

Pacific New Media

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Smart Objects and Essential Filters in Adobe Photoshop

Smart Objects are layers that contain image data from raster or vector images, such as Photoshop or Illustrator files. Smart Objects preserve an image's source content with all its original characteristics, enabling you to perform nondestructive editing to the layer.

You can create Smart objects using several methods: by using the Open As Smart Object command; placing a file, pasting data from Illustrator; or converting one or more Photoshop layers to Smart Objects. You can open a Camera RAW image directly as a Smart Object by holding down the SHIFT key as you open the RAW image into Photoshop.

With Smart Objects, you can:

- Perform nondestructive transforms. You can scale, rotate, skew, distort, perspective transform, or warp a layer without losing original image data or quality because the transforms don't affect the original data.
- Work with vector data, such as vector artwork from Illustrator, that otherwise would be rasterized in Photoshop.
- Perform nondestructive filtering. You can edit filters applied to Smart Objects at any time.
- Edit one Smart Object and automatically update all its linked instances.
- Apply a layer mask that's either linked or unlinked to the Smart Object layer

You can't perform operations that alter pixel data—such as painting, dodging, burning, or cloning—directly to a Smart Object layer, unless it is first converted into a regular layer, which will be rasterized. To perform operations that alter pixel data, you can edit the contents of a Smart Object, clone a new layer above the Smart Object layer, edit duplicates of the Smart Object, or create a new layer. ** Try to perform your cloning, Dodging and Burning etc. BEFORE converting to a Smart Object.

Note: When you transform a Smart Object that has a Smart Filter applied to it, Photoshop turns off filter effects while the transform is being performed. Filter effects are applied again after the transform is complete.

Smart Layers and Filters

The most common use for Smart Layers is performing common tasks with filters such as sharpening, and to do so in a dynamic, non-destructive manner. The primary sharpening tool is Filter>Sharpen>Unsharp Mask.

Sharpening is inherently destructive, which means that it cannot be undone or changed once applied. To apply sharpening in a manner that is dynamic, that can be adjusted over time, use a Smart Filter.

To Sharpen: You should sharpen on your background copy layer. Select the background copy layer and go to the main Photoshop menu: Filter>Convert for Smart Filter. By sharpening on a smart filter, it is dynamic, which means that, similar to an adjustment layer, you can go back and change or refine the sharpening at any time—and that the changes are not applied directly to the pixels of the underlying image. After converting for Smart Filters, Go to the main Photoshop menu filter>sharpen>unsharp mask.

You'll see a dialogue box with three controls: Amount, Radius, and Threshold.

Amount is the degree of sharpening. **Radius** is the number of pixels on a contrast edge that will be sharpened **Threshold** is the degree of contrast between pixels that constitute a "sharpenable" edge.

Each image demands its own solution based on the lens used, the degree of sharpness desired, the final output, and the need to enhance or suppress certain details.

The following principles can be used:

1. The amount of sharpness necessary is proportional to the file size. Images with more pixels will require greater sharpening amounts than small files with fewer pixels.
2. The amount slider can be adjusted in large number increments. The radius slider is extremely sensitive. Generally, a low radius of .5 - 1.5 pixels will work for most images. Some photographers prefer to set the radius slider consistently at .08-1.5 and use the amount slider to control sharpening. Others—taking a more aggressive approach— prefer to set the amount consistently to 300% and use the radius slider responsively to control sharpening. Either way, you want to sharpen below the point where halos around edges or posterization, giving a "crunchy" look, is introduced.
3. For "high frequency" images (many jumps in subtle tonal values over a small area; many subtle details), use a lower radius to reduce haloes and the oversharpened affect. For "low frequency" images (fewer subtle details, broad areas of tonal and color differences), you can use a higher radius setting to maximize sharpness.

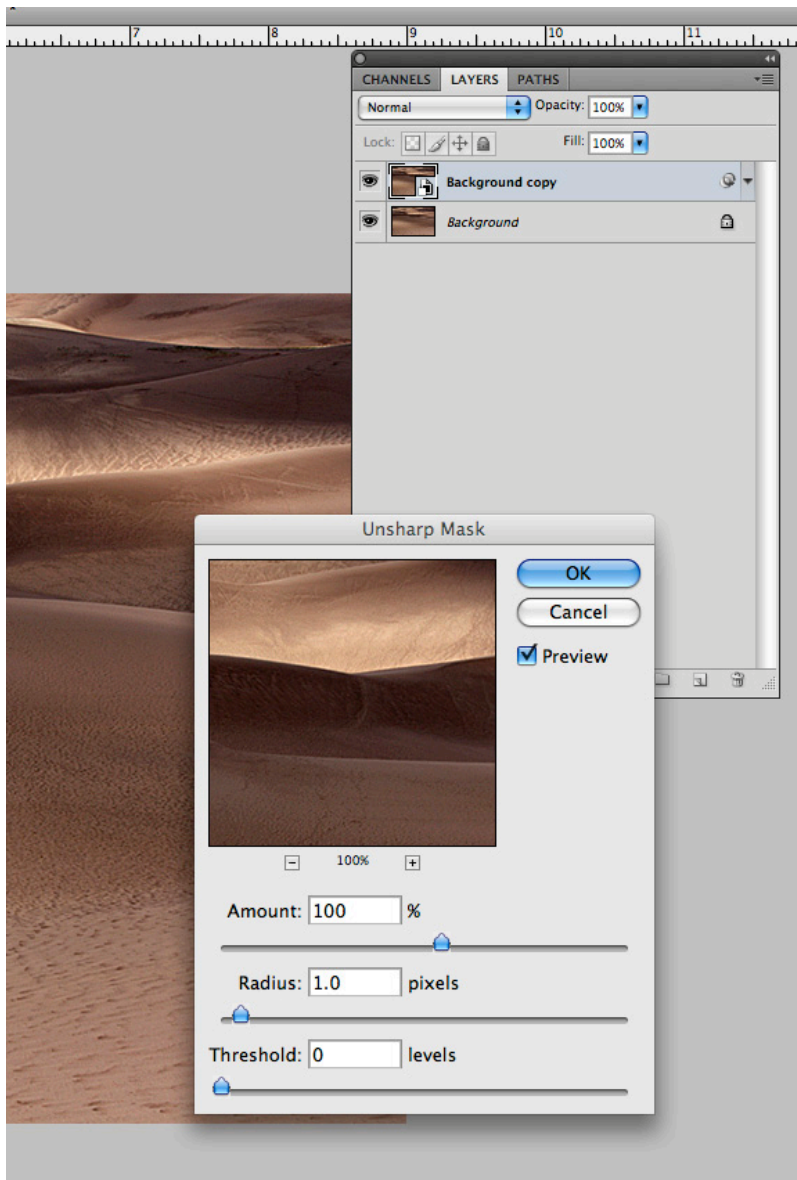
4. For landscapes or urbanscapes, where you want everything sharpened equally, use a low threshold setting (0-3). This means that any degree of a color or tonal edge is considered an edge to be sharpened. For portraits, or areas where you want to suppress fine details such as blemishes and wrinkles, use a higher

threshold setting (3-12). This means that fine edges and very subtle degrees of contrast will be “masked” from sharpening.

For most images, you can safely use an amount of 75-1150%, a radius of .08-2, and a threshold of 1-4. The higher the resolution of the image, the greater your sharpening needs to be. For higher resolution images, use greater numbers on the controls.

Smart Layers and Other Filters

Once a layer is converted to a Smart Filter Layer, almost all common Filters such as Blur, Noise Reduction, and various special effect Filters can be used as a Smart Object, thus making them non-destructive and dynamic, with the ability to re-edit them at any time.



Using the Transform Tool with Smart Objects

Edit>Transform offers a series of tools that allow you to change the scaling (Size), proportions (Skew, Distort), Rotation (V or H), or the Perspective of images or layers. Normally these changes are done directly to the pixels and cannot be undone or re-edited at a later date. Smart Objects or Smart Layers allow ALL Edit>Transform tools to be used dynamically and non-destructively.

After performing your RAW edits, open the Michael Jackson image directly from Camera RAW by holding down the shift key as you open the image into PS, OR by going to the Workflow Options at the bottom center of the first page of Camera RAW and checking ON the Smart Object Option.

Go to Edit>Transform>Distort. We want to straighten the lines of the buildings and the road to compensate for lens-based distortion of vertical and horizontal lines. Adjust handles until the lines are straightened. At the top of the active PS window, click the check box ON to apply your transformation. By doing this on a Smart Layer, it has not affected the pixels of the image, and you can go back to your Transform tools at any time and re-edit from where you left off. This is a method for using any of the Transform tools in a dynamic and non-destructive manner.



Using Smart Objects for Scaling and Placing in Print or Web Designs

The huge advantage of Smart Objects is that they can be scaled up or down and placed in design documents with NO loss of image quality because you are not working on the pixels; rather they function as vector-like objects.

Also, whenever a Smart Object is placed in a print or web design documents, ALL instances of the object or image will update as you change or edit the original. This means that if you use an image for multiple purposes, whenever you change the original, all instances of the objects in other application programs will automatically update.

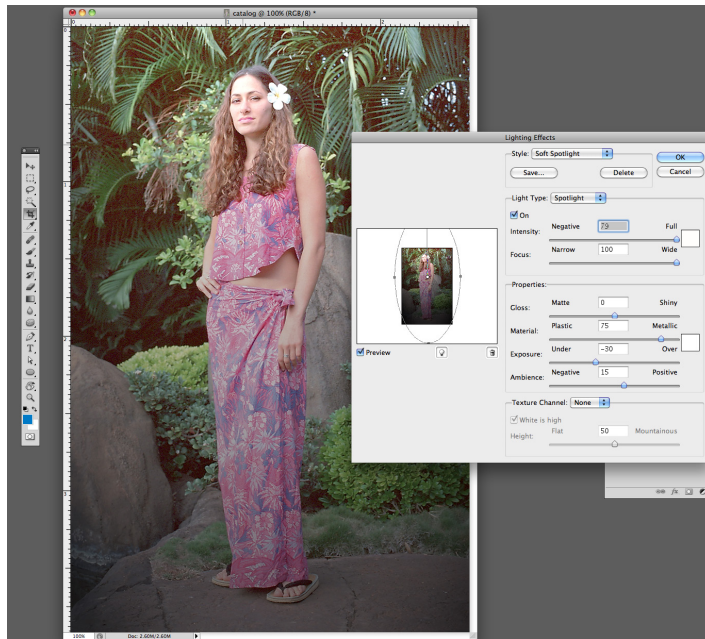
Create a new document, File>New, approximately 6" X 8", 300 dpi, 8-bit, white background. Drag the two jpg's — the radio icon and the palm trees — on to the new document. Make both layers Smart Layers by highlighting the layer and going to Filter>Convert for Smart Filters. This makes the highlighted layer a Smart layer. Go to Edit>Transform Scale to size images to your desired size.

Now remember, these are small jpg images. Normally when you scale a jpg image, especially by up-sizing it, it becomes pixelated and loses significant quality. When it becomes a Smart Layer, it can be scaled, distorted, rotated, etc, with no loss of image quality since the transformation tools are not affecting the pixels. Once again, they function as vector-like objects and can be scaled up or down with no change of quality.



The Lighting Effects Filter

One of the most useful filters in PS is Render>Lighting Effects. In essence, it is a photo studio embedded into a PS filter, with a wide variety of lighting effects available. However, it has not yet been updated to



the native 64 bit operations mode of PS CS 5. To employ the filter, you must start PS in 32 bit mode. Go to the Applications folder and find the Application icon for PS CS 5. Highlight the icon and use the keyboard: Command (or Control) I. This brings up the application information box. Click ON Start in 32 bit mode.

To use Lighting Effects, go to Render>Lighting Effects and choose a style. To separate the model from the background with light, we used the Soft Spotlight effect. Use sliders and left-hand graphic (Adjust circles to determine the spread of the light) to control the lighting effect that you want.

Liquefy Filter

The Liquefy filter is used to change the shape of objects and is one of the tools used by the beauty industry to modify body shapes. As such, this tool should be used responsibly, in accord with one's personal ethics. To use the tool, go to Filter>Liquefy. Select top left Hand tool and adjust brush size according to the image size or the size of the shape you want to modify. Gently, from the center of the brush, push or pull the shape to your intended modification and click OK. This change is destructive in that it works directly on the pixels themselves — unless you duplicate the background layer and work on a duplicate, not the background itself. The liquefy tool does not work on a Smart Layer.

