Using a Tint Color

When you apply a tint, the colors in the image shift towards a specific uniform color. For example, if you choose Blue as your tint color, the more tint you apply, the more blue is added to the background image.

To choose a tint color:

- ✱ In the Fiber Color panel, click the tint color dot and choose a color from the Color Picker.



The tint color dot.

To apply a tint color:

- ✱ The Mix Flat Color slider lets you gradually apply the tint color to the original image.

The higher the value, the more the image colors shift toward the tint color.

Setting Luma Variance

The Luma Variance slider controls the color variance between fibers. At low values, the fibers are colored using the same color value. At higher values, color values vary more between fibers.

Setting Fiber Transparency

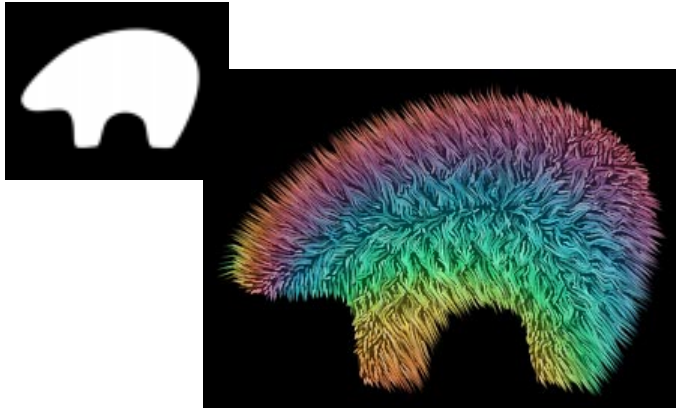
The Fiber Transparency slider controls the opacity of your fibers. At high settings, fibers appear almost invisible. At lower settings, fibers are opaque.

Lighting Fibers

Fibers are three dimensional objects, meaning that you can light them from any angle. The 3D Lighting panel contains all the controls you'll need to set light color and angles. Refer to ["3D Lighting Panel" on page 30](#) for more on using the panel.

Using Masks with KPT FiberOptix

When you apply a mask to your image, the fibers grow out of the mask. The origin of each fiber is directly affected by the shape of the mask. Fibers grow to match the contours of the mask.



A mask and the fibers grown out of the mask.

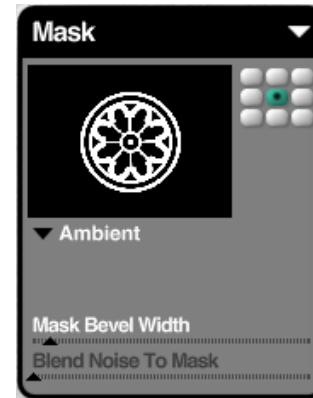
The mask you use can be the same shape as the background image, or it can be a completely different shape. A mask can be any black and white image on your system. You can also use one of the presets in the Presets Library. Refer to ["Working with the Presets Library" on page 38](#) for more on using the library.



If you make a selection before entering the filter, the fibers will grow out of the selection.

To use a mask with KPT FiberOptix:

- 1 In the Mask panel, click the preview. The Open dialog appears.



The Mask panel.

- 2 Locate the image you want to use and click Open.

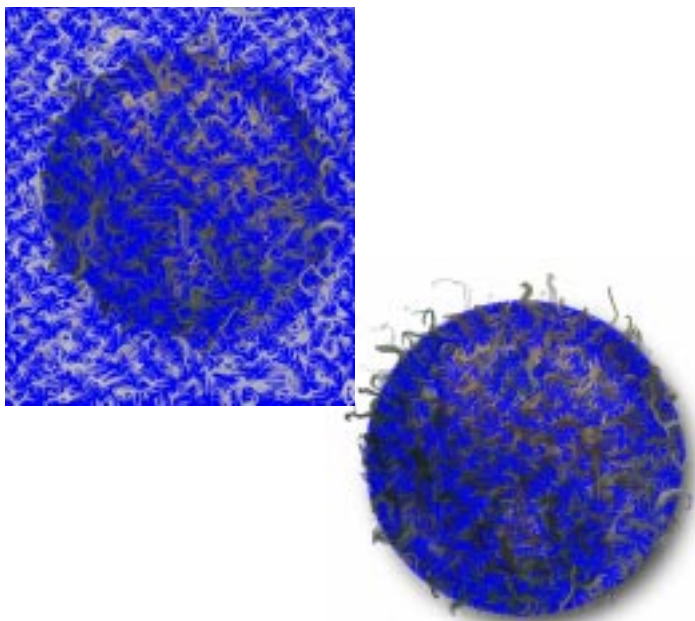
Setting Bevel Width

The Mask Bevel Width setting adds height to the fibers. Higher bevel settings bend fibers, creating a dome-like effect.

Setting Background Surface Properties

Fibers grow out of an imaginary surface, like hair growing out of skin. The Mask Rendering options control this surface's appearance.

When you're working with a mask, the surface is the size of the mask. In this case, the rendering options control how the mask itself is colored. When you're working with just the image, the rendering options apply to the imaginary skin layer that covers the entire image.



The Mask Rendering: Material option applied to an image without a mask, and the same setting applied to an image using a mask.

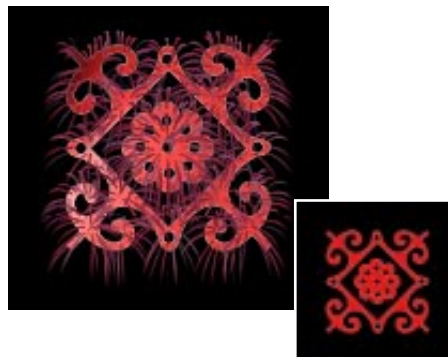
It's easier to see how the Mask Rendering options affect your image when the fibers are sparse.

To set surface properties:

- ✱ Click the text label beneath the Mask panel's preview and choose an option from the menu. A checkmark appears next to the currently active option.

Shaded

When the Shaded option is active, a shaded gradient is applied to the surface.



An example of the Shaded option and the original image.

Dark

When the Dark option is active, the surface acts like a Darken channel operation. The result is a surface colored using the darkest colors in the original image.



An example of the Dark option.

Ambient

The Ambient option does not apply any special properties to the surface. Fibers appear to grow out of the background image.



An example of the Ambient option.

White

When you use this option, the background is white.



An example of the White option.

Black

When you use this option, the background is black.



An example of the Black option.

Material

The Material option sets the background to the material color. You can choose a material color using the color dot.



An example of the Material option. A yellow material color was used.

Transparent

When this option is active, the image is transparent so in the final render all you'll see are the fibers.



An example of the Transparent option.

Previewing Fibers

KPT FiberOptix has three preview options that control how your fiber preview is rendered.

Fast Edge Render

This mode renders the least amount of fiber detail. However, it is very fast. Use it when you're experimenting with settings.

Average Edge Render

This mode produces a good quality render of your image and is faster than Accurate Edge.

Accurate Edge Render

This is the slowest render, but the most precise. Use it when you want to see what your final effect will look like.

To choose a render preview mode:

- ✱ Click the arrow icon at the top of the Main Preview window and choose a mode from the options menu.

KPT FRAXFLAME



What's in this Section:

Overview	77
Setting up a Flame Fractal	77
Viewing your Flame Fractal	79
Coloring your Fractal	80
Rendering your Fractal	80

Overview

Flame fractals have been around for quite some time, but have never been used in a filter. These exquisite fractals look like real natural phenomena, but unlike anything you've ever seen. They're fractals, but not like those in KPT Frax4D. They are sort of ethereal, like crystal clouds. KPT FraxFlame lets you explore these fractals and render them as images.

Setting up a Flame Fractal

KPT FraxFlame is basically an exploratory filter. It lets you explore the infinite variety of fractals by random generation of fractal patterns.

The setup process is rather straight-forward. First, you select a flame fractal style and then you randomly mutate the pattern until you find one you like. When you've decided on a specific fractal, you can explore your choice further, by repositioning your view or zooming into different areas. After all that's done, you can set rendering options and that's it—you have a flame fractal.

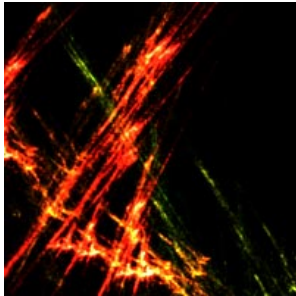
Choosing a Style

The Style palette lists seven different flame fractal styles. These styles are only a very small subset of the types of flame fractals that exist, but they're a good starting point for exploration.

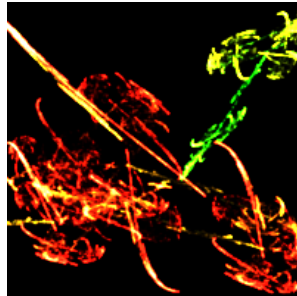


The KPT FraxFlame Style panel.

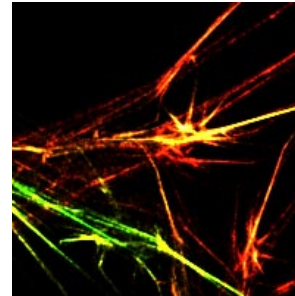
Styles are mutually exclusive, so you can only use one style at a time.



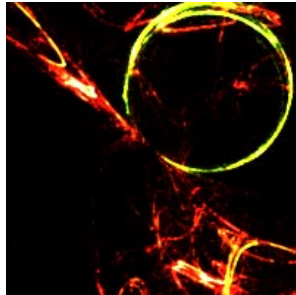
Linear



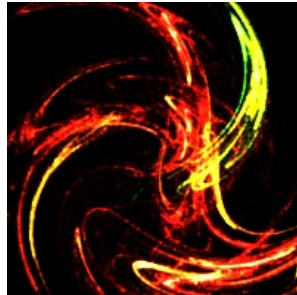
Sinusoidal



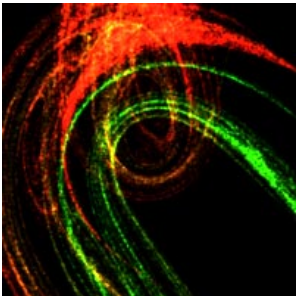
Bent



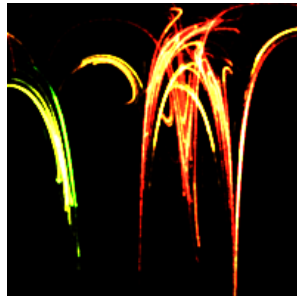
Spherical



Swirl



Horseshoe



Polar

Examples of the different flame styles.

An example of a flame style.

To choose a style:

- ✱ In the Style palette, click the fractal style you want to use.

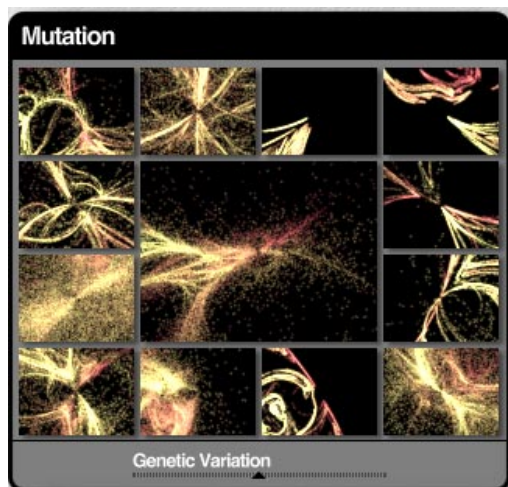
Mutating a Flame

The Mutator lets you randomize a flame fractal within a specific set. So, once you've selected a style, you can use the Mutator to see other fractals within the set.

Flame fractals are generated using complex mathematical equations with a wide number of parameters. These parameters are like genes that go into making the final fractal. You can change the pattern of the fractal through genetic mutation (i.e. mutating parameters).

The preview at the center of the Mutator palette represents the parent fractal and the smaller windows that surround it are derivatives, or cousins, of the parent. Every time you mutate the

parent, you generate different derivatives. The Genetic Mutation slider controls how closely related the new derivatives are to the parent fractal.



The KPT FraxFlame Mutator.

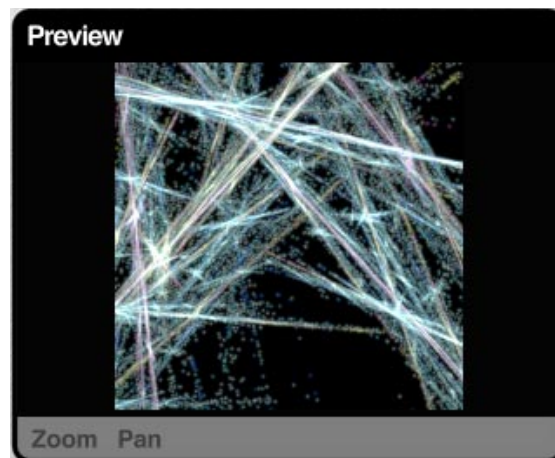
To mutate a fractal:

- 1 Click the preview in the center of the Mutator until you see a flame pattern you like.
- 2 Click the small preview of the pattern you want to explore. Your selection becomes the parent fractal and is displayed in the center of the Mutator.
- 3 Adjust the position of the Genetic Mutation slider.
At high values, the derivatives are more random. At lower settings, the derivatives look more like the parent fractal.

- 4 Click the center preview again to generate derivatives of the selected flame.
- 5 Continue clicking the Mutator and selecting derivatives until you get the look you want.

Viewing your Flame Fractal

Once you generate the flame you want, you can explore it further by changing your view of the fractal. The Pan, Zoom and Reset controls on the Main Preview window let you move to different parts of the fractal and explore its infinite detail



The Main Preview window.

NoTe

If you notice that the preview slows dramatically when you switch your preview to Large, increase the amount of memory allocated to the application.

Repositioning your View

The Pan control lets you move your view of the fractal along the X and Y axes.

To pan your fractal:

- 1 Click the Pan text label.
- 2 Drag inside the Main Preview window or the text label itself.

Click Reset to restore the view to its default position.

Zooming into your Fractal

The Zoom control lets you enlarge an area of your fractal to see more detail. Since the flame fractal is infinitely detailed, you can zoom continuously to see more patterns.

To zoom in/out of your fractal:

- 1 Click the Zoom text label.
- 2 Drag inside the Main Preview window. Drag right to zoom in or left to zoom out. You can also drag on the text label to zoom.

Click Reset to restore the view to its default position.

Coloring your Fractal

Flame fractals are colored using gradients of color. Gradients are drawn from the Gradient palette. Refer to [“Color Gradient Panel” on page 35](#) for more on designing gradients.

Rendering your Fractal

The Render palette lets you adjust the flame image for the final rendering process. Many of these controls work just like the image-enhancing features found in most host applications.



The Rendering panel.

Setting Gamma

The Gamma control lets you adjust the tonal range of your image. At higher values, colors appear more saturated. At lower values, colors appear washed-out.

Setting Intensity

The Intensity slider lets you adjust the intensity of the colors in the flame. Higher values make the flame brighter and more vibrant. Lower values make the flame look faded.

Setting Preset Rendering Options

The six preset rendering options available on the Rendering panel menu are designed to give you the highest quality render without making rendering too slow.

The rendering options are divided into two groups. The Sparse group options are designed to improve the quality of cloudy, disperse or pixelated flame fractals, like Sinusodial fractals.

The Sharp rendering presets are designed to improve the quality of fractals with well-defined elements that are tightly packed, like Linear fractals.

The two groups are mutually exclusive, so you should apply the group that best suits the fractal type you select.

Setting Custom Rendering Options

The Custom render option lets you setup your own rendering settings using Sample Density, Oversampling and Filter Radius values.



Adjust these settings in small increments. Some controls can greatly increase rendering time. Large adjustments may result in an extremely long wait when you apply the fractal.

Setting Sample Density

Sample Density controls the complexity of the fractal. At higher settings, you'll be able to see more detail in the fractal. However, more detail requires more rendering time. Use this setting carefully or you may end up waiting a long time for an image.

Setting Oversampling

Oversampling sets how many times a fractal is sampled to generate each pixel in your image. High values of this setting can greatly increase the quality of the final render. However, your fractal takes much longer to render.

Setting Filter Radius

The Filter Radius control blurs the edges of the fibers in a flame fractal. The higher the radius, the fuzzier the edges appear.

KPT FRAXPLORER



What's in this Section:

Overview	83
Exploring Fractals	83
Navigating in a Fractal	86
Coloring a Fractal	88

Overview

KPT FraxPlorer is the next generation of the Fractal Explorer from KPT 2.1. It adds new fractal algorithms, and coloring styles.

We've also broken entirely new ground in the world of fractal mathematics by coming up with a new way to do near infinite zooms. This isn't possible anywhere else!

If you want a little background on fractals, refer to ["What are Fractals?"](#) on page 18.

Exploring Fractals

KPT FraxPlorer lets you explore fractal space using the Universe Mapper panel. You begin exploring by choosing from one of three base fractal families: Mandelbrot, Mandelcube and Newtonbrot.



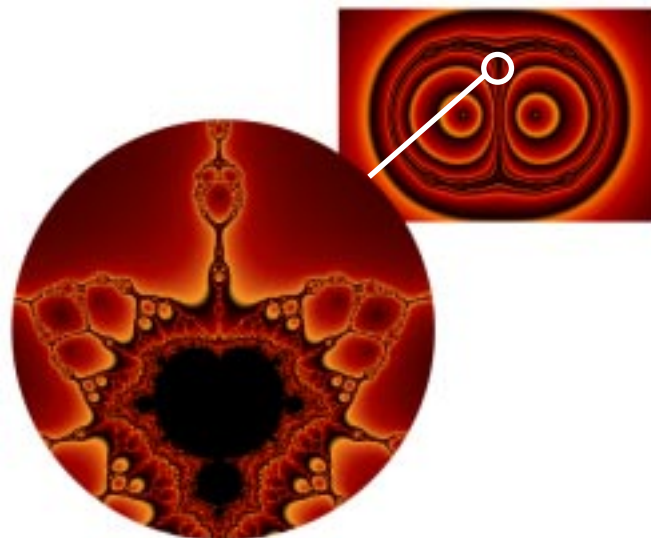
Mandelbrot

Mandelcube

Newtonbrot

Examples of the three main fractal types.

These three fractal types are fairly common and unvaried. You can explore them by moving to different points in the fractal or by zooming in and out of different areas. Like all fractals, they all have infinite detail so there's plenty to see.



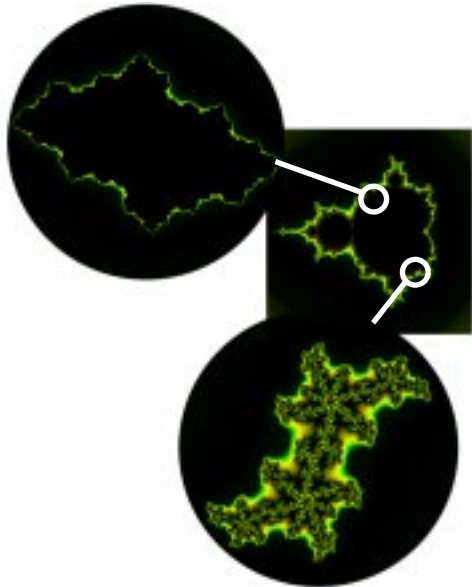
Exploring a Newtonbrot set.

The base fractals are only three of the twelve fractal spaces you can explore with KPT FraxPlorer. For each base fractal you can explore three other spaces: Julia Variations, M-Polar variations, and Julia Polar variations.

Exploring Julia Variations

A Julia Set fractal exists at every point in a base fractal. Julia Set fractals are simpler than Mandelbrot or Newtonbrot fractals, but there are an infinite number of Julia Sets while there is only one Mandelbrot.

As you move around the general base fractal (for example, a Mandelbrot), you'll find the Julia Set that exists at that point. Since one derives from the other, there's a visual correspondence between the base fractal and the Julia variation. For example, when you move to a black area of the base fractal, the Julia will have a black center and so forth.



Exploring the Julia Set variations in a Mandelbrot fractal.

Exploring Polar Variations

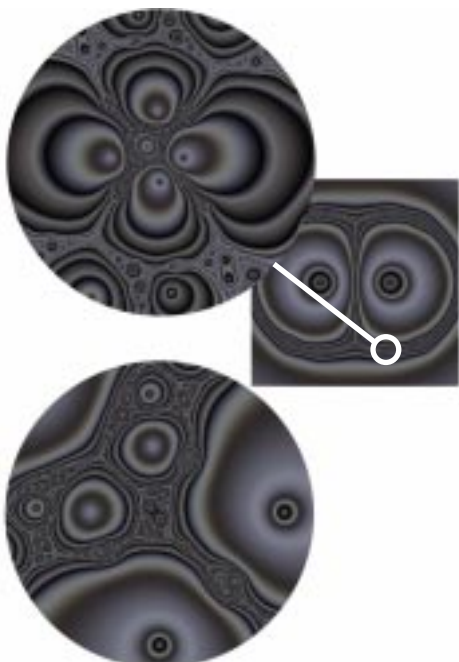
To generate a polar variation, KPT FraxPlorer takes a point on the base fractal and turns it inside out. So, if you move to a point on the base fractal where the inside is black and the outside is colored, the polar variation will have color in the inside and black on the outside.



Exploring the M-Polar set variations in a Mandelcube fractal.

Exploring M-Julia Polar Variations

To generate M-Julia Polar variations, KPT FraxPloer finds the Julia Set at the point on the base fractal and then turns it inside-out. So, for every point on the base fractal, you'll get an inverted Julia Set fractal.

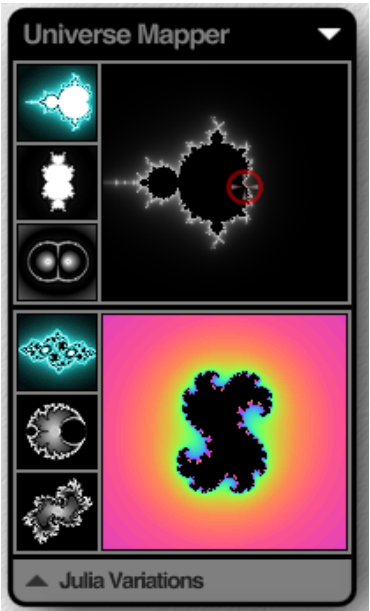


Julia Variation at the same point

Exploring the Julia Polar set variations in a Newtonbrot fractal.

Using the Universe Mapper

The top portion of the Universe Mapper panel lets you choose one of the three base fractal types. The top preview window is both a preview and a locator. The locator icon tells you the current source of the Julia variation displayed in the bottom preview.

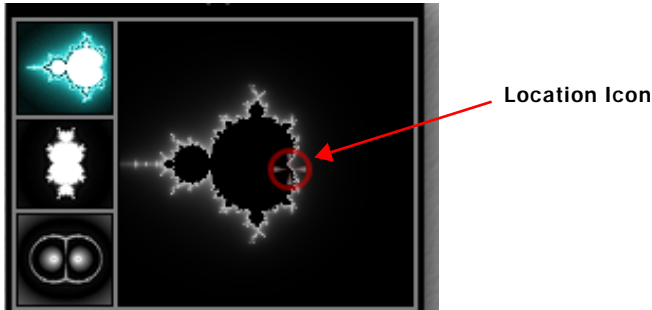


When you first access the Universe Mapper only the top portion is visible. When you click the arrow icon, the bottom portion appears.

The bottom portion of the panel displays the variations. The three icons along the left let you choose which variation of the base fractal you want to explore.

To choose a fractal type:

- 1 Click one of the three base fractal types.
If you want to explore the base fractal further, click the OK button and use the Navigator controls to zoom into the fractal.
- 2 Click the arrow icon at the bottom of the panel to display the variations.
- 3 Click one of the three variation types. The new variation appears in the bottom preview window.
- 4 Drag the location icon over the base fractal, in the top portion of the panel, to explore the variations.



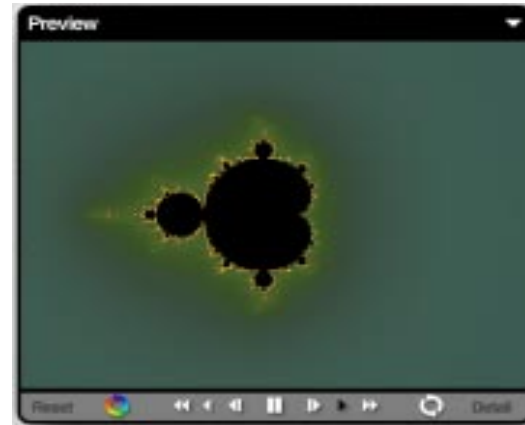
Drag the location icon to explore different variations.

- 5 When you have a fractal you're happy with, click the OK button. The new fractal appears in the Main Preview window.

Navigating in a Fractal

Since fractals have infinite detail, the default preview of a fractal is not all there is to see. When you explore the infinite patterns within the fractal, you'll see what makes fractals really unique.

The Main Preview window acts like a large view-finder, allowing you to zoom in and out of different parts of the fractal.



Use the controls in the Main Preview window to explore your fractal.

Using Navigation Controls

The controls along the bottom of the Main Preview window control the speed and direction of your zoom as well as provide controls for rotating, color cycling and fractal detail.

In general, you can start zooming by clicking anywhere in the Main Preview window. During a zoom, you can change direction by dragging the cursor in the direction you want to move.

When you click one of the tools, an expanded slider appears that lets you set the zoom or rotate value precisely.



When you click a control, the expanded slider appears.



Resets the view.



Enables animated color cycling. Cycles through gradient colors.



Zooms out of a location quickly



Zooms out of a location at a slower rate.



Zooms out of the location one click at a time. Drag a selection area to zoom out of a specific area.



Suspends zooming. When zooming stops, you can drag inside the preview window to pan your fractal.



Zooms in to a location one click at a time. Drag a selection area to zoom into a specific area.



Zooms in to a location at a slower rate.



Zooms in to a location quickly.



Rotates fractal. Click the tool, then drag in the Main Preview window.

Setting Fractal Detail

The Details control sets how many times KPT FraxPlorer loops through the fractal equation. Each time it loops through, it calculates more of the fractal. So, the higher the Detail setting, the more detail you'll see in the fractal.

If you find blank areas in your fractal, it's probably because KPT FraxPlorer is not calculating the fractal at that point (this usually happens when you zoom in really far). Try increasing the Detail value. After a few calculations, you'll be able to see the portion of the fractal that exists at the current location.

Setting Preview Options

KPT FraxPlorer's Main Preview window has two preview options that let you control the quality of the rendered preview. The options are mutually exclusive. You can use one or the other, not both.

Smoother Zooming

When this option is enabled, the zooming animation in the Main Preview window is smoother. However, the fractal display is slightly decayed. Use this option while you're exploring the entire fractal.

When it's disabled, the fractal rendering in the window is more precise, resulting in an image with smoother edges. However, zooming animation is more staggered.

Large Cursors

When this option is enabled, the cursor the main preview window changes to indicate the direction of the zoom.



The various large cursors.

Setting Preview Size

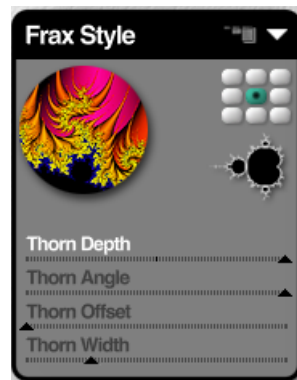
The Main Preview window can be set to three different sizes. These size settings are different from those commonly used in KPT filters. The sizes in KPT FraxPlorer are designed to let you achieve the best possible preview for your system.

KPT FraxPlorer's preview sizes are as follows:

- Small = 320 x 240 pixels
- Medium = 400 x 300 pixels
- Large = 512 x 384 pixels
- X-Large = 640 x 480 pixels

Coloring a Fractal

Fractals are colored using Coloring modes. The mode you choose can greatly alter the look and feel of your fractal. A lot of the fun of exploring fractals is seeing how the Coloring mode changes the patterns inside a fractal.



The controls on the panel change as you switch coloring modes.

Setting the Inside Color

The interior of a fractal is the dead space where no patterns exist. This area is usually colored black. However, you can create different visual effects by changing its color. You can choose a color that compliments one of the Coloring modes or pick a color that makes it easier to see the fractal's pattern. The inside color can also have transparency.

To choose an inside color:

- 1 In the Frax Style palette, click the small fractal icon. The Color Picker appears.



Click the icon to set a fractal's inside color.

- 2 Choose a color, grayscale value or transparency setting.
Refer to ["Using the Color Picker" on page 29](#) for more on using the Color Picker.

Using a Gradient

Each of the coloring modes available in the Frax Style panel uses gradients to apply colors to a fractal. Gradients are drawn from the Gradient panel.

Refer to ["Color Gradient Panel" on page 35](#) for more on designing gradients.

TiPS

You can quickly scroll through gradient presets using Command/Ctrl + Left and Right arrow keys.

Drag over the panel's title bar while you're selecting colors to select nothing.

Using Coloring Modes

The fractals in KPT FraxPlorer are pure mathematical objects, often in four or higher dimensions. KPT FraxPlorer displays, two-dimensional slices of these objects, which are in essence just shapes with a well-defined inside and outside.

The inside component is called the set. This region is usually shown in black. Points outside the set (but in the general vicinity) are affected by its presence, analogous to the way an airplane creates turbulence in the airflow around it.

The different Coloring modes in KPT FraxPlorer are just different representations of this turbulence effect, much as there are several ways to represent the flow of air over an airplane wing.

NoTe

For mathematical reasons, Newton-based fractals only work with the following modes: Normal, Decomposition, Mosaic, and Threads.

Also, when zooming, a special high-precision algorithm kicks in, and only the basic Potential Rendering coloring mode is supported.

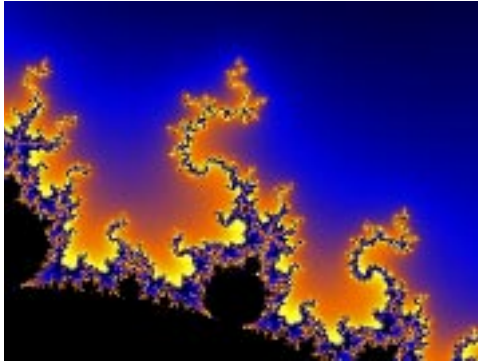
To choose a coloring mode:

- ✱ In the Fractal Style panel, click the coloring mode circle, or click the text label under the circle and choose a mode from the menu.

Potential Rendering

Potential rendering is the simplest coloring mode to compute, which is why it's become the standard for drawing fractals.

If you think of the inside of the set (black area) as being electrically charged, this coloring mode would represent the electrostatic potential of the surrounding electromagnetic field.



An example of a fractal colored using Potential Rendering.

Dendrite Rendering

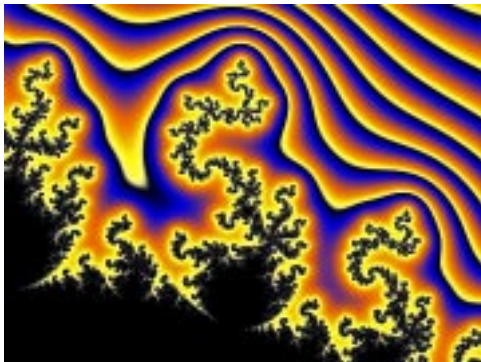
This mode uses a single pixel line to trace the edges of the fractal. It tends to bring out the detail of the fractal that may be obscured by color noise.



An example of a fractal colored using Dendrite Rendering.

Distance

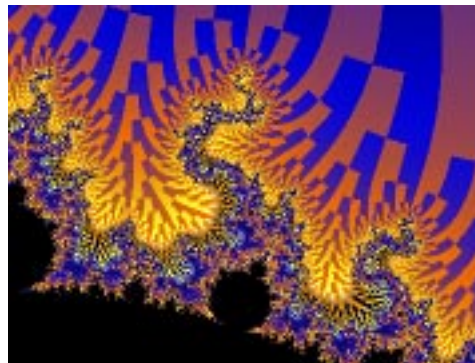
This mode uses a special algorithm to compute an approximate distance from each point to the boundary of the set. Though Distance seems similar to Potential Rendering, it can actually produce a very different visual feel, and is often less noisy than the Potential Rendering near the set. Try cranking up the gradient frequency and see what happens!



An example of a fractal colored using Distance.

Binary Decomposition

This mode exploits a computational artifact of the Potential Rendering, which splits up the outside area into separate squarish shapes. The sharp lines in these renderings define a sort of polar coordinate system for the set.



An example of a fractal colored using Binary Decomposition.

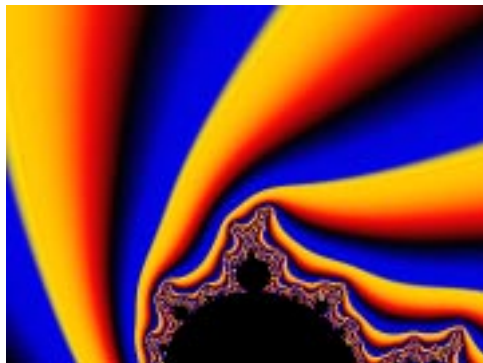
Setting Decomposition Amount

The Decomposition amount controls the difference in coloration between adjacent squares.

Twist

If you think of a map of the North Pole, with latitude lines in circles and longitude lines leading away from the pole, then the standard Potential Rendering colors the set according to latitude only (circular lines). The Twist style computes both latitude and longitude for each point, and colors the outside of the set with a combination, yielding swirly or twisty results.

This mode works best when you're zoomed out, looking at the whole set. When you zoom in too far, it ends up looking just like the Potential Rendering, though it computes slower. Switch back to the standard rendering mode for deep zooms.

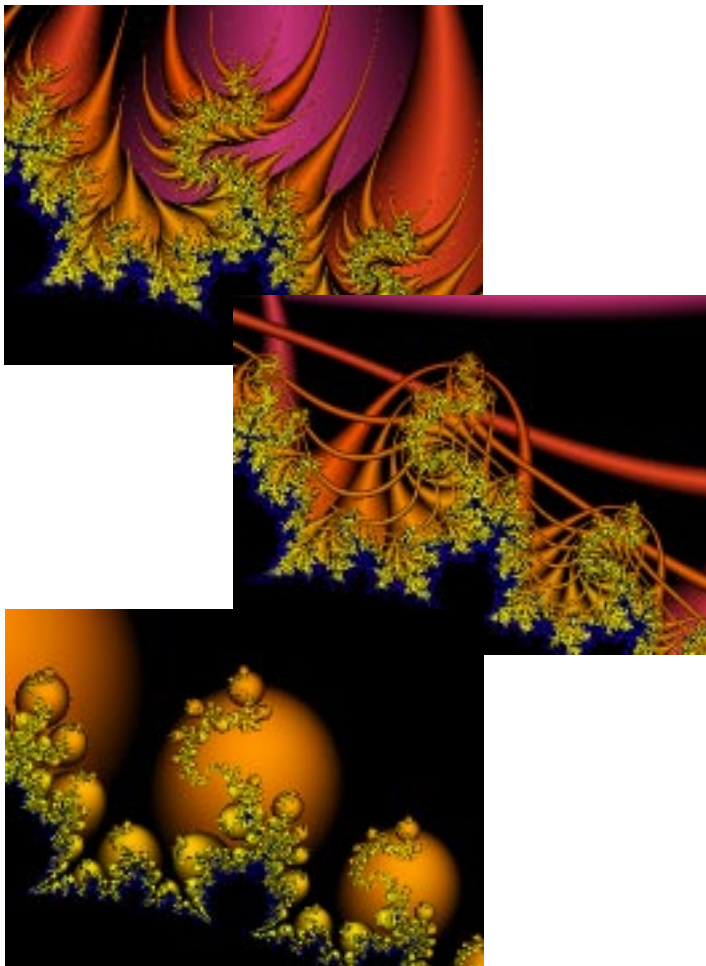


An example of a fractal colored using Twist.

Thorns, Ribbons, Bubbles

If you think of coloring modes as turbulence representation, each pixel is computed by following its trajectory until it gets to a certain safe distance away from the set. These three coloring modes operate by placing barriers in the path of the airflow, and coloring points differently depending on which barriers they hit on their way to escaping.

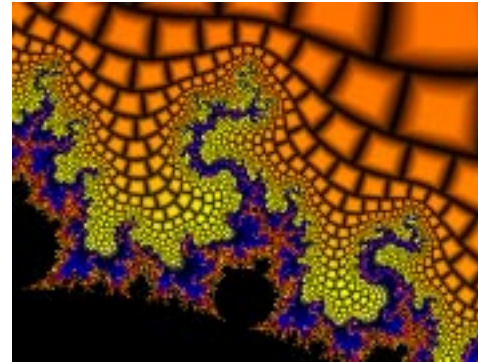
Thorns uses long lines as barriers, Ribbons uses concentric rings, and Bubbles uses spherical shapes. The sliders control various properties of these barriers, which can affect the final rendering in unexpected ways. Play around, who knows what you'll find.



An example of a fractal colored using Thorns, Ribbons, and Bubbles.

Mosaic

This mode is loosely based on the Binary Decomposition, but draws smooth pyramid shapes instead of solid-color squares.



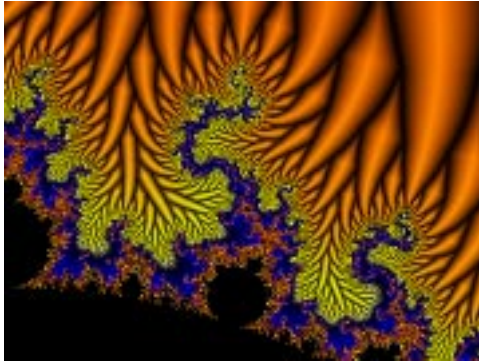
An example of a fractal colored using Mosaic.

Setting Mosaic Bevel

The Mosaic Bevel slider controls the bevel width on the edge of each pyramid.

Cilia

This mode is another Binary Decomposition spin-off. Pick a tile, and see how far you can follow it in.



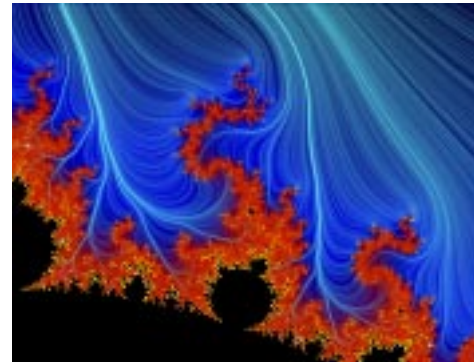
An example of a fractal colored using Cilia.

Setting Cilia Bevel Amount

The Cilia Bevel slider controls the bevel width on the edge of each tile.

Plasma Threads

This mode simulates a plasma ball effect, by tracing out the electrical paths of least resistance in the Potential rendering. This mode requires more memory than the other modes. Be sure to allocate lots of memory to the host application before you try to render really huge fractals.



An example of a fractal colored using Plasma Threads.

Setting Thread Density

The Thread Density parameter controls the number of threads that are calculated.

Setting Thread Angle

The Thread Angle parameter controls thread twistiness.

Setting Thread Color

The Color dot lets you choose a color for the threads using the Color Picker.

Rendering Your Fractal

KPT FraxPlover has three output modes that let you control the quality of your final rendered fractal. KPT FraxPlover uses anti-aliasing to enhance fractal elements. The three modes let you turn anti-aliasing off, apply it selectively, or apply it to all renders.

Anti-Aliasing Off

This option disables anti-aliasing.

Anti-Aliasing Adaptive

When this option is enabled, anti-aliasing is only applied when you're using one of the following coloring modes:

- Potential Rendering
- Binary Decomposition
- Twist
- Thorns
- Ribbons
- Bubbles

Applying anti-aliasing to the other modes increases rendering time.

Anti-Aliasing On Always

When this option is enabled, anti-aliasing is applied to all renders, regardless of the coloring mode selected. Adding anti-aliasing to some of the more complicated coloring modes can greatly increase rendering time.

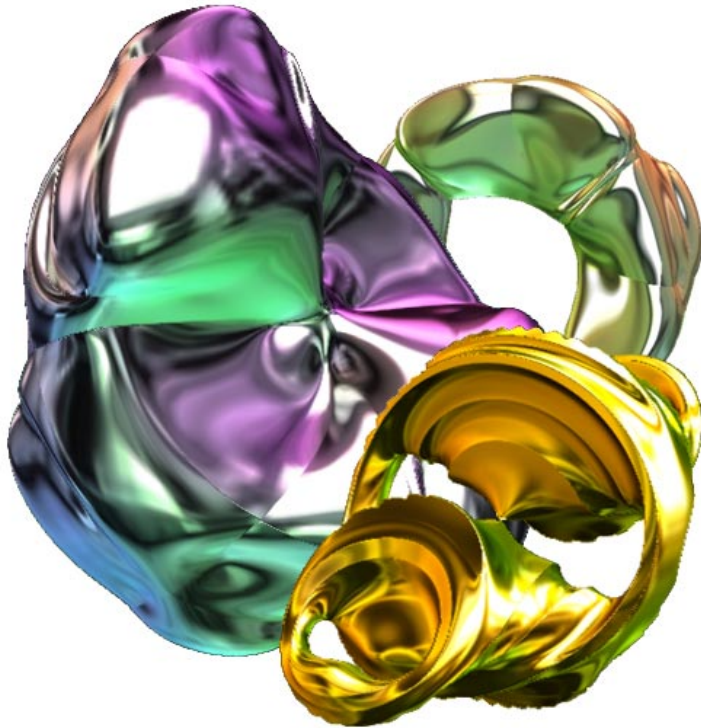
Previewing Output

You can preview your final output in one of two ways:

- By viewing it in a small window using the Preview Apply option
- By viewing at full screen size using the Preview Full Screen option

When you select the Preview Apply option, KPT FraxPlover renders a version of your final fractal, with anti-aliasing, and displays it in a window. Rendering your fractal at full screen size also applies anti-aliasing.

KPT FRAX4D



What's in this Section:

Overview	97
Creating a KPT Frax4D Object	97
Exploring your 4D Fractal	100
Adding an Environment Map	100
Setting Up Lighting	100

Overview

KPT Frax4D is a beautiful new way to look at fractals. It creates 3D sculptures out of fractal space at the click of a mouse. These sculptures can then be wrapped with any environment map. In other words, you can make 3D fractal sculptures out of gold, silver, green gel, or whatever you come up with.

Creating a KPT Frax4D Object

KPT Frax4D lets you create a 3D object by choosing a number of parameters or dragging in the Frax4D preview windows. As you change these parameters, you're actually exploring fractal space encountering different fractal patterns as you go. The fractals you find are displayed in the Main Preview window. Once you have a fractal you like, you can rotate it, add an environment map to it, and finally, render it as an image.

4D vs. 3D Fractals

KPT Frax4D has two modes. The first mode, called Cogiternion, lets you explore 3D fractal space by combining three parameters.

The other mode, called Quaternion, lets you explore 4D fractal space. The point you're exploring is defined by setting four parameters. The final 3D object is created by taking a 3D slice of a 4D fractal.

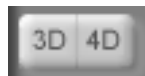


Examples of 3D and 4D fractals.

The number of parameters available in the Control panel depends on the type of fractal you're creating.

To switch modes:

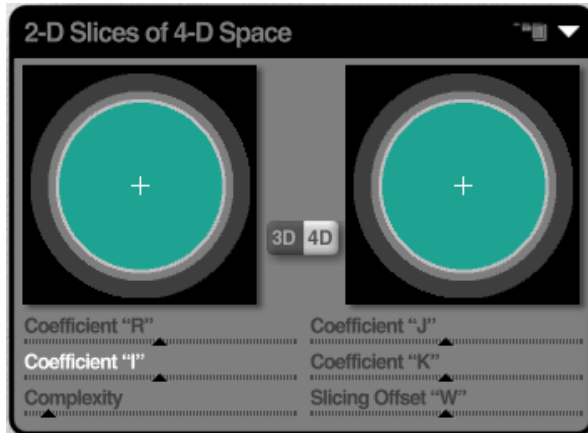
- ✱ Click the 3D/4D toggle button in the center of the 2D Slice of 4D Space panel.



Click the 3D/4D toggle button to switch between 4D and 3D fractals.

Using the 2D Slice of 4D Space Panel

The 2D Slice of 4D Space panel lets you view your fractal by taking slices of it and displaying them in 2D previews. Basically, what you're seeing is the inside of the object. The sliders on the panel let you adjust the coordinates of the fractal slices.



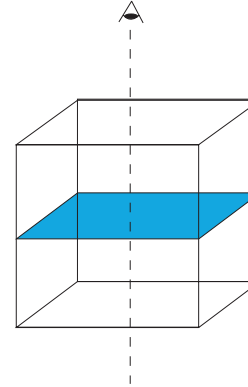
The 2D Slice of 4D Space panel.

You can also explore the fractal by dragging inside the panel's preview windows. As you drag, you're adjusting two parameters at once.

The number of controls available depends on the type of fractal you're creating. For a 3D fractal, you'll have R, I, and J controls. For a 4D fractal, you'll have R, I, J, and K controls, plus a W slice control.

Choosing R and I Parameters

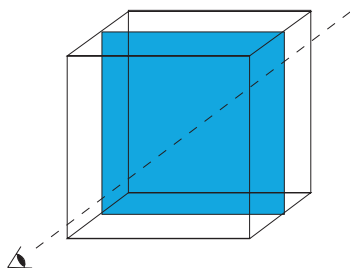
The R and I Coefficient controls let you set the position of the R and I slice of your fractal. The R I slice is a roughly horizontal plane cutting through 3D or 4D space. As you adjust the coefficients, the preview shows you a horizontal slice of the fractal object you're exploring.



A graphic representation of the R I preview.

Choosing J and K parameters

The J and K Slice Coordinate sliders control the position of the J K slice. This plane is roughly vertical. As you change the position, the preview shows you a vertical slice of the fractal object.

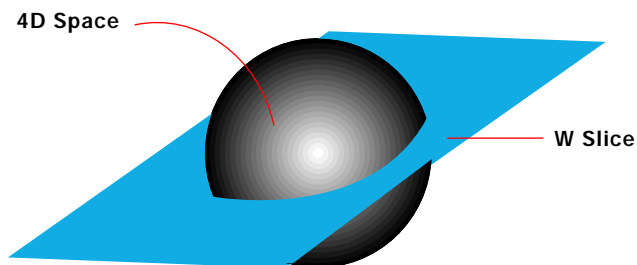


A graphic representation of the J K preview.

Viewing your Fractal using a W Slice

Since you can't actually display a four dimensional fractal on a computer, 4D fractals are sliced along their origin, either horizontally or vertically, to produce a three-dimensional object that you can see on screen. The Slicing Offset W slider controls how the slice is taken from the 4D fractal.

This control is only available when you're working with a 4D fractal.



A graphic representation of the W slice.

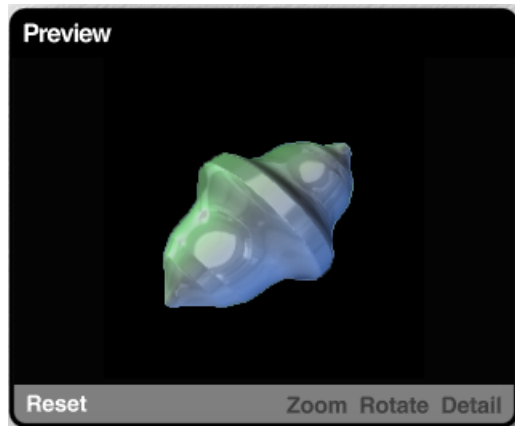
Setting Fractal Complexity

Fractals in KPT Frax4D are actually volume renders. As the filter renders, it moves through 3D space, rendering your fractal as it goes. The Complexity parameter tells the filter how many steps to take for a render. The more steps the filter takes, the more detail it will encounter, which in turn results in a higher quality object.

If you find that your fractal has some unwanted noise in it, increase the Complexity value.

Exploring your 4D Fractal

Once you have a fractal you're happy with, you can explore its patterns to see if there are any areas of the fractal you want to render as the final image.



The KPT Frax4D Main Preview window.

Zooming into a Fractal

Like other fractals, a 4D fractal is infinitely detailed. The Zoom control lets you enlarge a portion of your fractal so you can see more detail.

Viewing a Fractal in the Main Preview window

The Main Preview window lets you rotate your rendered sculpture by dragging it in any direction.

The Reset control lets you clear all the rotations you've applied to the fractal so that it appears in its default position.

Setting Fractal Iterations

The Detail control sets the sharpness of the fractal. Lower values produce smoother-edged fractals. Higher values produce more jaggy-edged fractals. As well, the higher the detail value, the longer the fractal takes to render.

Adding an Environment Map

An environment map is an image that is projected onto your fractal to create reflections. It can be used to simulate different surfaces like gold or silver. The map is controlled using the Environment panel.

Refer to ["Environment Panel" on page 34](#) for instructions on loading environment maps.

Setting Up Lighting

KPT Frax4D sculptures are three-dimensional objects, which means that you can light them from any angle. The 3D Lighting panel contains all the controls you'll need to set light color and angles. Refer to ["3D Lighting Panel" on page 30](#) for more on using the panel.

Rendering your Fractal

Depending on whether you're working with a 3D or 4D fractal, you can change the render quality of the fractal before you turn it into an image.

4D fractals can be rendered using the High Quality option which uses enhanced raytracing to produce a cleaner image.

To choose a render mode:

- ✱ Click the option arrow at the top of the 2D Slice of 4D Space panel and choose either Quaternion: Normal or Quaternion: High Quality from the menu.

Extremely Technical Notes

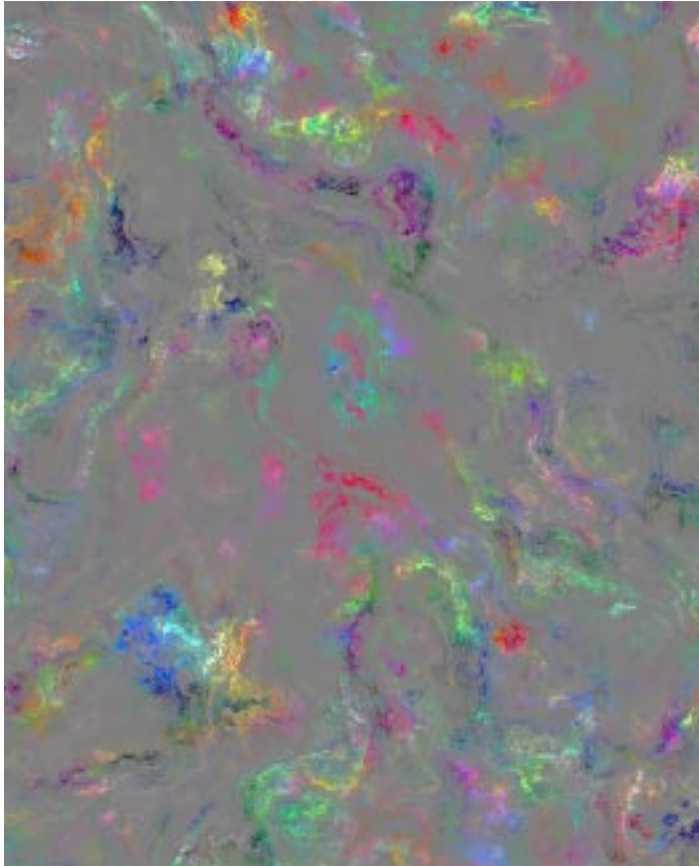
The general description provided earlier in this chapter explains how KPT Frax4D works in laymen's terms. What follows is a more technically accurate description. Be fore-warned, the paragraphs that follow provide information that won't really enhance your use of the filter, but it may give you a mild headache.

KPT Frax4D lets you choose parameters that define a point in 4D space. What you're seeing in the preview windows is the fractal that exists at that point. As you change parameters, you're exploring either 3D or 4D space locating either more of the same fractal, or completely new fractals.

When you're working with a 3D fractal, you're defining a point in 3D space using R, I, and J parameters, which result in a 3D object.

When you're working with a 4D fractal, you're defining a point in 4D space using R, I, J and K. The W slice parameter is then used to fix the L parameter. This results in a R, I and J object which can then be converted into a 3D object you can work with.

KPT NOIZE



What's in this Section:

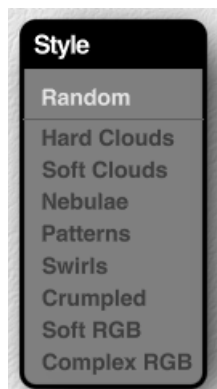
Overview	103
Generating Noise	103
Setting Up Noise Components	105

Overview

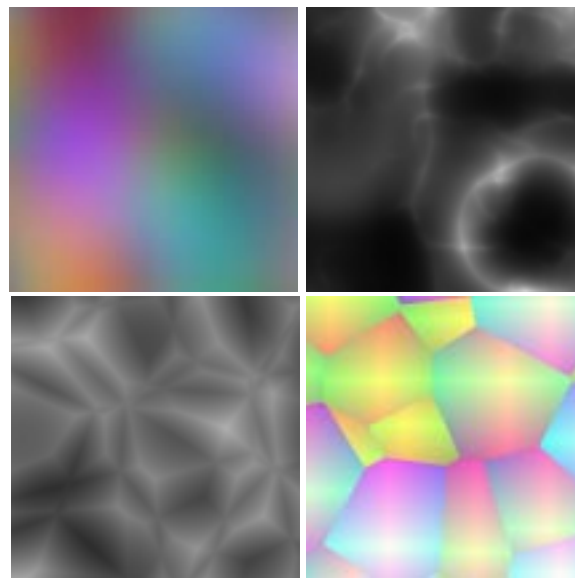
The KPT Noise filter lets you explore a wide variety of noise patterns. Noise patterns are mathematically generated turbulence. Noise can be used as textures, patterns, or as noise maps in one of the other KPT filters, like KPT FiberOptix.

Generating Noise

The KPT Noise filter is set up like an explorer utility. Noise is divided into a number of families, listed in the Style panel. After you select a noise family, you can explore its many variations using the Mutator. When you've got a noise you like, you can use one of the apply options to add it to your image.



The KPT Noise Style panel.



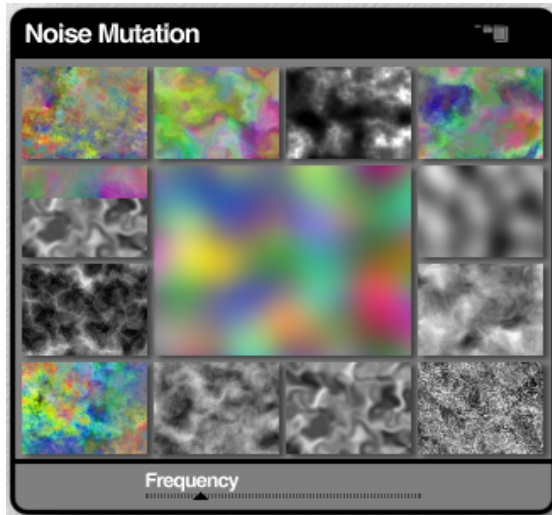
Examples of different noise families.

To choose a noise family:

- ✱ Click a family name in the Style panel.
Choose Random if you want to randomize the families themselves.

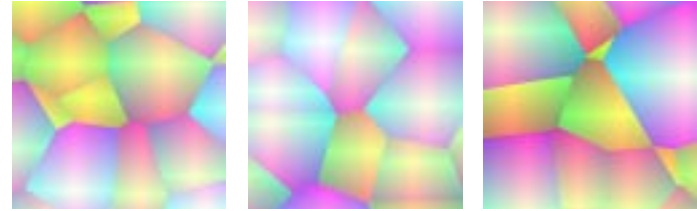
Using the Noise Mutator

Noise is generated using complex mathematical equations with a wide number of parameters. These parameters are like genes that go into making the final noise. You can change the noise pattern through genetic mutation (i.e. mutating parameters).



The noise in the center is the parent noise. The smaller previews display derivatives.

The preview at the center of the Mutator represents the parent noise and the smaller windows that surround it are derivatives, or cousins, of the parent. Every time you mutate the parent, you generate different derivatives.



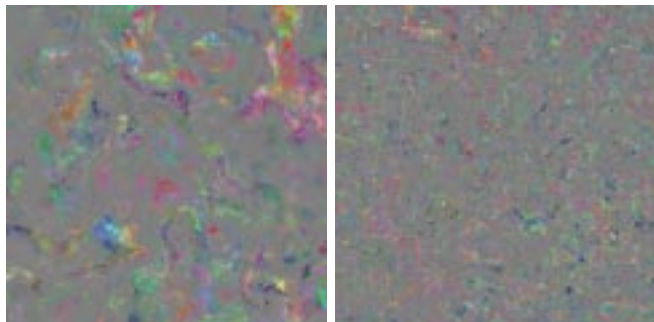
Examples of mutated noise.

To mutate a noise pattern:

- 1 In the Noise Mutation panel, click the center preview until you see a noise pattern you like.
- 2 Click the small preview of the noise you want to explore. Your selection becomes the parent noise and is displayed in the center of the Mutator.
- 3 Click the center preview again to generate derivatives of the selected noise.
- 4 Continue clicking the Mutator and selecting derivatives until you get the look you want.

Scaling Noise

The Frequency slider controls how many times the noise is repeated within an image. Higher scale values create more turbulence in the noise pattern.



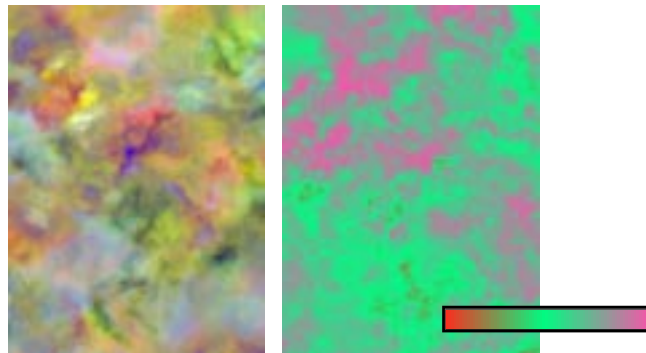
Noise using low and high Frequency values.

Setting Up Noise Components

Noise can have different components, depending on the contents of the source image:

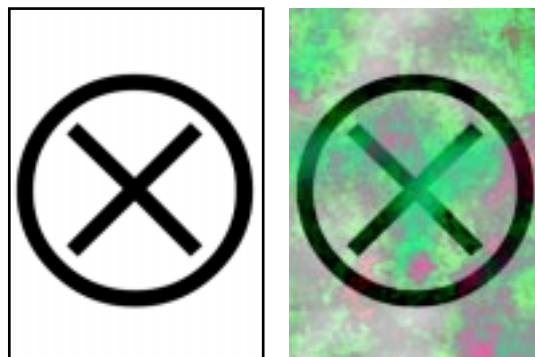
- If your source image is flat (i.e. without layers), KPT Noize can generate RGB noise that can be colored using a gradient.
- If your source image has more than one layer, KPT Noize can generate both RGB noise and Alpha noise.

RGB noise can be colored either randomly or using a gradient. It can also be transparent or opaque. When you turn it off, any alpha noise you generated is combined with the source image.



RGB noise colored using a gradient.

Alpha noise creates transparency within the source image. Noise is only applied in opaque areas.



An image with both RGB and Alpha noise.

If you use RGB noise combined with a gradient and alpha noise, you'll get a noise that not only has mathematically generated turbulence, but also a wide variety of colors and transparency patterns as well!

The Main Preview window displays the final noise. If you're combining noise types, the window shows the final result. If you turn off RGB, the window shows how the alpha noise combines with the background image.



The Main Preview window displaying a combination of RGB and Alpha noise.

To choose noise components:

- ✱ Click the arrow icon at the top of the Noise Component panel and choose a component from the menu.

Generating RGB Noise

By default, KPT Noise generates RGB noise. The Mutator sets the type of noise you generate.

Setting RGB Noise Opacity

The Opacity slider lets you control how much the generated noise affects the background image. The more transparent the noise, the less it affects the image. Setting RGB Noise Opacity to 0%, is like turning the noise off.

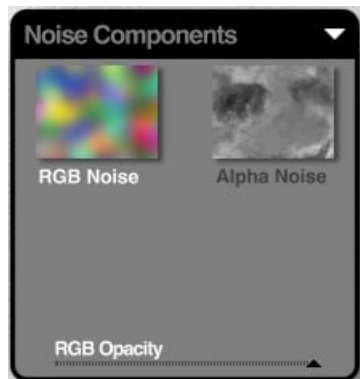
Using a Gradient

When this component is enabled, the RGB noise is colored using the colors in the Gradient panel.

The Gradient panel appears when you select this component. Use the panel to choose and mix colors. Refer to [“Color Gradient Panel” on page 35](#) for more on creating gradients.

Generating Alpha Noise

When this component is enabled, KPT Noize generates alpha noise that creates transparency in the noise pattern.



The Noise Component panel expands when you enable the Using Alpha Noise option.

To generate alpha noise:

- 1 Click the Alpha Noise preview.
- 2 Use the Mutator to generate a noise pattern.

Setting Alpha Noise Opacity

Like RGB Noise, you can control how much the alpha noise affects the image, by setting its transparency. Setting Alpha Noise Opacity to 0% is like turning alpha noise off. The RGB Noise you generated is completely opaque.

KPT ORB-IT



What's in this Section:

Overview	109
Creating Orbs	109
Lighting Orbs	111
Setting Up Orb Surfaces	111
Adding an Environment Map	113

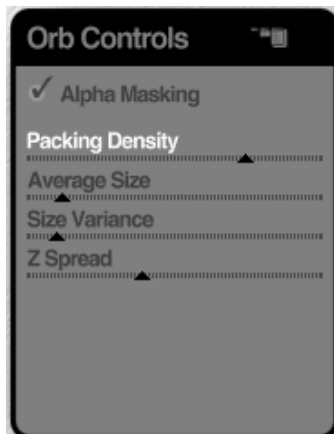
Overview

KPT Orb-It creates a field of 3D orbs over a background image. Each orb is an individual object with its own surface properties and position in space. Since the spheres exist in 3D space, they appear to have depth. As well, they can be lit from any direction using various light sources.

Spheres can be colored using lights, tint colors, or by picking up color from a background image.

Creating Orbs

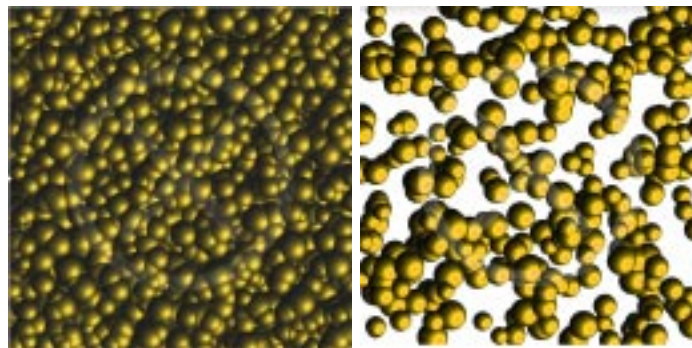
A sphere field is automatically generated the minute you enter KPT Orb-It. Every time you change a parameter, a new field is created. The Orb Controls panel lets you control how that field is generated. The panel's controls let you set the size of individual spheres as well as the density of the sphere field.



The Orb Controls palette.

Setting Orb Packing Density

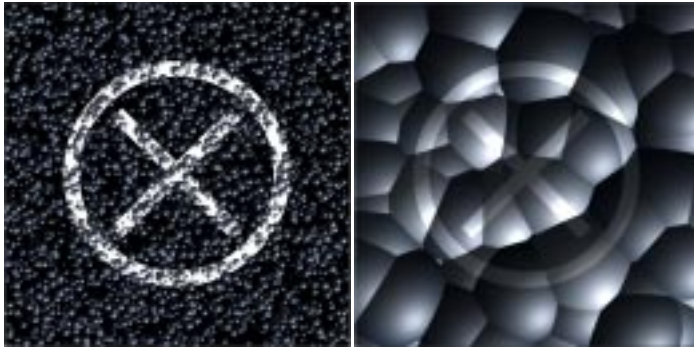
Packing Density controls how many spheres are produced. Low values produce an orb field with few orbs spaced farther apart. High values have the opposite affect.



Examples of high and low Packing Density values.

Setting Orb Size

Orb Average Size controls the relative size of spheres. High values produce larger spheres, while low values produce smaller ones.



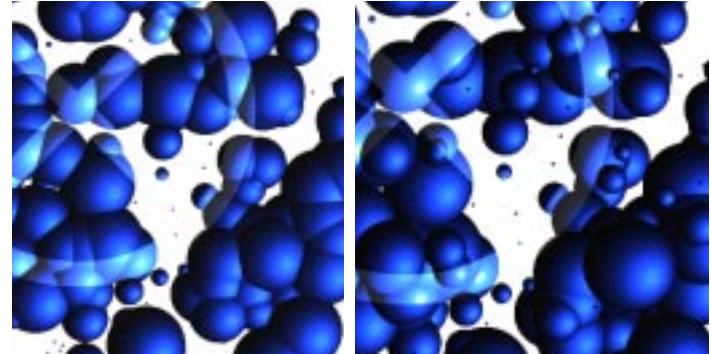
Examples of low and high Orb Average Size values.

Size Variation

Orb Size Variance controls the amount of difference in sphere sizes. Higher values result in spheres that range from very large to very small. Lower values result in orbs that are all closer in size.

Setting Z-Axis Distribution

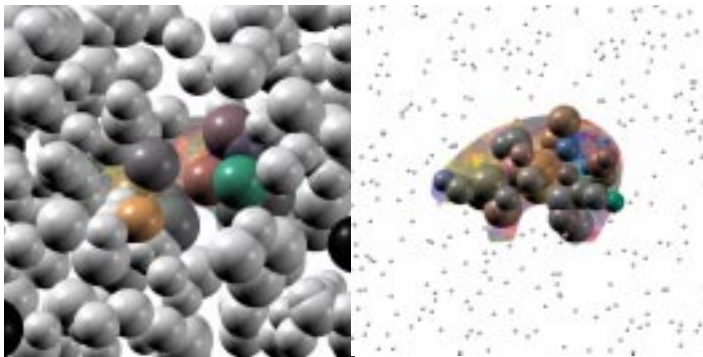
Orb Z Spread controls the depth of the sphere field. What the control does is adjust the position of spheres along the Z plane. Higher values result in spheres that are more spread out along the plane, creating a sense of depth. Lower values result in a flatter looking sphere field.



Examples of low and high Orb Z Spread values.

Controlling Orb Density using Alpha Information

The Alpha Masking option lets you use the grayscale values of an image to control orb density. When the option is enabled, larger orbs appear in areas of light and smaller orbs appear in dark areas.



An orb field with Alpha Masking disabled and enabled.

To enable/disable the Alpha Masking option:

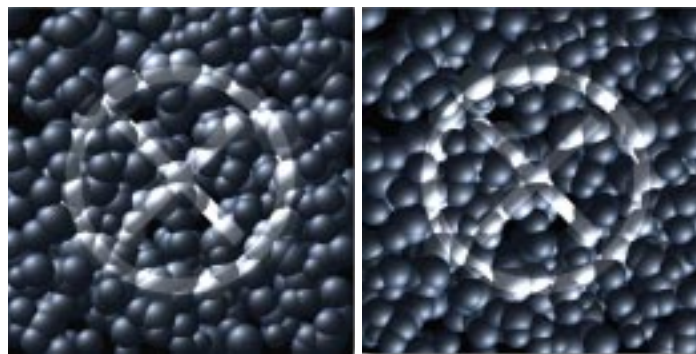
- ✱ In the Orb Controls panel, click the Alpha Masking label. When the checkmark appears, the option is enabled.



The Alpha Masking label.

Lighting Orbs

Since the spheres created by the filter are 3D, they can be lit from any angle. You can have as many lights as your system's memory allows. Each light can be positioned separately and it can have its own color.



The effect of different lighting angles.

Lights are controlled by the 3D Lighting panel. Refer to **"3D Lighting Panel"** on page 30 for more on using this control.

Setting Up Orb Surfaces

An orb's surface is made up of several properties. Its material color, which is drawn from the background image; its tint color, which can be used to alter the material color and create metallic

effects; its refraction setting, which can make a surface look like glass, and finally its environment map, which can create a realistic-looking reflective surface.



Orb surface properties are controlled by the Orb Color panel.

Using a Tint Color

The base color of spheres comes from either the original background image or the Tint Color.

Usually a sphere's color is picked up from the image beneath it. However, if there is no color, the sphere's color is the Tint color. This is rarely the case; more often the Tint color is used to wash all the orbs in a uniform color.

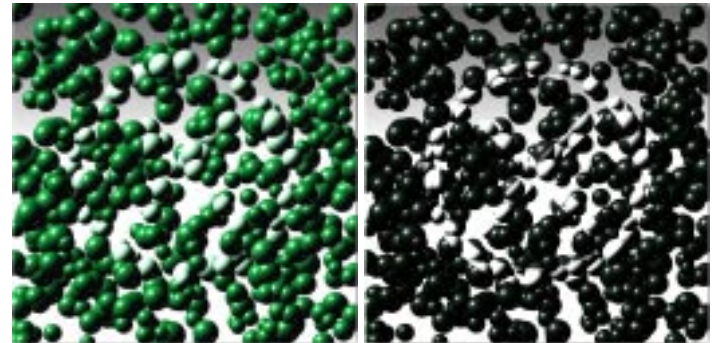
To set the tint color:

- ✱ In the Material panel, click the color dot and choose a color from the Color Picker.

Refer to ["Using the Color Picker" on page 29](#) for more on using the Color Picker.

Setting the Tint Amount

The Mix Tinting Color slider in the Orb Color panel controls how much of the tint color is applied to the orbs. Higher values shift all orb colors closer to the tint color.



High and low Mix Tinting Color values.

Tint to Background

The Tint to Background slider controls how much of an orb's surface color is taken from the pixel directly below it. At high values, orb color is taken more from the background image. At lower settings, orbs are colored more by the light and tint colors.



The effect of setting Tint to Background to 100.

Using Glass Refraction

When you apply Glass refraction, the orbs refract light causing distortions in any reflection coming off their surface. Distortions appear when the orbs are refracting parts of the background image.

Turning Metallic Reflections On/Off

The Metallic Render option lets you tint orb reflections using the material color, giving them a metallic look.

To turn Metallic Render on/off:

- ✱ In the Material panel, click the Plastic button. The option is disabled when the button is labeled "Plastic".

Adding an Environment Map

An environment map is an image that's projected onto the surface of your spheres to produce realistic reflections. The map is applied to each sphere separately, so you can see the reflection again and again.



An image applied as an environment map.

Blending the Environment Map with the Orbs

The Mix Environment slider lets you control how much the environment map affects the surface of an orb. At lower settings, the environment map appears faded. At higher settings, the map is completely visible.

KPT RADWARP



What's in this Section:

Overview	116
Setting Warp Parameters	116
Adjusting Warp Center	118

Overview

KPT RadWarp simulates a camera effect known as a barrel distortion. The distortion causes the edges of your image to become warped as if you were looking through a “fish-eyed” lens. This filter can be used both to correct a barrel distortion and to create it.

TiP

KPT RadWarp is a quick way of creating cool text effects.

ABC ABC

Different X Center values.

Setting Warp Parameters

The KPT RadWarp effect is created by adding mathematically-calculated distortions to your image. The two parameters control variables in equations used to calculate the

effect. All you have to know to use this effect is that adjusting the parameter values creates a completely different distortion effect.



The Warp Parameters panel.

Setting Warp Alpha Controls

The Alpha slider controls how much of an alpha curve is added to your image. The net result is that you should continue adjusting this control until you get the effect you want.



An example of a high Alpha setting.

Setting Warp Beta Controls

The Beta slider controls how much of a beta curve is added to your image. Again, experimentation is the key to using this filter effectively. Adjust the position of the slider until you get the effect you want.



An example of a high Beta setting.

Adjusting Warp Center

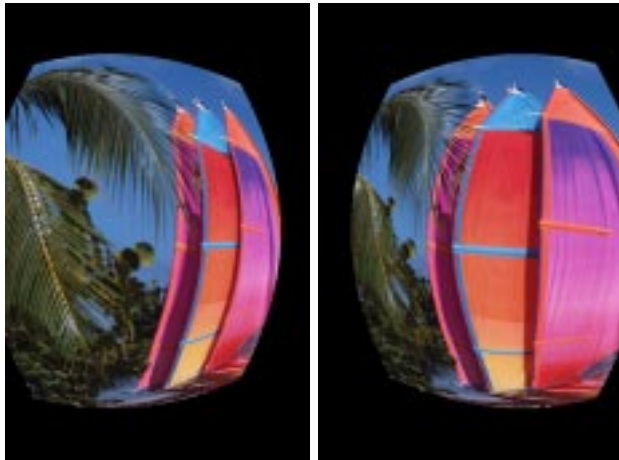
The KPT RadWarp filter can reposition the center of your image so that the center of the warping effect appears on different parts of your image. By trying different center positions, you can add a kind of perspective warp to the image.

Setting Horizontal Center

The X Center slider lets you control the horizontal center of the warping effect.

Tip

You can also adjust the center by dragging inside the Main Preview window.



Different X Center values.

Setting Vertical Center

The Y Center slider lets you position the center of the effect vertically.



Different Y Center settings.

Rotating your Image

The Rotation slider lets you rotate the image in real-time. The slider sets the angle in degrees.

KPT SHAPESHIFTER



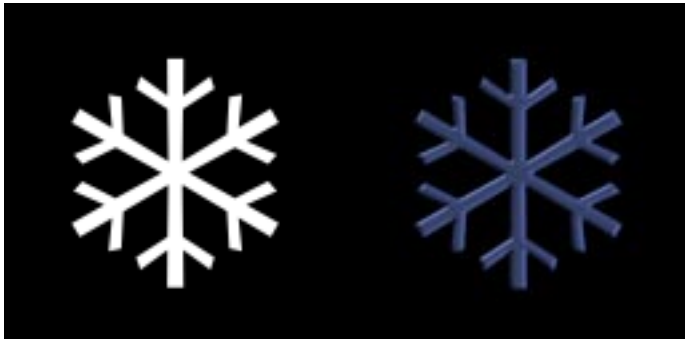
What's in this section:

Overview	120
Creating a Shape	120
Working with Bevels	121
Lighting your Shape	125
Adding Texture to your Shape	125
Adding a Glow	127
Working with Shadows	128
Adding an Embossing Layer to your Shape	130
Adding an Environment Map to your Shape	131
Previewing Your Shape	133

Overview

KPT ShapeShifter is the ideal tool for creating text effects, Web or software buttons and 3D artwork.

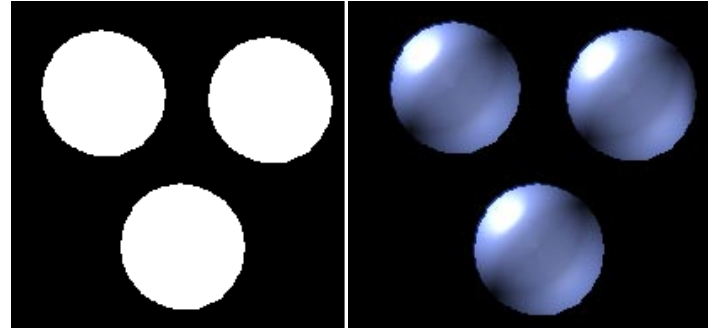
By applying bevels to your shape, KPT ShapeShifter gives it that 3D look. The filter provides incredible control over the shape and size of the bevels. You can even design your own bevel profile. The filter also lets you add a second layer to a shape for adding things like graphics or text. In addition, you can add environment maps for reflections and bump maps for surface texture.



A mask and the object created using KPT ShapeShifter.

One of KPT ShapeShifter's most impressive features is its ability to make hundreds of objects simultaneously. For example, if you load a mask that looks like swiss cheese, each hole forms it's own shape. Each shape has exactly the same settings.

Using this feature, you can load a mask that has shapes for each letter in a font set, and instantly turn them all into 3D objects, or you can load a mask with all shapes for each of the buttons in your website and instantly create all the 3D buttons you'll need.



A mask with three discrete shapes and the objects created using KPT ShapeShifter.

Creating a Shape

KPT ShapeShifter makes 3D shapes from masks. It takes the outline of the mask and adds a bevel, making it look 3D.

The mask can be either an imported mask or a selection created in the host application.

If you use a mask image, it has to be black and white. The black areas of the mask are considered the background, while the white areas are used to make the shape.

KPT ShapeShifter creates an object for each discrete shape in the mask. So if you use a mask with two circles in it, you'll get two objects. Shapes created from a single mask all have exactly the same properties.

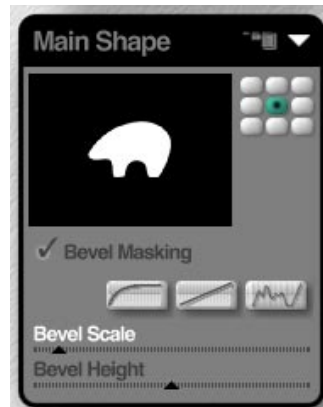
If you're using a selection, your 3D object is the same shape as the selection.

To import a shape mask:

- 1 In the Main Shape panel, click the triangle icon in the title bar to open the options menu and choose Load Mask.
or
Click the thumbnail preview window.
- 2 Locate the file you want to use as a mask and click OK.
The mask appears in the preview window as a 3D shape.
You can also use the Load Preset option to load a preset mask. Refer to ["Working with the Presets Library" on page 38](#) for more on the Presets Library.

Working with Bevels

A bevel is the profile of your shape. It's what makes it look 3D. The size of the bevel determines how thick your shape is, while the shape of the bevel can produce ridges and creases in the shape's surface. Bevels are controlled using the Main Shape panel.



Use the Main Shape panel to import a shape mask or set up bevels.

Bevel Modes

KPT ShapeShifter has three bevel modes you can use when applying a bevel to your shapes. The first two, Arc and Diagonal, are presets, while the third lets you create your own bevel profile.

To switch Bevel Modes:

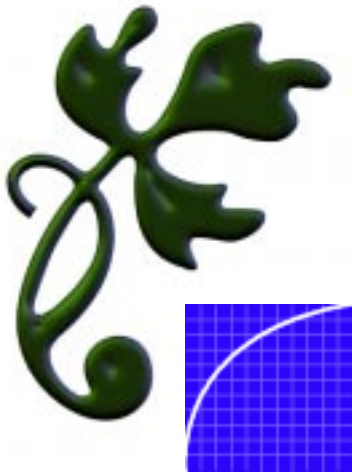
- ✱ In the Main Shape panel, enable one of the bevel options.



Bevel option buttons.

Arc

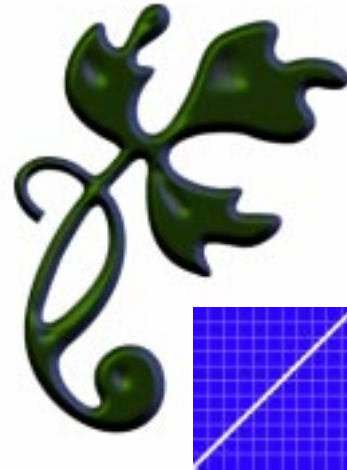
When you use the Arc profile, your shapes have a smooth rounded edge.



A bevel created using Arc mode.

Diagonal

This profile creates smooth angled plateaus along the edges of your shape.

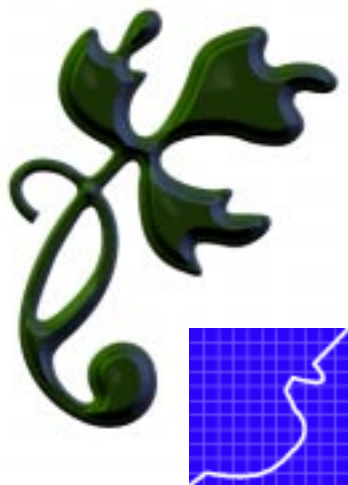


A bevel created using Diagonal mode.

User-Defined Profile

This bevel option lets you create your own bevel profile by editing the graphic representation of a bevel.

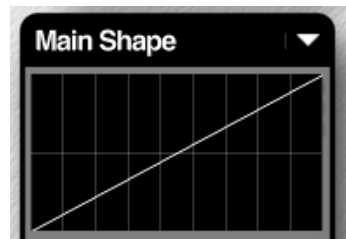
Think of the graph as a side view of the bevel. A straight line results in a flat bevel. An arc results in a rounded bevel. A profile shaped like a wave results in a bevel with grooves in it and so on.



A bevel created using a user-defined profile.

To edit the bevel profile:

- 1 In the Main Shape panel, click the User Defined button. The panel preview displays the current bevel.



Drag inside the preview to change the bevel profile.

- 2 Drag any point on the graph up or down.
- 3 Once you have a shape you like, use the smoothing tools to soften the curve.

Sharp points in the graph produce hard ridges in the bevel. The Smoothing option lets you make the bevel more rounded, while maintaining the ridges you created.

As you adjust the graph, your changes are applied to the shape in the Main Preview window so you can see what it looks like.

To smooth a user-defined bevel:

- ✱ Press the Option/Alt key while your bevel is displayed in the Main Shape preview window.

The longer you hold down the key, the more smoothing is applied.

To magnetize the bevel curve:

- ✱ Shift-click a point on the curve to draw the curve to the point where clicked.

To reset the bevel curve:

- ✱ Control-drag to reset the curve to a flat line.

Using Bevel Masking

The Bevel masking options let you control how the bevel is applied to the object in relation to the original mask.



Drag inside the preview to change the bevel profile.

Normally, KPT ShapeShifter uses the mask to generate the bevel contour. Depending on your Bevel Profile and Size settings, the bevel may extend outside the area of the original mask. This helps create a smoother drop-off.

However, when you enable the Bevel Masking option, the final 3D shape will be exactly the same size as the mask.

You'll want to enable this option if you're creating a shape that's going to be composited precisely with another image. You'll also want to enable masking when you're designing elements on a web page that need to be an exact size.

Setting Bevel Scale

The scale of the bevel determines your shape's 3D depth. The larger the bevel, the smaller the flat plateau on the top of your shape and the more 3D it looks.



The effects of low and high Bevel Scale settings.

Setting Bevel Height

The Bevel Height control determines the sharpness of the bevel angle. The higher the setting, the more pronounced the bevel becomes.



Low and high Bevel Height values.

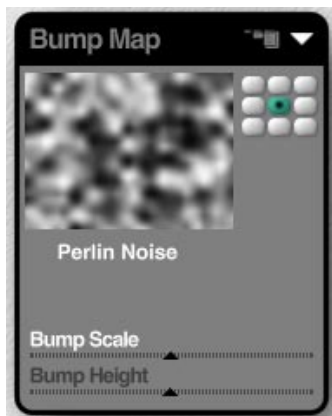
Lighting your Shape

Since the shapes created by the filter are 3D, they can be lit from any angle. You can have as many lights as your system's memory allows. Each light can be positioned separately and can have its own color.

The lighting you apply to the object can greatly enhance its 3D look. Lighting is controlled using the 3D Lighting panel. Refer to ["3D Lighting Panel" on page 30](#) for more on this panel.

Adding Texture to your Shape

By default, your shape has a smooth surface. That may be fine for some purposes, but you can create much more interesting effects by adding some texture to your shape's surface.



Texture is controlled using the Bump Map panel.

Texture can be added in one of two ways:

- By using a noise algorithm, which creates a texture by applying mathematically generated bumps and dents. Algorithmic noise creates a more grainy surface with random bump patterns.
- By using a bump map which adds bumps and dents to a surface based on the light and dark values in the map image. Maps are good for creating specific patterns on your object.

To choose a preset noise as a bump map:

- ✱ In the Bump Map panel, click the text label beneath the preview window and choose a noise from the menu that appears.

Importing a Bump Map

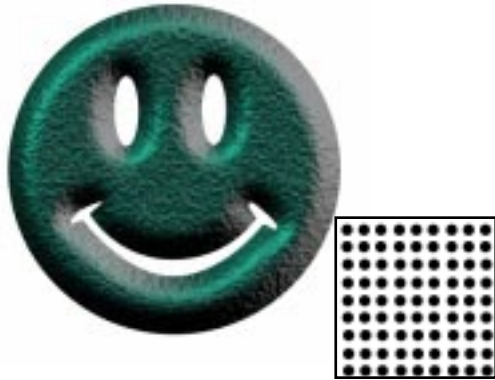
A bump map is a black and white image that is used as a height map to create bumps in the surface of your shape. A height map creates bumps based on the light and dark values in an image. Light values create bumps and dark values create dents.

To import a bump map:

- 1 In the Bump Map panel, click the triangle icon in the title bar to open the options menu and choose Load Mask.
or
Click the thumbnail preview window.
- 2 Locate the file you want to use as a map and click OK.
The image appears in the preview window.
You can also use the Load Preset option to load a preset mask. Refer to ["Working with the Presets Library" on page 38](#) for more on presets.

Setting Bump Scale

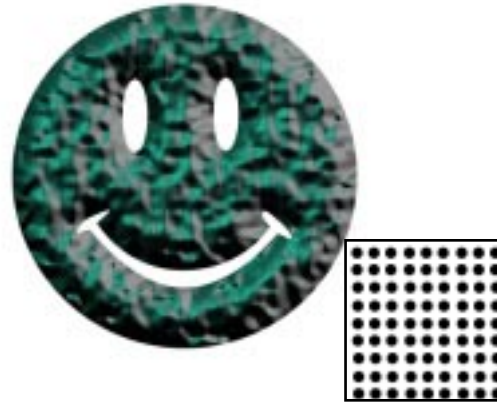
The scale of your bump map can greatly alter the texture you finally create. A larger bump map creates a smoother texture. A smaller map creates a very grainy texture since the map is repeated more frequently to cover the surface of your shape.



Texture created using a low Bump Scale value and the bump map used to create the texture.

Setting Bump Height

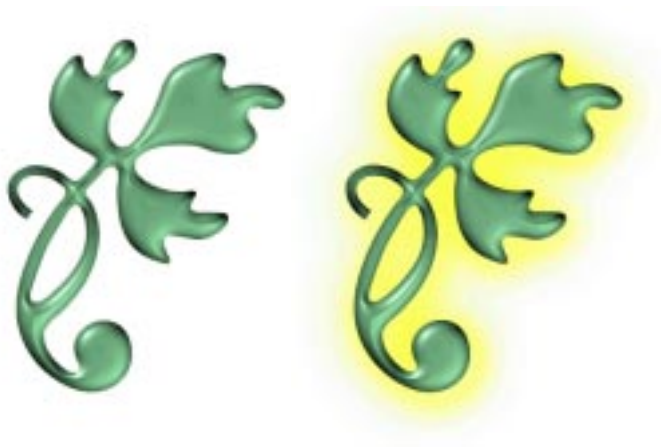
The Bump Height slider determines how pronounced the bumps in the bump map appear on the shape's surface. Positive values create bumps. Negative values create dents.



Texture created using a high Bump Height value and the bump map used to create the texture.

Adding a Glow

The Glow controls let you place a colored highlight around your shape. This feature is great for creating highlight states on buttons.



A shape with a glow applied.

To turn the glow on/off:

- ✱ In the Glow panel, click the eye icon. When the eye's open, the glow is enabled.



Glow properties are controlled using the Glow panel.

Setting Glow Color

You can pick a glow color using the Color Picker. The color you choose won't affect the color of the shape, but it should compliment it. Refer to ["Using the Color Picker" on page 29](#) for more on choosing colors.

To choose a glow color:

- ✱ In the Glow panel, click the Glow Color dot and choose a color from the Color Picker.

Setting Transparency

The Transparency slider controls how opaque your glow appears. The higher the setting, the stronger the glow effect.

Setting Glow Size

The Glow Softness slider controls the size of the glow around the shape. Higher settings make the glow grow larger and fuzzier.

Setting Glow Position

The Glow X Offset and Y Offset let you control the glow's position along the X and Y planes.

TiPS

You can also position the glow by dragging inside the panel's preview window.

If you hold down Shift, there's a 1:1 correlation between your movements in the preview and the position of the glow in the Main Preview window. If you move your glow 5 pixels in the preview, the glow in the Main Preview also moves 5 pixels.

Working with Shadows

The Shadow controls let you set the attributes for the shape's drop shadow. Using these controls, you can set the shadow's position, size and opacity. Shadows are controlled using the Shadow panel.



A shape with a shadow.

To turn a shadow on/off:

- ✱ In the Shadow panel, click the eye icon. When the eye's open, the shadow is enabled.

Setting Shadow Color

You can pick a shadow color using the Color Picker. The color you choose only applies to the shadow. Refer to [“Using the Color Picker” on page 29](#) for more on choosing colors.



Shadow properties are controlled by the Shadow panel.

To choose a shadow color:

- ✱ In the Shadow panel, click the Shadow Color dot and choose a color from the Color Picker.

Setting Shadow Position

The Shadow X Offset and Y Offset let you control the drop-shadow's position along the X and Y planes.

TiPS

You can also position the shadow by dragging inside the panel's preview window.

If you hold down Shift, there's a 1:1 correlation between your movements in the preview and the position of the shadow in the Main Preview window. If you move your shadow 5 pixels in the preview, the glow in the Main Preview also moves 5 pixels.

Setting Shadow Size

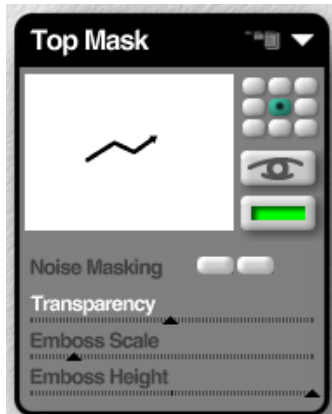
The Shadow Softness slider lets you control the size of the shadow. Higher values increase the radius of the shadow, making it more blurred. Lower values decrease its size.

Setting Shadow Transparency

The Shadow Transparency control sets how opaque your shadow appears. Lower values make your shadow more transparent.

Adding an Embossing Layer to your Shape

KPT ShapeShifter lets you add a second layer to your shape that can be used to create an engraving effect. Using this second layer, called the Top Mask, you can add shapes on top of your shape or text onto a button. The embossing effects can make your second layer look like it's been engraved into the shape.



The second layer is controlled by the Top Mask panel.

To turn the top mask on/off:

- ✱ In the Top Mask panel, click the eye icon. When the eye's open, the top mask is enabled.

To load a top mask:

- 1 In the Top Mask panel, click the preview window. The Open dialog appears.
- 2 Locate the mask you want to use and click Open.

You can also load a mask from the Presets Library. Refer to ["Working with the Presets Library" on page 38](#) for more on presets.

To position the top mask:

- ✱ Shift-drag the mask in the Main Preview window.

Using a Tint Color with the Top Mask

Tint applies a uniform color to the shape. This tint color only affects the shapes on the top mask.

To choose a tint color:

- ✱ Click the color dot and choose a color from the Color Picker. Refer to ["Using the Color Picker" on page 29](#) for more on choosing colors.

Noise Masking

Noise masking protects your top mask from the texture below it. This helps make text more readable since it won't have any texture applied to it.

To turn noise masking on:

- ✱ In the Top Mask panel, click the Noise Masking toggle button.

Adjusting Transparency

The Transparency control lets you set the opacity of the second layer. The higher the setting, the more transparent the layer.

To adjust transparency:

- ✱ In the Top Mask panel, drag the Transparency slider.

Emboss Scale

Emboss Scale controls the radius of the embossing effect. The higher the value, the softer the effect.

Emboss Height

The Emboss Height slider controls the intensity of the embossing effect. Positive values create bumps in the shape of the mask. Negative values create dents in the surface.

Adding an Environment Map to your Shape

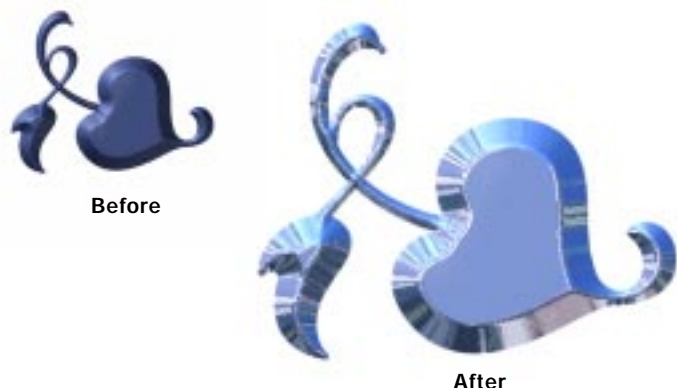
An environment map is used to create a pattern in the reflections of your shape.



Environment maps are controlled by the Environment panel.

To understand how an environment map works, imagine that your shape is made out of a shiny material. It would reflect everything around it. So, if it was in the middle of a park, you

would be able to see a reflected view of the trees and grass. The environment map simulates this effect. It's used to project a surrounding environment onto the surface of your shape.



An object before and after an environment map was applied.

You can load any RGB or grayscale image as an environment map, or you can use a preset from the library. Refer to [“Working with the Presets Library” on page 38](#) for more on presets.

Once you've loaded an environment map, you can control how much it affects the shape by using the Mix Environment slider.

To load an environment map:

- 1 Click the thumbnail preview window. The Open dialog appears.
- 2 Locate an image you want to use as a map and click Open.
Choose a photo-realistic image if you want to reflect a natural environment.

Blending an Environment Map

The Mix Environment slider lets you control how much of the map is visible in the shape's reflection. The higher the setting, the more of the map you can see. At lower settings, the map appears faded.

Using a Tint Color

Tint applies a uniform color to the shape. This color is in addition to any color the shape picked up from a background image.

When you apply a metallic surface to your shape, the tint color is used to color all the reflections that come off its surface.

Once you have a tint color you can control how much it affects the base color of your shape. The higher the tint value, the more the colors shift toward the tint color.

To choose a tint color:

- ✱ Click the color dot and choose a color from the Color Picker. Refer to [“Using the Color Picker” on page 29](#) for more on choosing colors.

To set tint value:

- ✱ Drag the Mix Tinting Color slider. At higher values you'll see more of the tint color and less of the base colors.

Applying Glass Refraction

The Glass Refraction control can be used to create a glass-type effect. When you apply refraction, the shape's surface bends light causing distortions in the reflections.



An example of Glass Refraction.

The control can have both positive and negative values.

Setting Internal Reflections

Internal Reflections cause the inside of the object to reflect light, making it look brighter.



An example of Internal Reflections.

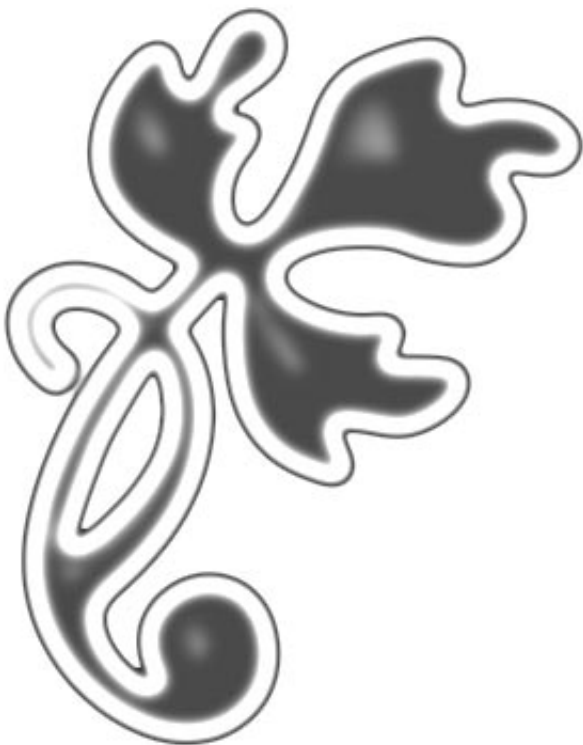
Previewing Your Shape

The render options in the Main Preview window let you control the quality and speed of the preview. The options are a trade-off between speed and quality. Faster previews have lower quality and higher quality previews take longer to render.

To choose a render preview option:

- ✱ Click the triangle icon at the top of the Main Preview window and choose an option from the menu.

KPT SMOOTHIE



What's in this Section:

Overview	135
Smoothing an Image	136
Working with Outer Edges	138
Working with Inner Edges	138

Overview

The KPT Smoothie filter lets you blur the edges of any image and then clip it, giving the final image a smooth-edged, rounded look. The smoothing effect is created by applying a Gaussian Blur to the edges of the mask and then clipping it to make the edges cleaner.

A Little History...

KPT Smoothie is the evolution of a tip Kai wrote a couple of years back called "How to Clean Up...a Fax or a Scan". In it, he described how to fix up a badly scanned image in Photoshop. The process went something like this:

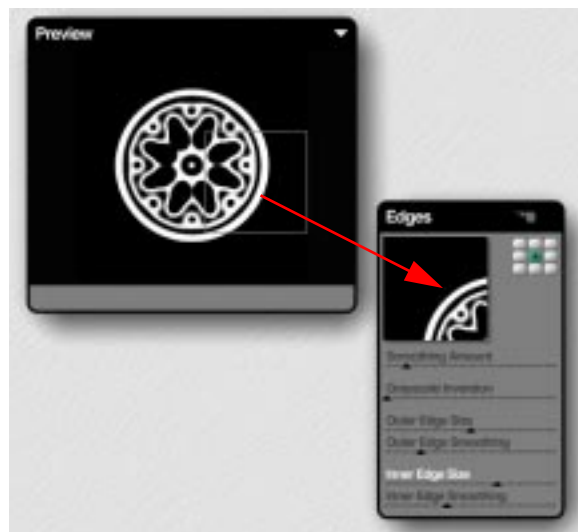
- First, you take the image and apply a Gaussian Blur. This makes the image appear smoother which also results in anti-aliased edges.
- Then, you go into the Levels dialog and adjust the grayscale values to fix up any shading that may have been eliminated when the image was faxed. You also use Levels to clean up the edges.

Well, KPT Smoothie does all that and more. You don't have to go to a variety of dialogs and apply different effects. It's all in one place. What's more, KPT Smoothie goes further than simply consolidating controls, it provides a way to fix up specific edges.

Not only does KPT Smoothie simplify the touch-up process, but it can also be used to make special effects like outlines and rounded rectangles.

Previewing your KPT Smoothie Effect

The thumbnail preview window in the Edges panel shows you a 1:1 representation (i.e. actual size) of a portion of your image. The rectangular area in the Main Preview window lets you change the area displayed in the panel preview. You can use this feature to see the effects of the smoothing on different parts of your image.



As you drag the rectangle in the Main Preview window, the panel preview changes to show a 1:1 portion of the effect.

Smoothing an Image

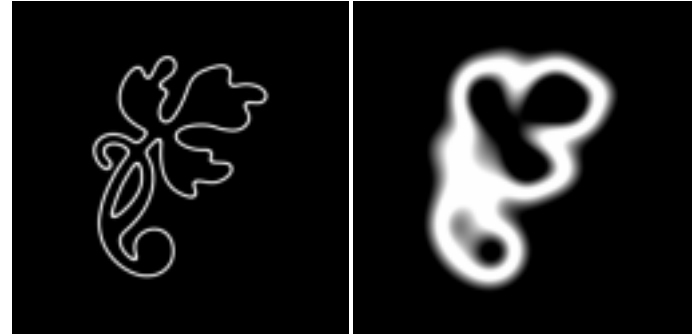
Before you start working with the specific edges in your image, you should apply the smoothing effect to the whole image. Then you can use the Inner and Outer Edge controls to refine the effect.



The Edges panel controls all the settings for KPT Smoothie.

Smoothing Amount

Smoothing Amount controls how much smoothing is applied to the entire image. This control has the same affect as adding a Gaussian blur to your image, except that you can control how the blur is applied in real-time.



Smoothing Amount at low and high settings.

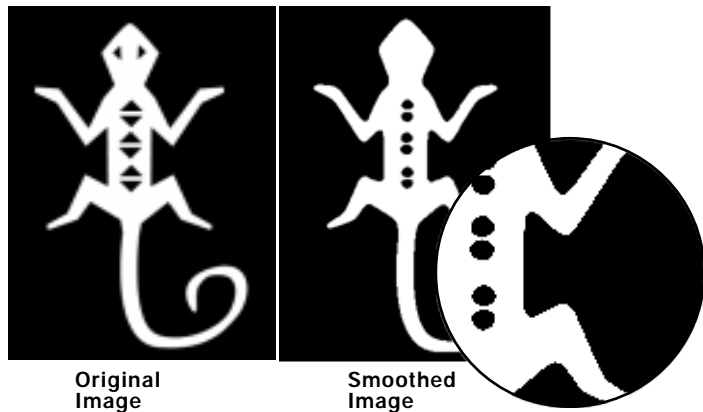
TiPS

Applying a high Smoothing Amount to a solid square is a quick way of making a rounded rectangle.



A rounded rectangle created using a high Smoothing Amount.

You can really see the effects of Smoothing Amount when you apply it to an image with sharp edges. On closer inspection, you can see how the edges are rounded as you apply more smoothing.



The effects of applying Smoothing to a sharp-edged image.

Grayscale Inversion

This control adjusts the balance between the light and dark grayscale values in your image (just like the Levels dialog in Photoshop). Again, the advantage here is that you can see your adjustments in real-time.

Grayscale Inversion can smooth out the transitions between grayscale values to make edges cleaner, or it can eliminate unwanted elements from your image.

TiPS

If you're trying to fix a specific edge, use the rectangle in the preview area to display it in the Edge panel. That way, you can see if your settings are making the edge cleaner.

Extremely high values of Grayscale Inversion actually invert the shades in the image so that what was light is now dark and vice versa.



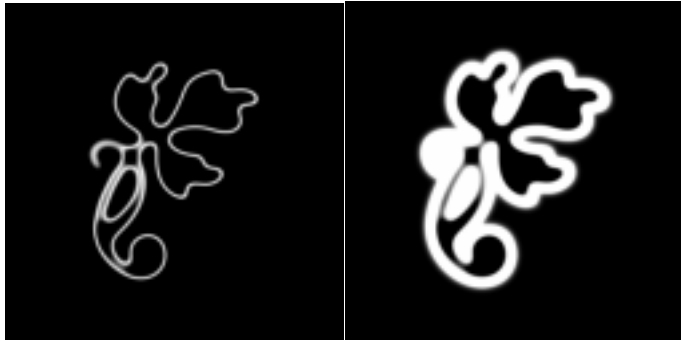
A completely inverted image.

Working with Outer Edges

As their names suggest, the Outer Edge controls let you apply the KPT Smoothie effect specifically to the outside edges of your image.

Outer Edge Smoothing

Outer Edge Smoothing determines how much smoothing is applied to the outside edges of the image.



Low and high settings of Outer Edge Smoothing.

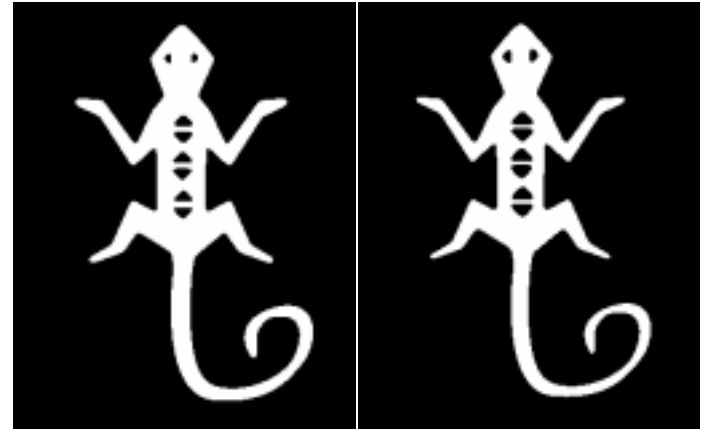
Outer Edge Size

Outer Edge Size sets how much of the outer edge of the image is trimmed. Use this control after you've set the Smoothing Amount. That way, you can see how much of the smoothing effect you're clipping.

Working with Inner Edges

The Inner Edge controls let you apply the KPT Smoothie effect to the inside edges of your image.

These are the controls you'll use to clean-up images with thin lines. The smoothing process can distort or eliminate lines, the Inner Edge size can help you redefine them.



The effects of using the Inner Edge controls to redefine lines within the image.

Inner Edge Smoothing

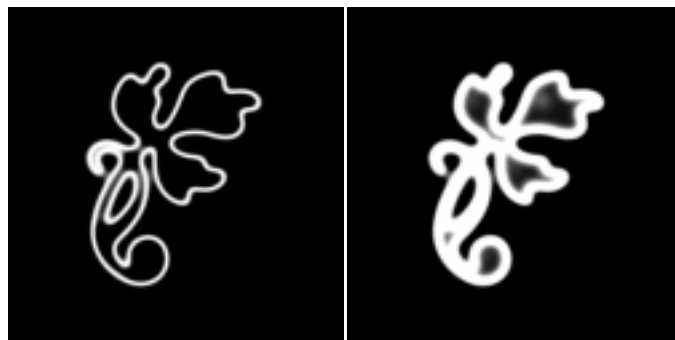
Inner Edge Smoothing sets how much smoothing is applied to the inside edges of the image. If you use Inner Edge Size to hollow out the shape, this setting applies smoothing to the inside of the shape.



An example of Inner Edge Smoothing.

Inner Edge Size

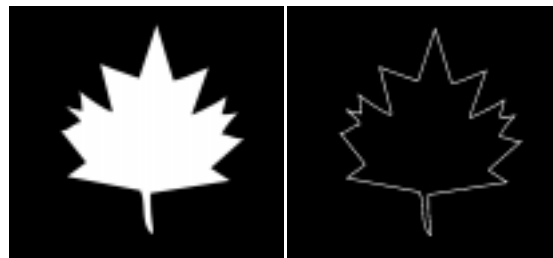
Inner Edge Size sets how much of the image's interior is trimmed. This can clean up inside edges distorted by Inner Edge Smoothing. The higher the setting, the more hollow the image appears.



Low and high settings of Inner Edge Size.

TIPS

Inner Edge Size is great for creating outlines out of solid shapes.



An outline created by applying Inner Edge Size.