



KPT Projector

KPT Projector provides a robust collection of interactive perspective warp effects—allowing you to add 2D perspective distortions to an image, create 3D transformations, or tile an image into infinite space.

This chapter provides specific information about working with KPT Projector, including:

- [Creating 2D Distortions](#)
- [Creating 3D Distortions](#)
- [Resetting the Perspective](#)
- [Tiling an Image](#)
- [Setting Parameters](#)
- [Using the Presets Library](#)
- [Using Keyboard Commands](#)

Refer to [KPT 6 Basics](#) for more information about using standard features of the KPT user interface.

To launch KPT Projector:

- 1 Open the image you want to modify in the host application.

If the image includes multiple layers, select the layer on which you want to render the distortion.

If you want to apply the effect to a selected area, make that selection now. Otherwise, make sure that no selections are active in the host application.

- 2 Select **Filter menu > KPT6 > KPT Projector**.

KPT Projector launches and occupies the entire screen.

Working with KPT Projector

When you launch KPT Projector, your image is projected onto a two-dimensional plane in the Preview window. You can manipulate the perspective of the image in relation to this

two-dimensional view plane. Or, you can change the position of the view plane—and therefore the image—in three-dimensional space.



An image in the Preview window.

Tip

Enabling the 2D View Grid option in the Parameters panel displays the view plane in the Preview window. Refer to [“2D View Grid”](#) for more information.

Creating 2D Distortions

KPT Projector provides three tools for creating 2D distortions: 2D Translate, 2D Scale, and 2D Rotate. In addition, you can create 2D distortions using the distortion handles.

Using the Distortion Handles

The distortion handles are the circles at the corners of the image in the Preview window. These handles let you distort the image in relation to the view plane.



Drag the distortion handles to new positions to alter the perspective of the image in relation to the view plane.

When you reposition the distortion handles, a rectangle appears behind the image. This rectangle marks the boundaries of the image plane and helps you see the relationship of the image to the view plane. When you apply the filter, the rectangle is filled with the document's background color; or, in the case of a transparent background, with transparency.

To reposition a distortion handle:

- Drag the handle to a new position in the Preview window.

To move a distortion handle in relation to the image:

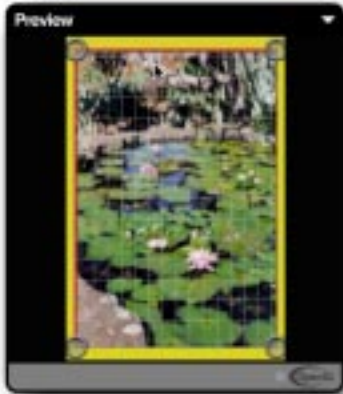
- Hold down the Shift key and drag the handle to a new position.

Tip

Enable the 2D Distortion Lines option in the Parameters panel to display lines connecting the distortion handles. As with the distortion handles, you can drag the distortion lines to distort the perspective of the image. Refer to ["2D Distortion Lines"](#) for more information.

Using the 2D Translate Tool

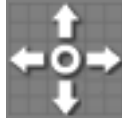
The 2D Translate tool lets you move an image to the right, left, up, and down in relation to the view plane.



Use the 2D Translate tool to “translate” the position of the image in relation to the view plane while maintaining the current perspective.

To use the 2D Translate tool:

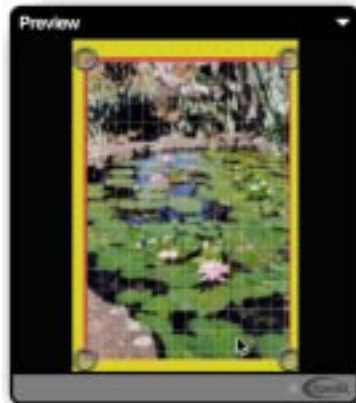
- 1 Click on the 2D Translate tool in the Tool panel.



- 2 Drag in the Preview window.

Using the 2D Scale Tool

The 2D Scale tool lets you scale an image by zooming it in and out parallel to its current relationship to the view plane.

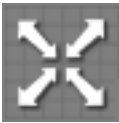




Use the 2D Scale tool to scale the image parallel to the view plane while maintaining the current perspective.

To use the 2D Scale tool:

- 1 Click on the 2D Scale tool in the Tool panel.



- 2 Drag in the Preview window.
 - The point where you click down zooms to the center of the Preview window.
 - Dragging up or to the right zooms the image in.
 - Dragging down or to the left zooms the image out.

Using the 2D Rotate Tool

The 2D Rotate tool lets you rotate an image in relation to the view plane. The point of rotation is the point where you click down with the mouse.



Use the 2D Rotate tool to rotate the image parallel to its current relationship to the view plane.

Tip

Be careful not to click down on a distortion line when using the 2D Rotate tool. You can disable the 2D Distortion Lines option in the Parameters panel to avoid this possibility. Refer to “[2D Distortion Lines](#)” for more information.

To use the 2D Rotate tool:

- 1 Click on the 2D Rotate tool in the Tool panel.



- 2 Drag in the Preview window.
 - The point where you click down with the mouse becomes the center of rotation.
 - Dragging to the right rotates the image to the right in relation to the view plane.
 - Dragging to the left rotates the image to the left in relation to the view plane.

Creating 3D Distortions

KPT Projector provides a fourth tool—the 3D Rotate tool—for distorting the perspective of an image in three-dimensional space.



The 3D Rotate tool affects the position of the view plane in three-dimensional space. This, in turn, changes the perspective of the image.

When you work with the 3D Rotate tool, a circle appears in the Preview window. Think of this circle as a transparent sphere that encloses the view plane. Where you drag in the circle determines how the view plane rotates.

- Dragging inside the circle rotates the view plane around the point where you click down with the mouse.

To visualize this, imagine the view plane inside a transparent ball. Now imagine rolling the ball by pushing it with your hand. If you push up, the ball rolls so that you can see the bottom of the enclosed view plane. If you push down and to the right, the ball rotates so that you see the upper left side of the enclosed plane. This rolling action is exactly what happens when you click in the Preview window and drag inside the circle.

- Dragging outside the circle maintains the current orientation of the view plane while spinning it in 3D space. In 3D applications, this type of rotation is called *banking*.

To visualize this, imagine looking down at the top of the transparent ball containing the view plane. Now imagine spinning the ball to the right or to the left—like spinning a basketball on your fingertip. The enclosed view plane maintains the same orientation while spinning.

Tip

Be careful not to click down on a distortion line when using the 3D Rotate tool. You can disable the 2D Distortion Lines option in the Parameters panel to avoid this possibility. Refer to [“2D Distortion Lines”](#) for more information.

To use the 3D Rotate tool:

- 1 Click on the 3D Rotate tool in the Tool panel.



- 2 Drag in the Preview window.
 - Dragging inside the circle rotates the view plane around the point where you click down with the mouse.
 - Dragging outside the circle maintains the current orientation of the view plane while spinning it in 3D space.

Resetting the Perspective

As you work with KPT Projector, you may create a perspective that doesn't suit your needs. You can easily return to the original perspective using the Tool panel's Options menu.

To reset the perspective:

- 1 Click the triangle at the top right corner of the Tool panel.

2 Select an option from the Options menu:

- **Reset 2D Distortions** returns the image to its original position and aspect ratio in relation to the view plane.
- **Reset 3D Rotation** returns the view plane to its original perspective—parallel to the Preview window.
- **Reset All Distortions** returns both the view plane and the image to their original positions in the Preview window.

Tiling an Image

The Tiling option in the Parameters panel tiles the image across an infinite plane towards a horizon line.

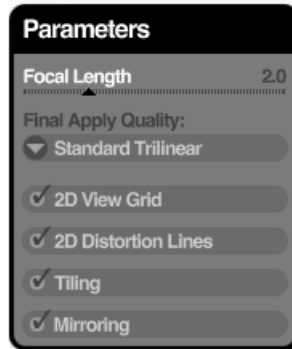
When tiling is enabled, the Mirroring option appears in the Parameters panel. Mirroring renders a mirror image of the tiled plane above the horizon—similar to the effect of a mirrored ceiling above a tiled floor.

To tile an image:

- 1 Enable the Tiling option in the Parameters panel.
- 2 Enable or disable the Mirror option as desired.

Setting Parameters

The Parameters panel contains options for changing the display in the Preview window.



The Parameters panel.

Focal Length

The focal length slider controls the “field of view” for the effect. You can set the focal length within a range of 1 to 5 units. Setting a high focal length widens the viewing field—similar to viewing the image through a wide angle lens.

Refer to [“Setting Sliders”](#) for more information about working with sliders.

Final Apply Quality

The Final Apply Quality option controls the output quality of the final effect.

- **Standard Trilinear** provides fast output, but tends to blur on-edge views and effects on non-rectangular selections.
- **High Quality Anisotropic** evaluates the texture footprint as a non-rectangular shape, so it produces high-quality output in all cases. Use this option if you are working with text or highly detailed-images.

2D View Grid

The 2D view grid defines the two-dimensional view plane. When the 2D View Grid option is enabled (checked), the view plane is visible in the Preview window.

Using the 2D view grid gives you a point of reference as you create perspective distortions.

2D Distortion Lines

The 2D distortion lines connect the distortion handles in the Preview window. As with the distortion handles, you can alter the perspective of the image by dragging the distortion lines to a new location.

The distortion lines are visible only when the 2D Distortion Lines option is enabled (checked).

Tip

Disable the 2D Distortion Lines option when working with the rotation tools—2D Rotate and 3D Rotate. This ensures that you won't accidentally move the distortion lines when setting the point of rotation.

Tiling

The Tiling and Mirroring options provide controls for tiling the image across an infinite plane towards a horizon line.

Refer to [“Tiling an Image”](#) for more information.

Using the Presets Library

KPT Projector includes a library of preset perspective distortions. You can also add distortions of your own creation to the library for future use.

Refer to [“Working with the Presets Library”](#) for details about using the Presets Library.

Using Keyboard Commands

Keyboard commands are especially useful for operations that you perform frequently. This section lists KPT Projector-specific commands. Refer to [“Using Keyboard Commands”](#) for information about general KPT keyboard commands.

What you press:	The results you get:
Shift+Drag in Preview	Increase precision of current tool
Spacebar+Drag in Preview	Activate 2D Rotate tool
Command/Ctrl+Drag	Activate the 2D Translate tool
Option/Alt+Drag	Activate 2D Scale tool
Left Arrow	Select next tool to the left
Right Arrow	Select next tool to the right
G	Toggle 2D View Grid On/Off
L	Toggle 2D Distortion Lines On/Off
T	Toggle Tiling On/Off
M	Toggle Mirroring On/Off
O	Toggle OpenGL On/Off (if applicable)
R	Reset 2D distortions
R+Shift	Reset 3D distortions
R+Command/Ctrl	Reset all distortions