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WELCOME TO COREL KPT COLLECTION

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WELCOME TO COREL KPT COLLECTION

Welcome to Corel® KPT® Collection, the revolutionary KPT series of filters designed to help you create dazzling and unique effects.

THE COREL KPT COLLECTION FILTERS

Corel KPT Collection includes 24 extraordinary filters that produce dazzling and unique effects for print and the Web.

KPT FIBEROPTIX

The KPT® FiberOptix™ filter lets you create realistic hair, fur, rain showers, and more. You can control the length, color, and tint of each fiber you create on a source image. Using a mask, you can create fibers in specific shapes; for example, you can create hair that grows as text.

KPT FRAX4D

The KPT® Frax4D™ filter lets you create 3-D sculptures out of fractal space. You can wrap these sculptures with any environment map. You can also rotate sculptures and render them as images.

KPT BLURRRR

The KPT® Blurrrr™ filter lets you manipulate the pixels in a source image to soften, smooth, and blend its edges and colors.

KPT EQUALIZER

The KPT® Equalizer™ filter lets you use a variety of filters to add interesting effects to images by manipulating their frequencies; for example, you can sharpen or blur images.

KPT FRAXPLORER

The KPT® FraxPlorer™ filter lets you create an infinite variety of fractal patterns. You can also customize fractals using various color, contrast, distortion, and zooming tools.

KPT SHAPESHIFTER

The KPT® ShapeShifter™ filter lets you apply interesting effects to objects; for example, you can apply bevels, graphics and text layers, and dimensions. You can also use environment and bump maps to achieve reflections and surface texture. You can create multiple objects at once; for example, by loading a mask with the shapes of each letter in a font set, you can turn the shapes into 3-D buttons for a Web site.

KPT NOIZE

The KPT® Noize™ filter lets you explore a variety of mathematically generated noise patterns that can be used as textures, patterns, or noise maps. You can select a noise family, mutate it to explore its variations, and apply it to a source image.

KPT GEL

The KPT® Gel™ filter lets you use paint tools to create 3-D images, text treatments, and objects such as buttons and borders. You can use lighting effects, tinting, and transparency to control the qualities of effects.

KPT GOO

The KPT® Goo filter lets you create effects that simulate the look of gelatin finger-painted on a source image. You can smear, splatter, swirl, pinch, or bulge images to create unique results. You can also use animation controls to save effects as movies.

KPT LENSFLARE

The KPT® LensFlare™ filter lets you apply interesting effects on a source image to simulate the photographic reflections created by a bright light shining on a camera lens. For example, you can create glows, halos, and streaks of light.

KPT MATERIALIZER

The KPT® Materializer™ filter lets you create complex textures, stunning backgrounds, and dazzling text treatments on source images. You can import bump maps and scale, pan, and rotate them to achieve interesting effects. You can also use lighting controls to manipulate surface textures.

KPT PROJECTOR

The KPT® Projector™ filter lets you use warping effects to create 2-D perspective distortions and 3-D transformations on source images. You can also create infinite planar tiling at any angle, and you can use anisotropic light filtering.

KPT REACTION

The KPT® Reaction™ filter lets you use patterns and diffusion options to create realistic simulations of organic textures, such as the growth pattern of coral or the stripes on a zebra.

KPT TURBULENCE

The KPT® Turbulence™ filter lets you create waves on a surface image. As the waves distort the image, they become animated and fluid. You can apply color blends to the waves. You can also take a snapshot of the waves that you can apply to a source image, or you can save the waves in motion as a movie.

KPT RADWARP

The KPT® RadWarp™ filter lets you use a simulated camera effect called barrel distortion to warp the edges of images. You can also correct barrel distortion on images.

KPT CHANNEL SURFER

KPT® Channel Surfer™ lets you apply effects to individual channels in an image. You can blur or sharpen a channel, or adjust its contrast or value. You can adjust the amount and transparency of the effect, and control how the effect blends with the source image.

KPT FLUID

KPT® Fluid™ lets you manipulate images by applying liquid-like transformations and distortions that simulate dragging a brush across a wet surface. You can control the effect by setting the thickness of the fluid as well as the brush size and velocity. You can use various preview techniques to fine tune the effect, and choose to save the fluid in motion as a movie.

KPT FRAXFLAME II

KPT® FraxFlame II™ lets you explore and mutate an infinite variety of flame fractals. You can also customize fractals with various color, contrast, and distortion techniques.

KPT GRADIENT LAB

KPT® Gradient Lab™ lets you create complex color blends with various levels of transparency. You can also customize gradients with interesting shapes, styles, and pixel distortions.

KPT HYPER TILING

KPT® Hyper Tiling™ lets you create and save intricate tiling effects by reducing the source image to create a tile. The tile is then repeated to create a hyper tiling effect. You can create different blends between the source image and the effect, and change the perceived distance from the effect. You can also change the depth, transparency, position, and size, of the effect, and rotate it through space.

KPT INK DROPPER

KPT® Ink Dropper™ lets you create the effect of dropping colored liquid (ink) on glass, canvas, or into another liquid. You can also create your own background images. You can choose the color of the liquid, and change its intensity and transparency. You can also change the size of the individual drops, and the rate at which they disperse on the surface.

KPT LIGHTNING

KPT® Lightning™ lets you create powerful, customized lightning bolts. You can control every aspect of a lightning bolt, from setting its length and color, to determining its path and how much it zags and wanders. The lightning effect can then be realistically integrated into your source image using one of several blend modes.

KTP PYRAMID PAINT

KPT® Pyramid Paint™ uses the Lab color mode to let you transform source images into effects that resemble paintings, and perform various color and contrast adjustments to them.

KPT SCATTER

KPT® Scatter™ is a 2-D particle system that lets you scatter a range of particles over a source image. You can scatter large masses of particles over an effect, or create densely packed particles to emulate intricate effects such as paint strokes or mosaics. You can also create special effects based on the way particles interact with the properties of a source image.

ABOUT THE USER GUIDE

The Corel KPT Collection User Guide assumes you are already familiar with basic Mac OS® and Windows® concepts — menus, dialog boxes, and mouse operations, such as clicking and dragging. If you need more information on these subjects, or about the Apple® Finder™ or the Windows desktop, refer to the Mac OS® User Manual or the Microsoft® Windows® User Guide, respectively.

USER GUIDE CONVENTIONS

The Corel KPT Collection User Guide is for both Mac OS and Windows platforms. By convention, Mac OS commands precede Windows commands in the text. For example, Command/Ctrl + I, is equivalent to the Mac OS Command + I and the Windows Ctrl + I, and indicates that you must hold down the Command or Ctrl key, and press I. The term “folder” refers to directories as well as folders. The Corel KPT Collection interface for Mac OS and Windows platforms is identical, unless otherwise specified.

ABOUT COREL CORPORATION

Founded in 1985, Corel Corporation (www.corel.com) is a leading technology company specializing in content creation tools, business process management and XML-enabled enterprise solutions. The company's goal is to give consumers and enterprise customers the ability to create, exchange and instantly interact with visual content that is always relevant, accurate and available. With its headquarters in Ottawa, Canada, Corel's common stock trades on the Nasdaq Stock Market under the symbol CORL and on the Toronto Stock Exchange under the symbol COR.

COREL CUSTOMER SUPPORT SERVICES

Corel Customer Support Services can provide you with prompt and accurate information about product features, specifications, pricing, availability, services and technical support.

ONLINE SUPPORT SERVICES

For information about online support services, visit www.corel.com. Please note, some of the services are available only in English.

TELEPHONE SUPPORT SERVICES

Web services	Description
Corel® Knowledge Base	Allows you to read, print and download documents that contain answers to many technical questions.
Newsgroups (peer-to-peer forums)	Allow you to exchange information, tips and techniques with other users of Corel products.
Downloads	Allow you to download product patches, updates and trial versions.

For detailed information regarding telephone support services, please visit **www.corel.com**.

Live telephone support services are available for all Corel products from warranty support (30 days) to fee-based Priority and Premium Services. OEM, “white box,” jewel case (CD only), trial, and Academic versions of Corel products are eligible for fee-based support services only.

NORTH AMERICA

For pricing, purchasing, or general inquiries about Corel products, you can call Customer Service toll-free at 1-800-772-6735.

To speak directly to a technician please dial 1-613-274-0500. The hours of operation are 8:30 a.m. to 7:30 p.m., Monday to Friday, Eastern Standard Time (EST).

OUTSIDE NORTH AMERICA

For pricing, purchasing, or general inquiries about Corel products, you can call Customer Service toll-free at 1-800-267-35127. If the country you are calling from is listed below, please call the corresponding number.

Please note that these numbers may change as we adapt our services to fit user needs. Check the international support numbers page at **www.corel.com** for the most up to date contact details.

Contact Customer Service for pricing, purchasing, general inquiries, or replacement CDs. Contact Technical Support Services should you require technical assistance operating your Corel software.

Country	Customer Service	Technical Support
Argentina	0800 777 3203	57 1 523 1240
Australia	1 800 658 850	61 2 8844 4101
Austria	0192 89600	0192 89600
Belgium (Dutch)	0240 06733	0240 06733
Belgium (French)	0240 06777	0240 06777
Brazil	0800 14 1212	55 11 5696 5797
Chile	54 0800 777 3203	57 1 523 1240
China	10 800 610 2323	10 800 610 2673
Colombia	01 800 091 9370	57 1 523 1240
Czech Republic	0224 239645	0224 239645
Denmark	352 58008	352 58008
Finland	922 906040	922 906040
France	0170 706090	0170 706090
Germany	06922 2220288	06922 2220288
Hong Kong	800 964 514	800 964 515
Hungary	204 117089	204 117089
Indonesia	1 803 61 539	1 803 61 544
Ireland	0124 77724	0124 77724
Israel	44 1628 581601	44 1628 581601
Italy	0236 003600	0236 003600
Japan	81 3554 53274	81 3531 93013
Luxembourg	44 1628 581603	44 1628 581603
Malaysia	1 800 807 895	1 800 807 899
Mexico	1 800 1234 854	57 1 523 1240
Netherlands	0207 132700	0207 132700
New Zealand	0508 267 351	0800 908 592
Norway	229 71908	229 71908
Poland	071 3477279	071 3477279
Portugal	44 1628 581601	44 1628 581601
Singapore	800 6161 853	800 6161 854
South Africa	0860 223 388	0860 223388
South Korea	82 2 3444 5166	82 2 3444 5166
Spain	0914 141500	0914 141500
Sweden	0856 610555	0856 610555
Switzerland (German)	0158 03280	0158 03280

MAIL AND FAX SUPPORT SERVICES

You can send inquiries to Corel Support Services representatives by mail or fax.

Corel Support Services
1600 Carling Avenue
Ottawa, Ontario, Canada
K1Z 8R7
Fax: 1-613-761-9176

GETTING STARTED

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GETTING STARTED WITH COREL KPT COLLECTION

Corel KPT Collection is an extraordinary collection of filters that produce dazzling and unique effects for print and the Web. Whether you are a professional designer, artist, Web author, or hobbyist, the Corel KPT Collection filters will help you take your work to a new creative level, and enhance your productivity.

INSTALLING COREL KPT COLLECTION

You can install Corel KPT Collection in host applications compatible with Mac OS and Windows.

TO INSTALL COREL KPT COLLECTION IN MAC OS

- 1 Insert the Corel KPT Collection CD into the computer's CD drive.
- 2 Browse to the **Corel KPT Collection** folder.
- 3 Double-click the **Corel KPT Collection installer** icon.
- 4 Follow the instructions on your screen.

TO INSTALL COREL KPT COLLECTION IN WINDOWS

- 1 Insert the **Corel KPT Collection** CD into the computer's CD drive.
- 2 Click **Install**.
- 3 Follow the instructions on your screen.

STARTING AND QUITTING FILTERS

You can access a Corel KPT Collection filter from the host application. You can quit a Corel KPT Collection filter in two ways. You can quit a filter and apply the effect to the source image in the host application. You can also quit a filter without applying the effect to the source image in the host application.

TO ACCESS A FILTER

- ▷ Do one of the following:
 - In Adobe® Photoshop®, click **Filters ▶ Corel KPT Collection**, and click a filter.
 - In Painter, click **Effects ▶ Corel KPT Collection**, and click a filter.
 - In Corel PHOTO-PAINT, click **Effects ▶ Corel KPT Collection**, and click a filter.
 - In Bryce®, click a flyout arrow in the **Pictures** dialog box in **Picture editor**, click **Corel KPT Collection**, and click a filter.

Note

If you want to access a Corel KPT Collection filter in Bryce for the first time, you must first click a flyout arrow in the **Pictures** dialog box, click **Select plug-ins folder**, choose the folder where Corel KPT Collection is installed, and click **Choose/OK**.

TO QUIT A FILTER

- ▷ Click one of the following buttons:
 - **OK** — to quit a filter and apply the effect
 - **Cancel** — to quit a filter without applying the effect

USING PANELS AND SLIDERS

You can set the style in which panels display. You can also move sliders.

TO SET A PANEL DISPLAY STYLE

- 1 Click the filter name.
- 2 From the **Filter options** list box, choose one of the following styles:
 - **Panel auto popup** — to automatically expand panels as you move the pointer over them
 - **Panel manual popup** — to manually expand panels by clicking the **Cycler** button in the title bar
 - **Panel solo mode** — to expand the current panel and automatically collapse those not in use

Tip

In **Panel auto popup** mode, sliders expand to display a panel with additional controls you can use to adjust slider settings incrementally, and view previous slider settings (indicated by the location of the gray arrow).

In **Panel manual popup** mode, you can expand a panel by clicking the **Cycler** button in the right corner of its title bar.

In **Panel solo mode**, you can collapse an expanded panel by double-clicking its title bar.

TO MOVE A SLIDER

- Drag the black slider arrow.

PREVIEWING FILTER EFFECTS

The **Preview** window lets you dynamically view the results of your work. You can apply a background to the **Preview** window. You can also move and size the **Preview** window.

TO APPLY A BACKGROUND TO THE PREVIEW WINDOW

- Click the flyout arrow in the **Preview** window, and choose one of the following options from the **Preview options** list box:
 - **Preview against black** — to display an effect against a solid black background
 - **Preview against white** — to display an effect against a solid white background
 - **Preview against checkerboard** — to display an effect against a background of gray squares
 - **Preview against dark checkerboard** — to display an effect against a background of dark gray squares
 - **Preview against gradient** — to display an effect against a grayscale gradient background

Note The effect only displays against the background while it is in the **Preview** window. The background is not applied to the source image in the host application, and does not impact the final render of the effect.

TO MOVE THE PREVIEW WINDOW

- Drag the title bar.

TO SIZE THE PREVIEW WINDOW

- 1 Click the flyout arrow in the **Preview** window.
- 2 From the **Preview options** list box, choose one of the following **Preview** window sizes:
 - **Small preview**
 - **Medium preview**
 - **Large preview**

CUSTOMIZING THE WORKSPACE

You can apply a fun icon style to the common workspace. If the KPT workspace is smaller than the resolution of your screen, you can also display or hide common workspace controls.

TO APPLY A FUN ICON STYLE TO THE COMMON WORKSPACE

- 1 Click the **KPT** logo.
- 2 Choose **Smileys!** from the **Global options** list box.

TO DISPLAY OR HIDE COMMON WORKSPACE CONTROLS

- 1 Click the **KPT** logo.
- 2 Choose **Black out screen** from the **Global options** list box.

STORING WORKSPACE AND PANEL SETTINGS

Storing workspace settings lets you save different workspace layouts. For example, you can arrange all panels on one side of the workspace and enlarge the **Preview** window, and then save this layout for later use.

Storing panel settings lets you save and compare different versions of a filter effect.

The workspace and panel settings you save are retained from one session to another, so you can use them again and again. When you no longer need stored workspace and panel settings, you can clear them. You can also restore default workspace or panel settings.

TO STORE WORKSPACE SETTINGS

- Click a gray memory dot in the **Layout** panel.

Empty memory dots display gray, full

Note memory dots display green, and memory dots currently in use display yellow.

TO STORE PANEL SETTINGS

- Click a gray memory dot in the **Recall** panel.

TO USE STORED WORKSPACE OR PANEL SETTINGS

- Click a green memory dot in one of the following panels:
 - Layout** — to use stored workspace settings
 - Recall** — to use stored panel settings

TO CLEAR STORED WORKSPACE OR PANEL SETTINGS

- Hold down **Option/Alt**, and click the corresponding green memory dot in one of the following panels:
 - Layout** — to clear stored workspace settings
 - Recall** — to clear stored panel settings

TO RESTORE DEFAULT WORKSPACE OR PANEL SETTINGS

- Click the memory dot in the center of one of the following panels:
 - Layout** — to restore default workspace settings
 - Recall** — to restore default panel settings

Working with presets

Some Corel KPT Collection filters provide you with preset effects. You can load a preset effect. You can also save an effect you create as a preset. You can create multiple presets categories in which to organize the presets you store.

You can import and export presets.

TO LOAD A PRESET

- Click the **Presets** button.
- Double-click a preset thumbnail in the **Presets library** panel.

If the preset is stored in a category, you must first choose the category from the middle-left tile of the **Presets library** panel, then double-click a preset thumbnail.

You can preview a preset by

single-clicking a preset thumbnail. A

Note

larger version of the preset thumbnail

displays in the upper-left tile of the

Presets library panel.

TO SAVE AN EFFECT AS A PRESET

- Click the **Presets** button.

- 2 Choose a category from the middle-left tile of the **Presets library** panel.
- 3 Click **Add preset**.

A preset thumbnail displays in the **Presets library** panel.

Note You can also delete a preset from a category by clicking a preset thumbnail, and clicking **Delete preset**.

TO CREATE A PRESETS CATEGORY

- 1 Click the **Presets** button.
- 2 Click the flyout arrow in the **Presets library** panel, and click **Create new category**.
- 3 A text box displays in the middle-left tile of the **Presets library** panel.
- 4 Type a name.
- 5 Press **Return/Enter**.

Each category can store up to 24 presets.

TO IMPORT A PRESET

- 1 Click the **Presets** button.
- 2 Click **Import** in the **Presets library** panel.

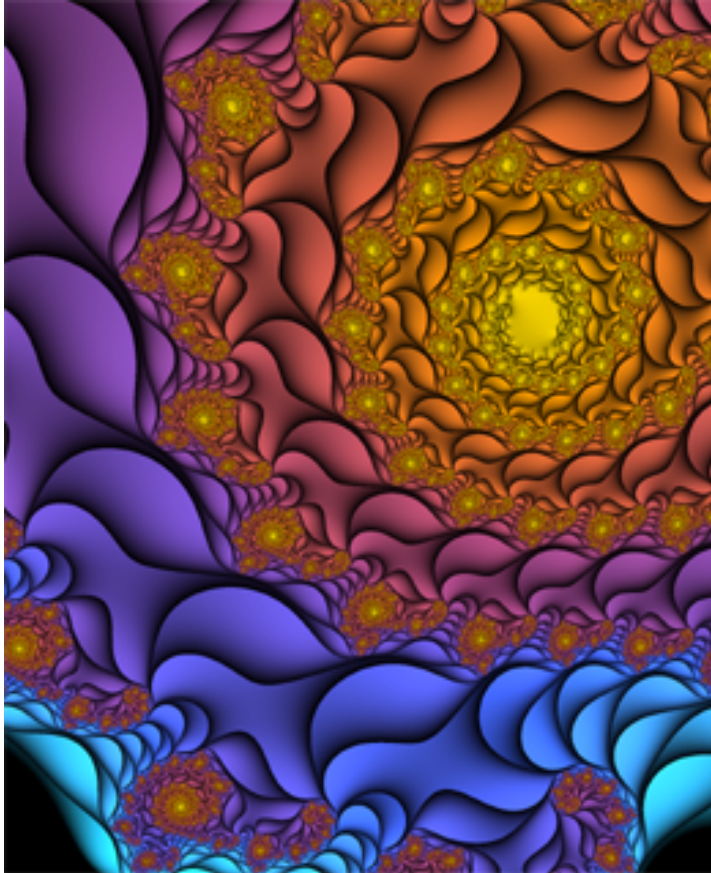
If you want to import a preset to a specific category, you must first choose the category from the middle-left tile of the **Presets library** panel, and then click **Import**.
- 3 Choose the folder where the file is stored in the **From** dialog box.
- 4 Click the file.
- 5 Click **Open**.

The preset displays as a thumbnail in the **Presets library** panel.

TO EXPORT A PRESET

- 1 Click the **Presets** button.
- 2 Choose a category from the middle-left tile of the **Presets library** panel.
- 3 Click a preset thumbnail.
- 4 Click **Export**.
- 5 In the **Save as** dialog box, type a filename in the **Save as** box.
- 6 In the **Where** box, choose the folder where you want to export the file.
- 7 Click **Save**.

KPT FRAXPLORER



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OVERVIEW

KPT 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!

EXPLORING FRACTALS

KPT 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



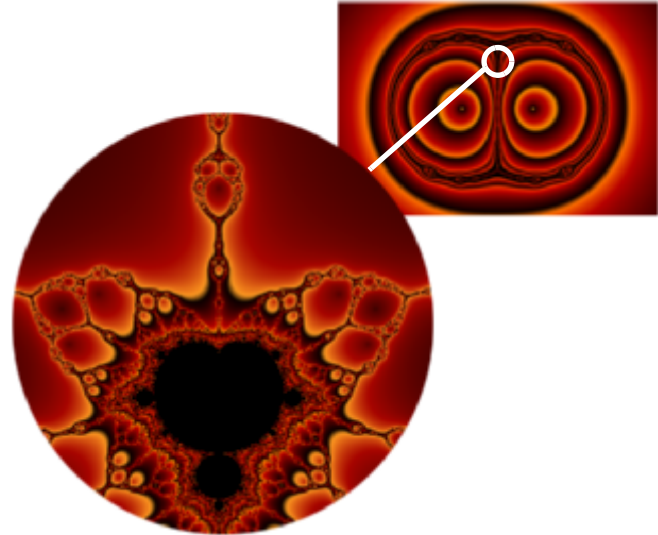
Mandelcube



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.

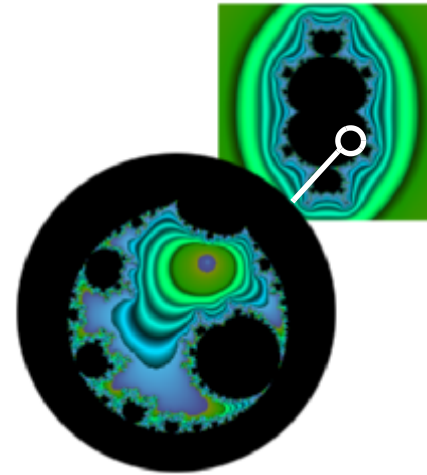
EXPLORING JULIA VARIATIONS

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 POLAR VARIATIONS

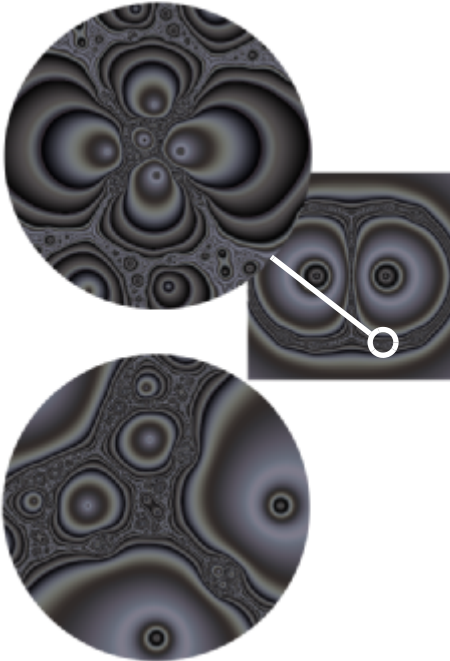
To generate a polar variation, KPT FraxPlorer takes a point on the base fractal and turns it inside out. So, if you move to a point on the base fractal where the inside is black and the outside is colored, the polar variation will have color in the inside and black on the outside.



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

EXPLORING M-JULIA POLAR VARIATIONS

To generate M-Julia Polar variations, KPT FraxPlover 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.

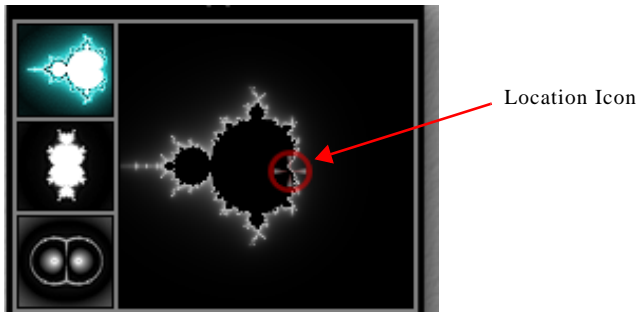


When you first access the Universe Mapper only the top portion is visible. When you click the arrow icon, the bottom portion appears.

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.



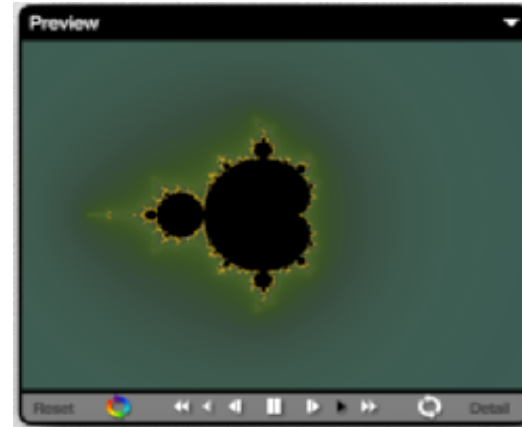
Drag the location icon to explore different variations.

- 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.



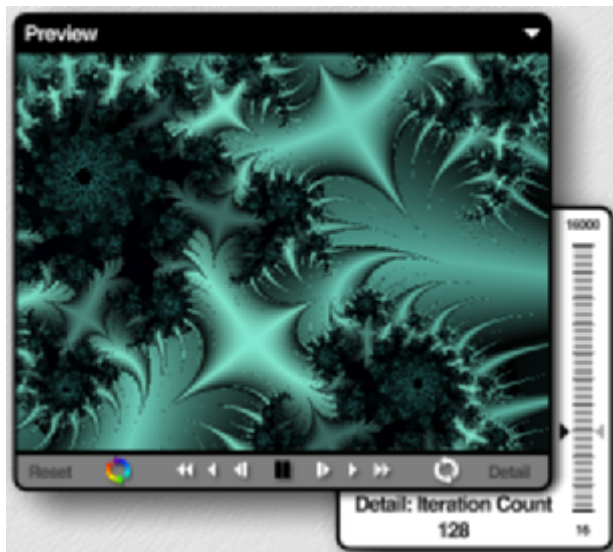
Use the controls in the Main Preview window to explore your fractal.

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.

Table 1:











	Resets the view.
	Enables animated color cycling. Cycles through gradient colors.
	Zooms out of a location quickly

Table 1:

	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

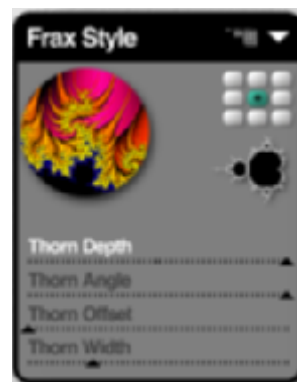
The Main Preview window can be set to three different sizes. These size settings are different from those commonly used in KPT filters. The sizes in KPT FraxPlorer are designed to let you achieve the best possible preview for your system.

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.

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.

Tip

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.

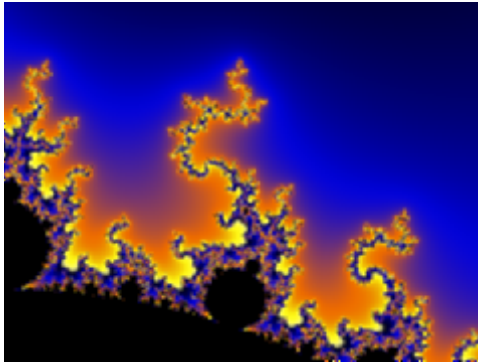
TO CHOOSE A COLORING MODE:

- 1 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.

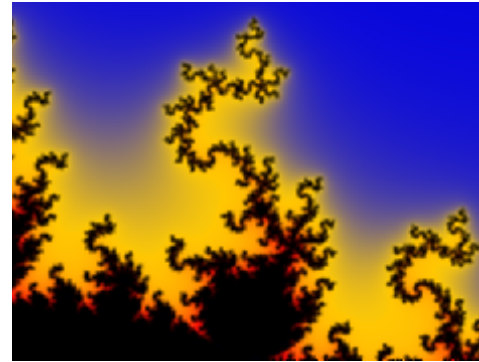
If you think of the inside of the set (black area) as being electrically charged, this coloring mode would represent the electrostatic potential of the surrounding electromagnetic field.



An example of a fractal colored using Potential Rendering.

Dendrite Rendering

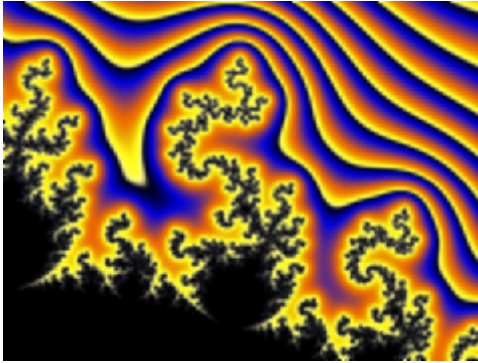
This mode uses a single pixel line to trace the edges of the fractal. It tends to bring out the detail of the fractal that may be obscured by color noise.



An example of a fractal colored using Dendrite Rendering.

Distance

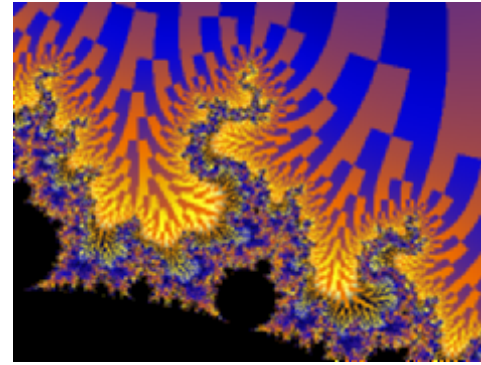
This mode uses a special algorithm to compute an approximate distance from each point to the boundary of the set. Though Distance seems similar to Potential Rendering, it can actually produce a very different visual feel, and is often less noisy than the Potential Rendering near the set. Try cranking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

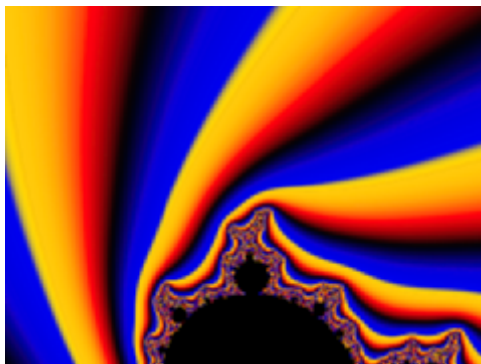
SETTING DECOMPOSITION AMOUNT

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.

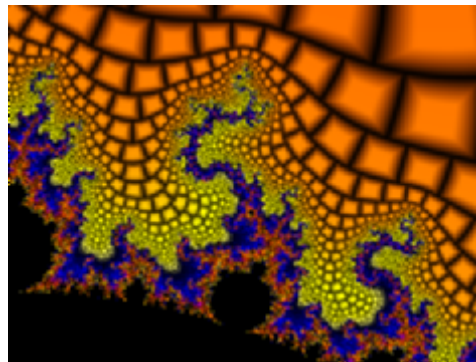
Thorns, Ribbons, Bubbles

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.

Mosaic

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



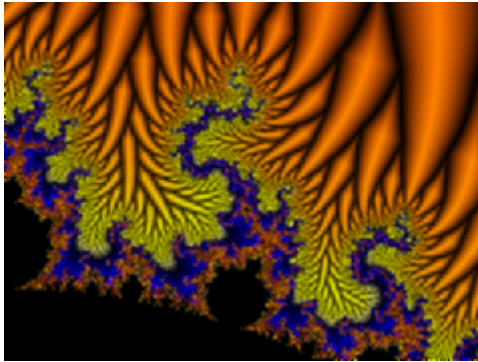
An example of a fractal colored using Mosaic.

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.



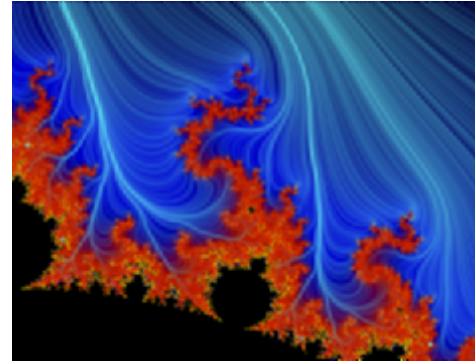
An example of a fractal colored using Cilia.

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 FraxPlorer has three output modes that let you control the quality of your final rendered fractal. KPT FraxPlorer 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 FraxPlorer 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.

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