McFilters

version 2.0

User Manual

PixelRibs®

Contents

PART III: APPENDICES

PART I:

INTRODUCTION

1. Introduction

Welcome to **Pixel Ribs McFilters 2.0**! Pixel Ribs McFilters is a set of fourteen Photoshop - compatible plugin filters, which allow you to apply various effects to your images. What this package differs from others, is that it intensively uses information from the selection mask in a cool and unique ways to modulate filter parameters. That's why the "Mc" in the name of the package stands for "Mask Controlled". We think, and hope that you will agree, that using the selection mask for adjusting filter parameters opens infinite possibilities for creating extraordinary effects, which were hard or even impossible to achieve in any other way.

Although using the selection mask for controlling filter parameters may sound like a good and useful idea, sometimes it may not be so easy to understand how does it work and even what does it actually do! That's why we strongly encourage you to read this manual and learn how to use the McFilters before you start using them. Almost every McFilter requires that you create a proper selection mask before you start filtering your image. An unsuitable selection mask may, and probably will, lead to undesired, simple and naive effects, or even no effects at all!

2. System Requirements

2.1. Macintosh

Software requirements
        Adobe Photoshop (4.0 or higher, including CS)
        Adobe Acrobat Reader
        Allume Systems StuffIt Expander

Operating System requirements
        MacOS 10.2 or higher, or
        MacOS 9.2.1 or higher (with Carbon Library 1.6 or higher)

Hardware requirements
        PowerPC processor G3 400 MHz or better
        RAM: 128 MB of physical RAM at least (256 MB recommended)
        Hard Drive Space: 10 MB
        Display resolution: 1024 x 768 at least
        Display colors: 24-bit (Millions of Colors) at least

2.2. Windows

Software requirements
        Adobe Photoshop (4.0 or higher, including CS)
        Adobe Acrobat Reader
        UnZIP software

Operating System requirements
        Windows 98/ME/NT/2000/XP

Hardware requirements
        Pentium processor 400 MHz or better
        RAM: 128 MB of physical RAM at least (256 MB recommended)
        Hard Drive Space: 10 MB
        Display resolution: 1024 x 768 at least
        Display colors: 24-bit (Millions of Colors) at least

3. Installation

3.1. Macintosh Installation

Make sure that no other software is currently running on your computer. This is necessary because all graphic applications search for the plug-ins after the start-up.

Unstuff the file that you have downloaded after you have purchased McFilters.

Double click on the McFiltersInstaller icon to start with the installation. The McFiltersInstaller should be in the folder that you have previously unstuffed.

Press the "Continue..." button in the about window to proceed with the installation.

A window with the Software License Agreement will show up. Read the Agreement carefully (see also the "Software License Agreement" chapter in this manual). (Use the scrollbar, or up and down arrow keys, or page-up and page-down keys to read the whole Agreement). If you do not agree with the terms from the Agreement, press the "Decline" button and do not install the Software. If you do accept the terms from the Agreement press the "Accept" button to continue with the installation. Note that if you have purchased the Software from our web site, you have already agreed to the terms from this Agreement, and you can freely continue with the installation.

Now, you will be asked to locate the folder in which the plug-ins will be installed. This folder is usually called "Plug-Ins" and usually it is located somewhere in your graphic application's folder. If you can not locate the folder, please, consult your graphic application's manual or vendor. Note that it is crucial that you locate the correct folder, because otherwise it is very likely that your graphic application won't be able to find it.

First, the Installer will automatically try to find a correct folder for the plug-ins. If it doesn't succeed, you will be asked to locate the folder manually with a "Choose Folder..." dialog. When you have found the correct folder, select it and click the "Choose" button.

Next, a window will show up asking you to confirm the folder in which the plug-ins will be installed. Here, you will find four buttons:
"Choose Install Folder..." - allows you to search for the folder manually. When you have found the correct folder, select it and click the "Choose" button.
"Default Install Folder" - tells the Installer to use the folder that it has found automatically.
"Cancel" - cancels the installation process.
"Install" - installs the plug-ins into the selected folder.

Finally, a window will show up telling you if the installation was successful or not. Click the "OK" button to finish the installation.

The Installer can install the plug-ins in only one folder at the time, so if you need to install the plug-ins to other graphic applications, run the installer again and repeat the whole process.

3.2. Windows Installation

Make sure that no other software is currently running on your computer. This is necessary because all graphic applications search for the plug-ins after the start-up.

Unzip the file that you have downloaded after you have purchased McFilters.

Run the "McFiltersInstaller.exe" application to start with the installation. The McFiltersInstaller.exe should be in the folder that you have previously unzipped.

Press the "Continue..." button in the about window to proceed with the installation.

A window with the Software License Agreement will show up. Read the Agreement carefully (see also the "Software License Agreement" chapter in this manual). (Use the scrollbar, or up and down arrow keys, or page-up and page-down keys to read the whole Agreement). If you do not agree with the terms from the Agreement, press the "Decline" button and do not install the Software. If you do accept the terms from the Agreement press the "Accept" button to continue with the installation. Note that if you have purchased the Software from our web site, you have already agreed to the terms from this Agreement, and you can freely continue with the installation.

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First, the Installer will automatically try to find a correct folder for the plug-ins. If it doesn't succeed, you will be asked to locate the folder manually with a "Choose Folder..." dialog. When you have found the correct folder, select it and click the "Choose" button.

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"Cancel" - cancels the installation process.
"Install" - installs the plug-ins into the selected folder.

Finally, a window will show up telling you if the installation was successful or not. Click the "OK" button to finish the installation.

The Installer can install the plug-ins in only one folder at the time, so if you need to install the plug-ins to other graphic applications, run the installer again and repeat the whole process.

3.3. Registering McFilters

After you have properly installed the McFilters, and invoked a McFilter for the first time from your graphics application, a dialog will pop-up asking you to enter your Name and Serial Number. If you have purchased the McFilters from our online store, you should have received an e-mail with enclosed Serial Number, from our distributor. The Serial Number is a bunch of letters and numbers in form:

xxxx-xxxx-xxxx-xxx-xxxx

After entering the correct Serial Number, all McFilters will unlock at once.

If you didn't enter a correct Serial Number, you will be given two more tries to do so. After that, the McFilter will quit doing nothing, and you will have to invoke it again.

(For more information about the Serial Number, read the "Troubleshooting" chapter in this manual.)

4. McFilters Technically

4.1. Hosts

Currently, we can guarantee that McFilters will work with Adobe Photoshop (version 4.0 or higher, including Photoshop CS). However, other host applications might work as well with McFilters, but only if they fully support the latest versions of Photoshop plug-ins, and if they offer a powerful set of tools for editing the selection mask. We are constantly testing and trying to improve the compatibility with other graphic applications.

4.2. Image Modes

McFilters can operate on 8-bit / channel Grayscale, RGB, and CMYK images. If you need to filter an image or image layer in some of the other image modes then first convert it to RGB mode, filter it, and then convert it back to it's original image mode. However, McFilters are optimized for work with Grayscale and RGB images, so for the best quality and speed performance try to avoid filtering images in the CMYK color mode whenever possible.

4.3. Image Size

McFilters can filter images of sizes up to 32767 x 32767 pixels. The reason for this is: speed and memory consumption. Filtering larger images would, in some cases, require much larger internal buffers, and would slow down the overall performance drastically.

4.4. Layers

All of the McFilters work with layers. Layer is an image pixel map with additional transparency channel. The transparency channel is used in Photoshop to overlay the layer over the lower layers and the background image. In the McFilters' preview boxes, the transparent layer is overlaid over the white-gray checkerboard.

Note: If you are using a McFilter with a layer, make sure that the "Preserve Transparency" checkbox in the Photoshop's "Layers" palette is not checked! This is because McFilters often need to change the transparency channel of the transparent layer to make the effect look right, and by enabling the "Preserve Transparency" checkbox the filter is not allowed to do so. This may yield with unwanted results.

Note 2: McFilters accept to work on transparent layers even when they are completely empty (without any warning)! This is because some of the filters (like McBackLightGlow and McGel) don't need a source image, since they can produce the whole effect.

4.5. Actions

All of the McFilters fully support Photoshop's Actions. Each time a McFilter is used, it records a complete set of it's parameters in the Photoshop's Actions record. That way, it can be replayed smoothly along with the other operations recorded in the action. See the Photoshop manual for more information about Actions.

4.6. Demo Version

The McFilters demo version is fully functional, except it renders multi-colored semi-transparent boxes and large "DEMO" letters over the final image.

5. Selection Mask

5.1. Selection Mask

For many people the selection is just a bunch of squiggles and short crawling lines that define the part of the image on which they want to apply an effect. After you use a selection tool (rectangular, oval, lasso, magic wand, etc...), the image is divided into two areas: the area inside the selection and the area outside of the selection. Well, that's only one smaller bit of the complete picture...

The full truth is that the selection is actually a whole new grayscale channel temporarily added to your image! A 0% - 100% value is assigned to each pixel of your image to tell how much is the pixel selected! In fact, the squiggles running all over the image just show the edge where the grayscale selection channel is set to 50%. If the selection pixel is set to 0% (or black, or just 0) the corresponding image pixel is not selected at all. If the selection pixel is set to 100% (or white, or 255) the corresponding image pixel is fully selected. All values in between tell that the corresponding image pixels are partially selected.

So, from now on, let's think of the selection as **The Selection Mask**! Although, sometimes terms "selection" or "mask" might be used, it will always mean just one thing:

"The Selection Mask" - a grayscale channel filled with values in range 0% - 100%, that defines how much are the corresponding image pixels selected.

5.2. McFilters And The Selection Mask

Most of the ordinary image filters use the selection channel just to overlay the final effect over the original image. The whiter the selection mask is, the effect is more visible. McFilters use the selection mask within the filtering process as an additional parameter to control the effect. Each McFilter sees the selection mask in a different way. Sometimes, the selection mask might represent a height map (McGel, McLens), or sometimes it is used as a weight map for one of the filter's parameters (McBlur, McMotionBlur, McSharpen). Here is in short how the selection map is used in McFilters:

McFilter	**The selection mask...**
McBackLightGlow	acts like a light shader
McBlur	modulates the blur radius
McCells	modulates the cell size
McClouds	modulates the clouds frequency and opacity
McGamma	modulates the gamma parameter
McGel	is used as a height map
McHue	modulates the hue rotation angle
McLens	is used as a height map
McMotionBlur	modulates the blur distance
McScatter	modulates the scatter parameter
McSharpen	modulates the sharpness parameter
McTurbulence	modulates the turbulence parameter
McTwirl	modulates the rotation angle
McZoomBlur	modulates the blur distance

This table shows how the selection mask is used in each of the McFilters.

For more information about how each of the McFilters use the selection mask, see the description of each McFilter in this manual.

5.3. Types Of The Selection Mask

There are 4 types of **The Selection Mask**:

1. Black - means that the whole selection mask is filled with 0% (value 0). **In most cases, McFilters will not create any effect, and will leave the original image intact!**

2. White - means that the whole selection mask is filled with 100% (value 255). **Although, it may seem that this kind of selection mask will yield strong effects and maximum changes in the original image, it might not always be the case! Sometimes, some of the McFilters may yield very primitive results or even no results at all!** For example, if you use McTwirl with a simple black and white selection mask, you will end up with a simple "rotate image" effect! If you use McLens filter with a simple white selection mask, it will result with no effect at all! (see the McTwirl and McLens chapters in this manual for more info).

Also note that if you invoked a McFilter with no selection at all, completely white selection mask (all selected!) will in fact be passed to the McFilter!

A subset of the white selection mask is gray selection mask. This means that the whole selection mask is filled with a constant value between 0% and 100% (not including 0% and 100%). This type of mask, in most cases, acts in the same way as the white selection mask, but usually just attenuates the effect. That's why we will treat it in the same way as the white selection mask.

3. Simple Black and White - means that the selection mask is filled with either completely black or completely white areas. This is the kind of selection mask that is created by simply selecting a part of the image with the rectangular selection tool. **Be very careful if you are using simple black and white selection with the McFilters, because sometimes very simple or undesired or even no effects may occur!**

As the gray selection mask was a subset of the white selection mask, a subset of the simple black and white selection mask is black and gray selection mask.

4. Grayscale - the selection mask contains (many) different values in range between 0% and 100%. **This is the kind of selection mask that will fully exploit the power of the McFilters!**

a) Linear Gradient   b) Few overlaid radial gradients   c) Clouds
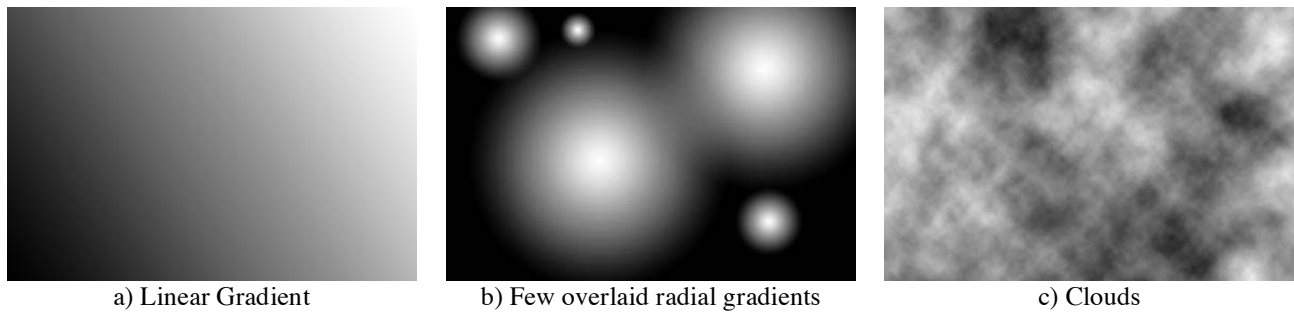
Figure 5.3.1. Few examples of grayscale selection masks.

In case that you are entering one of the McFilters with "Black", "White", or "Simple Black And White" selection masks, a small dialog will pop-up warning you that the selection mask might not be suitable for usage with McFilters. It allows you to cancel or carry on with the filter anyway. If you find this warning annoying, check the "Never show this warning again" in the lower left corner of the dialog before hitting the "Proceed" (green) button. The warning will be gone forever!

5.4. Techniques To Create Grayscale Selection Masks

I. Here is a simple and primitive way to ensure that the selection mask is grayscale:

1. Make a regular selection using usual selection tools (rectangular selection tool, oval selection tool, lasso tool, magic wand tool, etc.).

2. Use "Select->Feather..." tool. This will actually blur the selection mask channel and create smooth transitions between black and white areas.

This technique is useful for smoothing out simple black and white selections, especially before using McGel and McLens.

II. Here is an extension of the previous technique:

1. Make a regular selection using usual selection tools (rectangular selection tool, oval selection tool, lasso tool, magic wand tool, etc.).

2. Enter the Photoshop's "Quick Mask" mode by clicking the "Edit in Quick Mask Mode" button or by pressing the "Q" keyboard shortcut. ("Q" key toggles between the Quick Mask and Standard modes).

3. Select regular Photoshop's "Blur" filter ("Filter -> Blur -> Gaussian Blur...") and freely blur the selection mask at your will!

4. Leave the Photoshop's "Quick Mask" mode by clicking the "Edit in Standard Mode" button or by pressing the "Q" keyboard shortcut again.

This technique is very similar to the previous one, except it gives you more control in how do you want to smooth out the selection mask.

III. The Quick Mask mode technique:

1. Enter the Photoshop's "Quick Mask" mode by clicking the "Edit in Quick Mask Mode" button or by pressing the "Q" keyboard shortcut. ("Q" key toggles between the Quick Mask and Standard modes).

2. At this point, you are actually allowed to freely draw to the selection mask channel! All standard Photoshop's drawing, painting and effect tools that can operate on a grayscale channel are at your disposal! This includes various brush and gradient tools, as well as filters! For example (and for a start), try to use different linear and radial gradients and then experiment with various McFilters. Or try to render clouds into the selection mask ("Filter -> Render -> Clouds") and then use it with McTwirl, McLens, and McGel!

3. Leave the Photoshop's "Quick Mask" mode by clicking the "Edit in Standard Mode" button or by pressing the "Q" keyboard shortcut again.

IV. Copy and paste technique:

1. Draw the selection mask in a different image, layer, or channel.

2. Copy the channel. (Press "Cmd + C" (Mac) or "Ctrl + C" (Win)).

3. Enter the Photoshop's "Quick Mask" mode by clicking the "Edit in Quick Mask Mode" button or by pressing the "Q" keyboard shortcut. ("Q" key toggles between the Quick Mask and Standard modes).

4. Paste your channel into the selection mask. (Press "Cmd + V" (Mac) or "Ctrl + V" (Win)).

5. Leave the Photoshop's "Quick Mask" mode by clicking the "Edit in Standard Mode" button or by pressing the "Q" keyboard shortcut again.

This technique might be a good idea if you are performing an effect on a particular object in the image. It allows you to precisely select the object and create a proper selection mask for it.

The techniques III and IV give you the ultimate power to explore and exploit the McFilters. However, a good selection mask is not always easy to create. Sometimes the results might not be very predictable. While painting the selection mask in the Quick Mask mode, make sure that you always keep track of where the effect will be applied and where it won't.

6. Filter Options Controls

Here is the set of standard filter options controls and their description. You will find them in all McFilters options:
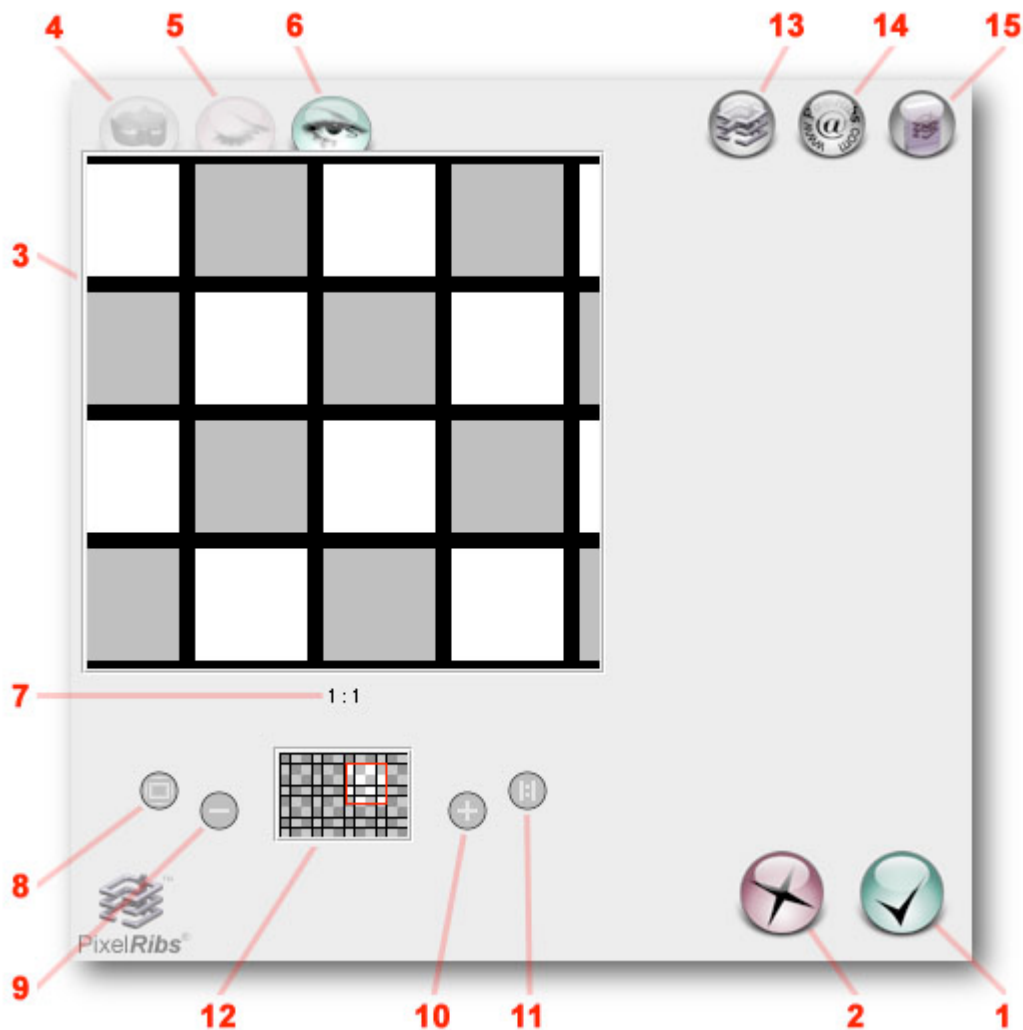
Figure 6.1. The filter options dialog (only standard controls are displayed).

1. **OK**   Closes the options and applies the filter effect to the image.

2. **Cancel**   Closes the options and does not apply the effect.

3. **Preview**   This is where you see the preview of the effect.

    By selecting the "Preview Selection Mask", "Preview Original Image" or "Preview Filter" buttons (see below), you can tell the preview to show the selection mask, original image or filtered image.

    When only a part of the whole image is shown in the preview box, you can click on the preview with the left mouse button and drag to scroll the preview across the image.

    Note that some McFilters allow you to modify some of their parameters by Ctrl/Right - Click (Mac) or Right - Click (Win) and drag.

    Also note that some of the filters are very slow, and they show only a rough preview of the effect in the preview box.

    If you are operating on a layer, transparent and semi-transparent parts of the image are displayed as white-gray checkerboard.

4. **Preview Selection Mask**   Shows the selection mask in the preview box.

5. **Preview Original Image**   Shows the original image in the preview box.

6. **Preview Filter**   Shows the preview of the filtered image in the preview box.

7. **Zoom**   Displays the current zoom ratio. For example, "1 : 3" means that the image is scaled to one third of it's original size, and that the image is actually 3 times larger than shown in the preview box. "1 : 1" means that the image is not being scaled at all and that the pixels that you are seeing in the preview box are actual image pixels.

8. **Fit Image**   Sets the zoom ratio so that the whole image fits in the preview box.

9. **Zoom Out**   Zooms out the image in the preview box.

10.	**Zoom In**	Zooms in the image in the preview box.
11.	**Zoom 1 : 1**	Sets the zoom ratio to "1 : 1". In this case, you will see the actual (filtered) image pixels in the preview box. We recommend that you click this button every time before actually applying the filter effect, so you could check out the details of the effect.
12.	**Thumbnail**	Shows a small icon of the original image. The area of the image shown in the preview box is highlighted in the preview thumbnail box and framed with a red rectangle. When only a part of the whole image is shown in the preview box, you can click or click-and-drag on the preview thumbnail box to scroll the image in the preview box. As in the preview, if you are operating on a layer, transparent and semi-transparent parts of the image are displayed as white-gray checkerboard.
13.	**About**	Shows the McFilters about box.
14.	**@ www.pixelribs.com**	Opens your default internet browser and takes you to our web site. You are always welcome!!! Before clicking on this button, make sure that your internet connection is established.
15.	**McManual**	Opens the McFilters manual.

PART II:

McFILTERS

7. McBackLightGlow

McBackLightGlow

The McBackLightGlow filter simulates rays of light passing from the light source placed in the back of the image, through a semi-translucent, hazy medium in the front of the image. The interaction of light and micro-particles of haze makes the rays visible. Before the McBackLightGlow filter, this effect was usually created by full 3D ray tracing techniques, requiring a lot of knowledge and experience in 3D graphics, and involving heavy "volumetric" calculations which sometimes take hours to render. With McBackLightGlow you can do the effect in less than a minute!

The selection mask in this filter acts like a light shader through which the light rays are passing from behind. In the areas where the selection mask is set to zero (black), the light rays will be completely blocked. Where it is set to white (100% selected areas), the light will be allowed to pass through and illuminate the haze.

To start, try to experiment with some simple text and/or shapes for the selection mask (shader). Also a good idea might be to render your McBackLightGlow effect into an empty layer. This will allow you to additionally modify it and place it over the background later on.

Controls

Light

Light — Click and drag the light sphere to define Light Inclination and Light Direction (see below). Hold down the shift key to constrain the direction angle to the nearest 45 degrees angle.

Light Inclination — This is the angle between rays of the light and the image plane.

Light Direction — Angle which defines the direction of the light rays.

Glow

Glow Opacity — Determines visibility of the light rays. You can also think about this parameter as the light intensity or as the amount of interaction between the light rays and the medium.

Glow Color	Defines the color of light.

Background

Background Opacity	Defines how much the background image is visible. If you are working with an image layer, this parameter is used to adjust the layer's opacity.
Preview	Ctrl/Right-Click (Mac) or Right-Click (Win) on the preview and drag to set the light direction. Hold down the shift key to constrain the direction angle to the nearest 45 degrees angle. McBackLightGlow is in some cases a slow filter. That's why only an approximate but fast real-time preview is offered in the filter options. When the filter is actually applied to the image, a slower, but precise routine is used to create the final result.
Standard Filter Options Controls	see the "Filter Options Controls" chapter in this manual.

Examples
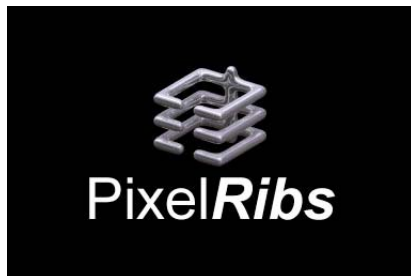
a) The Background   b) The Selection Mask   c) McBackLightGlow

Figure 7.1. a) The background image with our company logo. b) The selection mask was created from the original image using various Photoshop tools (Desaturate, Brightness/Contrast, etc.) and then copied into the selection mask in the Photoshop's Quick Mask mode. c) McBackLightGlow!

| a) The Background | b) The Selection Mask | c) McBackLightGlow |

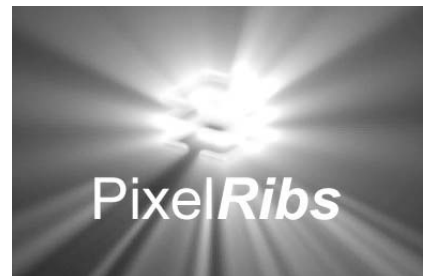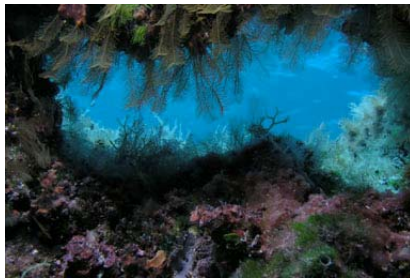**Figure 7.2.** a) The original image - an underwater photo. b) The selection mask was painted with a small white area through which the light will be allowed to pass. A small amount of black noise was also painted into the white area to create streaks of light. c) McBackLightGlow!
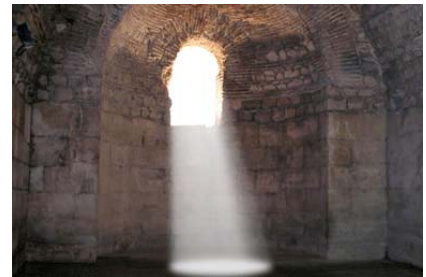
| a) The Background | b) The Selection Mask | c) McBackLightGlow |

Figure 7.3. The example shows the light rays passing through an old church window. a) The background image. b) The selection mask. c) McBackLightGlow! The effect was rendered into a new empty layer, and then the unwanted parts of the glow were simply erased to achieve the illusion that the light rays stop at the floor. The white spot-light oval on the floor was also additionally created.

Troubleshooting

The light is not visible
- Selection mask is completely black or very dark, so very small amount of light passes through the shader (see the "Selection Mask" chapter in this manual).
- Bright areas in the selection mask are very small. This also means that a small amount of light is passing through the image plane and creates visible rays.
- The Glow Opacity is too small.
- Light Inclination is very small so the rays are almost parallel to the image plane.

The light completely covers the image
- The selection mask is probably completely white (see the "Selection Mask" chapter in this manual).

| The result contains noisy or chunky artifacts | - Create a new empty layer and render the McBackLightGlow in it. Additionally, blur the layer with the rendered glow. Finally (and optionally), merge down the layer with the destination layer. |

8. McBlur

McBlur

The McBlur filter offers you virtually infinite control for blurring your images! It independently blurs each pixel in your image, using the brightness of each pixel in your selection mask as an additional parameter (weight) to modulate and control the blur radius for the corresponding pixel in the image. It can also be used to add realistic Depth Of Field (DOF) effects to your images!

The selection mask is used to modulate the blur radius. The whiter the selection mask is, the more blurred the image pixels will be. This means, that where your selection mask is set to zero (no selection at all), the blur radius for those image pixels will be zero too (these pixels will not be blurred). On the other hand, where your selection mask is completely white (100% selected), the image pixels will be blurred by the maximum radius, defined in the filter options. Finally, where the selection mask is set somewhere between 0 and 100 %, the image pixels will be blurred by radius between 0 and the maximum radius. All this means that McBlur allows you to create nice, cool and smooth transitions between areas in your image that you want to blur and areas that you want to leave unblurred.

If you invoke the filter with no selection at all (whole selection mask is set to white) then, the whole image will be blurred with a constant blur radius. Same goes when blurring the image with simple black and white selection mask (for more information see the "Selection Mask" chapter in this manual). Always have in mind that the power of McBlur comes from using grayscale selection masks. For example, just to understand how this filter works, try to create and use various grayscale gradients for your selection masks. Sometimes even simple selection feathering may do the trick and result with very cool McBlurring (also see the "Selection Mask" chapter in this manual).

Controls

Blur

Blur Radius   Defines the maximum blur radius. This is the blur radius applied to the pixels with the selection mask set to 100% (completely white).

Mode	Here you can choose between two McBlur rendering modes (engines).
Fast	Fast mode is a trick to speed things up. In most of the cases, it is much faster than the Accurate mode, and produces almost perfect results.
Accurate	Accurate mode is a lot slower than the Fast mode, but produces perfect results. We suggest to use this mode only when the Fast mode fails to fulfill your expectations.
Preview	Since the Accurate mode is very slow, the preview is generated only with the Fast McBlur. However, in 99% of the cases, it will properly reflect the results created with the Accurate mode.
Standard Filter Options Controls	see the "Filter Options Controls" chapter in this manual.

Examples

a) Original Image   b) The Selection Mask   c) Ordinary Blur Filter   d) McBlur
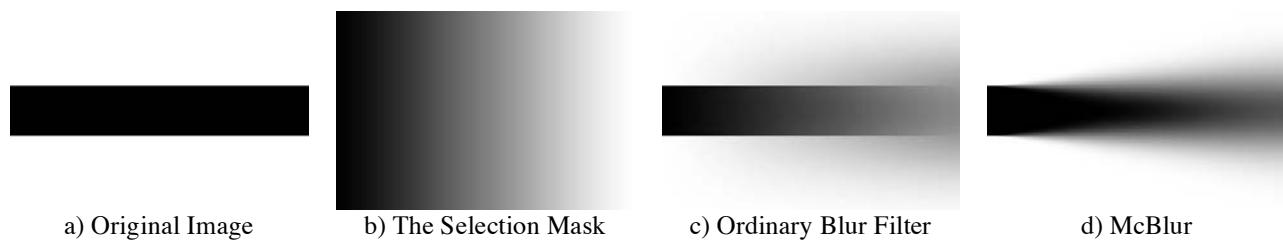
Figure 8.1. These images show the difference between an ordinary blur filter and the McBlur. a) The original image, containing only one simple black box. b) The selection mask, created in Photoshop's Quick Mask mode by dragging a simple "Black To White Linear Gradient" from left to right. c) Ordinary Blur filter just overlaid the resulting blurred image over the original accordingly to the selection mask. d) The McBlur actually blurred each pixel accordingly to the selection mask.

a) A Simple Oval   b) The Selection Mask   c) McBlur   d) The Final Image
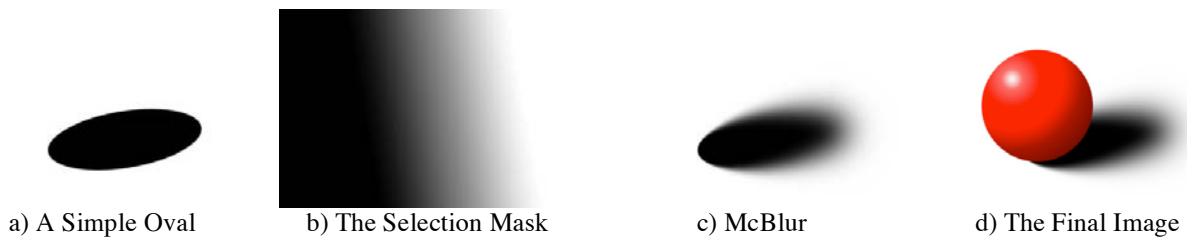
Figure 8.2. This is an example of how McBlur can be used to create nice looking soft shadows ("Ray-Traced Shadows"). a) A simple oval is created using Photoshop's tools (oval selection, transform selection, and fill with color). b) The selection mask is created, again in Photoshop's Quick Mask mode, and again, using simple "Black To White Linear Gradient". The gradient line was dragged from the lower-left point of the oval to it's upper-right point. c) McBlur is applied to blur the image. d) Photoshop's Radial Gradient tool was used to add 3D-looking sphere on the top of the shadow. Observe how the shadow appears sharp at the areas right under the sphere and gets blurrier at the areas farther from the sphere. In the real world this effect appears because of the finite size of the light source.

a) The Original Image   b) The Selection Mask   c) McBlur
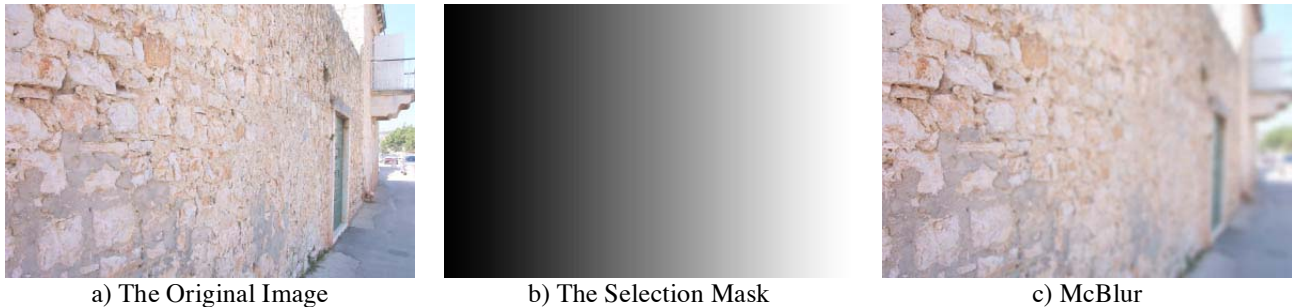
Figure 8.3. This is an example of how McBlur can be used to create Depth Of Field effect (DOF). a) The original image taken with a digital camera. It looks too clear! b) The selection mask is created with the linear gradient tool to roughly describe the depth of the scene. The whiter areas represent the deeper parts of the scene. Note that the whiter areas are more selected and will be blurred more. c) The final image with a subtle DOF effect.

Troubleshooting

McBlur doesn't seem to do anything with the image

- This might be happening if your selection mask is completely black. You can check this out by pressing the "Show Mask" button in the filter dialog. Check out the "Selection Mask" chapter in this manual to learn some ways to create selection masks.
- The other possibility is that you are applying the filter to an empty layer or part of the image filled with a plain color. This is normal behaviour, since there is nothing to blur.

McBlur gives same results as an ordinary blurring filter

- Your selection mask is probably completely white, or simple black and white mask. You can check this out by pressing the "Show Mask" button in the filter dialog. In the case of simple black and white selection mask, try feathering the selection, or pre-blurring the selection mask itself (see the "Selection Mask" chapter in this manual).

9. McCells

McCells

The McCells filter renders colored cells over your image.

The selection mask is used to modulate the cell size parameter. The whiter the selection mask is, the cells will appear larger. Grayscale gradients in the selection mask are used to create smooth transitions from normal parts of the image to the parts completely covered with cells. In other words, a grayscale gradient in the selection mask will produce the magical effect of the cells slowly growing from one part of the image to another! The color of the cells is taken from the image pixels.

Although you can use McCells with white or simple black and white selection masks, it is almost always necessary to use grayscale gradients. Non-grayscale selection masks may produce some visual artifacts in the rendered image. If you need to use the cells filter with a non-grayscale selection mask, we suggest that you use an ordinary cell-filter instead. (Check out the McCells examples below to see the difference between ordinary cell-filter and McCells).

Controls

Cell Size

Cell Size — Defines the maximum cell size. That's the size of the cells in areas where the selection mask is set to 100% (white).

AntiAliasing — AntiAliasing is used to smooth out the cells' edges. It is not applied to the preview.

None (1x1) — No Antialiasing.

Medium (2x2) — Medium antialiasing. Yields with smoother results, but takes more time to render.

High (4x4) — Maximum antialiasing. Yields with the smoothest results, but takes even longer to render.

Preview	McCells may take some time to render the final effect. That's why only an approximate but real-time preview is offered in the filter options. Sometimes, especially if you are working with a large image, even the preview may take some time to render (see the "Troubleshooting" chapter in this manual). When the filter is actually applied to the image, a slower, but precise routine is used to create the final result. Also notice that since the McCells is a filter based on a generator of random numbers, the final result may differ from the preview.
Standard Filter Options Controls	see the "Filter Options Controls" chapter in this manual.

Examples

a) The Original Image   b) The Selection Mask   c) Ordinary Cell Filter   d) McCells
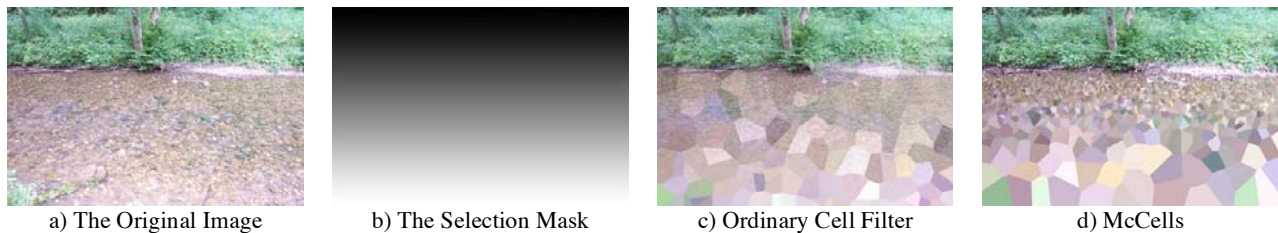
Figure 9.1. This example shows the difference between an ordinary cell filter and McCells. a) The original image. b) The selection mask filled with simple linear gradient. c) An ordinary cell filter simply overlays the filtered image over the original accordingly to the selection mask. Where the selection mask is whiter the effect appears more visible, but the cell size is constant! d) McCells! Notice how the cells grow from top to bottom!

a) The Original Image   b) The Selection Mask   c) McCells
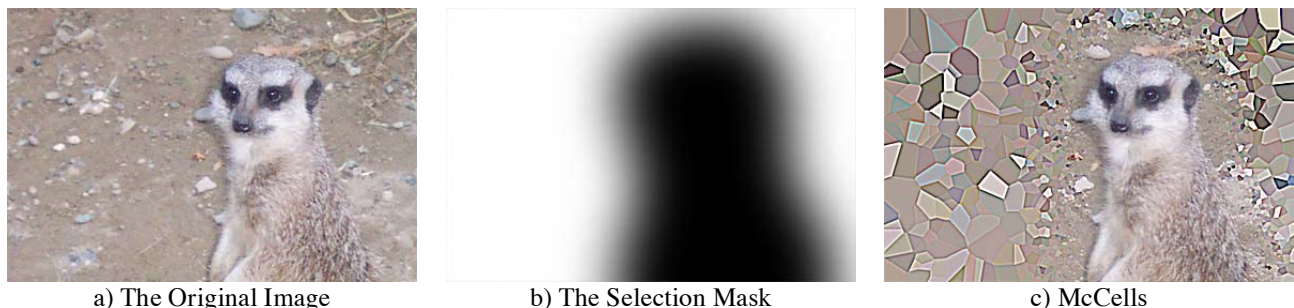
Figure 9.2. A cellular world around the meerkat! This example shows how the McCells filter can be used to fill a part of an image with cells and ensure gentle transition from cells to important parts of the image which should remain intact. a) The original meerkat. b) The selection mask painted with smooth mask of the meerkat. c) McCells! The image was additionally McSharpened with the same selection mask to emphasize the cell edges.

Troubleshooting

The filter shows no effect at all
- This might be happening if your selection mask is completely black. You can check this out by pressing the "Show Mask" button in the filter dialog. Check out the "Selection Mask" chapter in this manual to learn some ways to create selection masks.
- Make sure that you are not working on an empty layer or a part of the image filled with the plain color. In these cases the cells are there, but they are simply not visible.

There are some artifacts in the final image
- Some visual artifacts may appear in the areas where the grayscale gradient in the selection mask is too steep. Try smoothing out the selection mask in these areas before applying the effect. (See the "Selection Mask" chapter in this manual for more info).

10. McClouds

McClouds

The McClouds filter renders 2D clouds. It is very similar to the original Photoshop's Clouds filter, except it offers you more controls and allows you to modulate the clouds frequency with the selection mask.

The McClouds filter uses the selection mask in two ways:
a) If the "Modulate Frequency" option is turned on, the clouds frequency is modulated by the selection mask.
b) If the "Fade Clouds" option is turned on, the clouds are faded by the selection mask.

The McClouds filter is actually a fractal (Perlin) noise generator. The fractal noise is oftenly used as the base for creating various procedural textures. For example, a marble-looking texture can be easily created by first rendering the clouds, and then solarizing and constrasting them. Also try using the McClouds filter in combination with the McGel, McGamma and McBlur filters. Some really amazing textures and effects can be created!

Controls

Clouds Frequency	These are the controls which allow you to set the frequency of the clouds. Frequency is the inverse parameter of scale.
Selected Areas	This is the frequency of the clouds in the selected areas (white selection mask). If the "Modulate Frequency" option is turned off, then this parameter defines the clouds frequency for the all parts of the image.
Non-Selected Areas	This is the frequency of the clouds in the non-selected areas (black selection mask). This parameter is not used when the "Modulate Frequency" option is off (see the description of the "Modulate Frequency" control).

Clouds Type	These controls allow you to select the appearance of the clouds.
Rectangular	In this mode, the clouds appear as formed of small rectangles. That's beacause no interpolation is used for generating the fractal noise.
Bi-Linear	Bi-Linear interpolation is used for generating the fractal noise. The clouds appear a little bit sharper than with the Bi-Cubic mode.
Bi-Cubic	Bi-Cubic interpolation is used for generating the fractal noise. This results with a smoother clouds.
Clouds Details	Level of details in the clouds. The higher you set this value, the clouds will contain more small details.
Random Seed	This is an integer value that is used as the initial seed in the fractal noise generator. Each number between 0 and 9999 will result with a different cloud pattern. On the other hand, this means that one random seed number will always reproduce the same cloud pattern. Click the "Random Seed" button to randomly set this value, or enter the value manually in the edit box.
Mask	
Mask Smoothness	Additionally smooths the selection mask.
Modulate Frequency	Allows the frequency to be modulated by the selection mask. If this option is turned off, the "Clouds Frequency: Selected Areas" is used in all parts of the image and is not modulated by the selection mask.
Fade Clouds	Fades the clouds with the selection mask. If this option is turned on, the clouds will be more visible in areas where the selection mask is whiter. If this option is turned off, the clouds will have constant visibility in all parts of the image.

Clouds Color

Clouds Color	Click the color button to define the clouds color.
Opacity	This is the opacity of the clouds color.

Sky Color

Sky Color	Click the color button to define the sky color.
Opacity	This is the opacity of the sky color.
Standard Filter Options Controls	see the "Filter Options Controls" chapter in this manual.

Examples

| a) Frequency 2.0 | b) Frequency 10.0 | c) Frequency 100.0 |
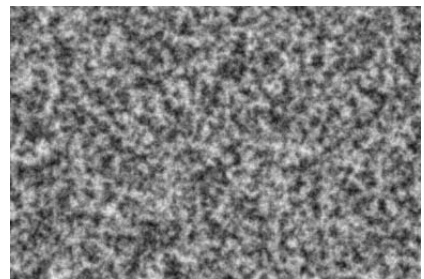
Figure 10.1. The McClouds filter can be used as a simple 2D fractal noise generator. Set the "Clouds Type" to "Bi-Cubic". Turn the "Modulate Frequency" option off, and turn on the "Fade Clouds" option. Set the Clouds color to white (with opacity 100%), and the Sky color to black (with opacity also set to 100%). Now, just use the "Clouds Frequency: Selected Areas" slider to adjust the clouds frequency. a) F = 2.0. b) F = 10.0. c) F = 100.0.

| a) The Original Image | b) The Selection Mask | c) McClouds |
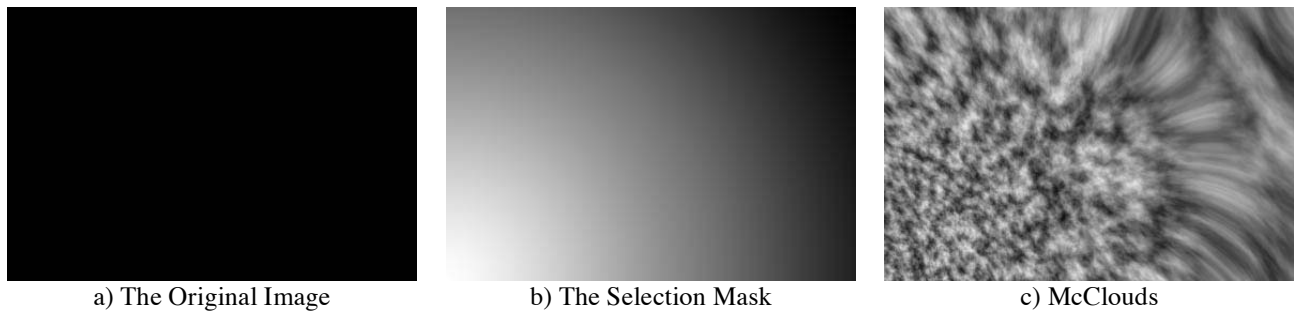
Figure 10.2. This is a simple example that shows how the McClouds filter works. a) The original image is completely black. b) The selection mask is created with radial gradient tool in the Photoshop's Quick Mask mode. c) The McClouds. Notice how the clouds frequency gently falls from the areas where the selection mask was set to white to the areas where the selection mask was black.

| a) The Original Image | b) The Selection Mask | c) McClouds |
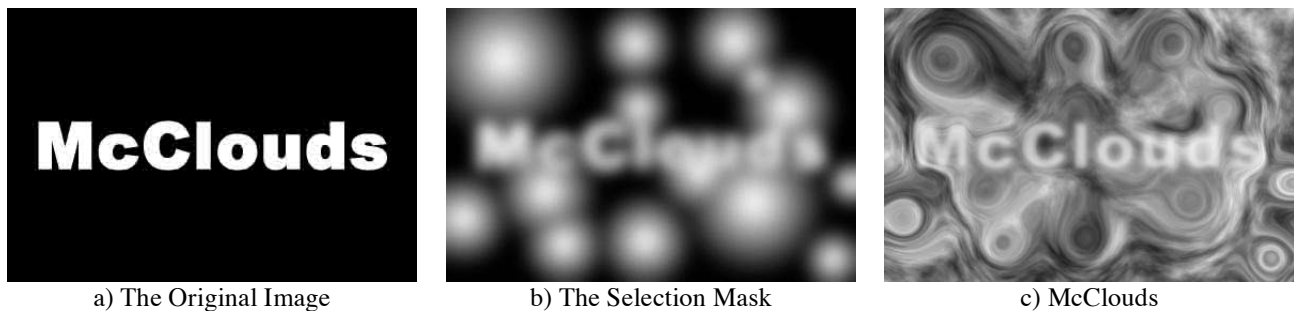
Figure 10.3. An example of how the McClouds filter can be used to create some extraordinary effects. a) The original image. b) The selection mask was created by overlaying few radial gradients in the Photoshop's Quick Mask mode. c) The clouds appear as if they were warped around the white areas in the selection mask. Try using this effect in combination with the McGel to create some really amazing textures! For example, you can copy the rendered clouds into the selection channel (in the Quick Mask mode), and then use them as the hight map for the McGel filter.

Troubleshooting

The filter shows no effect at all	- Make sure that the clouds and sky color opacities are not set to zero.
The frequency of the clouds does not change accordingly to the selection mask	- Make sure that the "Mask: Modulate Frequency" is turned on.

11. McGamma

McGamma

The McGamma filter applies the gamma correction to the image. For a long time, gamma correction is well known in the world of computer graphics, mostly for it's technical value. For example, it's oftenly used to compensate non-linear characteristics of various display devices. On the other hand, we would also like to point out it's value as an artistic tool...

One of the great properties of the gamma curve is that it never maps the pixel brightness to a value outside of [0, 1] range. This means that the pixels will never turn out "overexposed". The other great property is that it will never (well, at least not in theory) map two values onto the same value. This means that it will not destroy the details in your image. On the contrary, you can use it to recover details from a dark or from very bright parts of the image!

The McGamma filter uses the selection mask to modulate the gamma parameter. The whiter the selection mask is, the gamma correction will be stronger. So by using grayscale gradients for the selection mask, you can achieve gentle transitions from the areas which you need to correct and the areas you wish to leave intact.

You can use the McGamma filter with the simple black and white selection masks or even with no selections at all (all white). In that case, the correction with a constant gamma will be applied to the image.

Controls

Curve Preview	This is a small preview of the curve which is used to transform the brightness of the image pixels.
Gamma Function	Here you will find a set of controls for adjusting the shape of the gamma curve.
Gamma	The main gamma value. This value is modulated by the selection mask.
True Gamma	Selects the true gamma correction curve: $y = x^{gamma}$.

Symmetric Gamma	This is a replacement for the gamma correction curve. It is very similar to the real gamma function, but it's a bit faster and has some other nice properties. Although this is not the true gamma correction function, sometimes it yields with just a bit nicer corrections. For all this reasons, we chose it to be the default mode.
Antisymmetric Gamma	It forms the curve by placing two antisymmetric gamma curves next to each other. So it allows you to equally brighten the dark pixels, and darken the bright pixels at the same time. And vice versa.

Mask

Mask Smoothness	Allows you to additionally smooth out the selection mask. Use this control to create gentle transitions between selected and non-selected areas in the image. See more in the "Selection Mask" chapter in this manual and in the description of the Preview control below.
Standard Filter Options Controls	see the "Filter Options Controls" chapter in this manual.

Examples
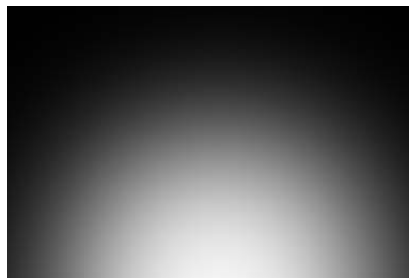
a) The Original Image   b) The Selection Mask   c) McGamma

Figure 11.1. This example shows how the McGamma filter can be used to recover details from a dark areas in the image. a) The original under-water photo from the McBackLightGlow example. b) The selection mask was set up to simulate a spot from a head-light. c) The McGamma filter was applied to brighten the dark pixels in the image. Notice how the details and their colors are realistically recovered.

Troubleshooting

The filter shows no effect at all

- Make sure that you are not working on an empty layer or a part of the image filled with the plain color.

12. McGel

McGel

The McGel filter shades the selection mask over the image as if a layer of gel was placed on the top of it.

The filter uses the selection mask as a height map (relief). Whiter areas in the selection map represent thicker layers of gel placed over the image.

Make sure that you are not using black, white, and simple black and white selection masks with this filter. The only selection mask type that is suitable to use with McGel is grayscale gradients. A good idea for the selection maps to use with this filter may be clouds, or blurred shapes. Sometimes, you will find that even feathering simple selections isn't enough. Rather, we suggest that you edit the selection mask manually in Photoshop's Quick Mask mode before entering this filter.

It is a good idea to use the McGel filter in conjunction with (after) the McLens filter (see the "McLens" chapter in this manual).

Controls

Light

Light   Click and drag the light sphere to define Light Inclination and Light Direction (see below). Hold down the shift key to constrain the direction angle to the nearest 45 degrees angle.

Inclination   This is the angle between rays of the light and the image plane.

Direction   Angle which defines the direction of the light rays.

Color

Color   Defines the basic color of the gel. Use the color control to define the plain color of the gel.

Use Background Color	The image will be used for the color of the gel.
Diffuse	The additional control to set the brightness of the gel.
Ambient	Defines the ambient illumination. This is the brightness of the parts of the gel that are not facing the light source.

Specular

Specular Color	Defines the color of the specular reflection. The specular is actually blurred reflection of the light source. Strong, shiny specular reflections are usually characteristics of metal surfaces.
Specular	Additionally defines the strength of the specular reflection.
Specular Roughness	Defines the width of the specular reflection.

Opacity

Opacity	Defines the opacity of the gel.
Constant Opacity	Tells the filter to use the constant opacity for all parts of the gel.
Exponential Opacity	Modulates the gel's opacity accordingly to it's thickness (height).

Mask

Mask Smoothness	Allows you to additionally smooth out the selection mask. Use this control to eliminate some of the artifacts when the result looks too "noisy". However, be careful when using this control, since it can be a bit destructive to the selection mask. See more in the "Selection Mask" chapter in this manual and in description of the Preview control below.
Mask Height	Allows you to additionally scale the height of the selection mask.

Draw Outside Selection	By turning on this option, you allow the filter to draw outside the selection. Note that this will affect the parts of your image that you haven't selected.
AntiAliasing	Eliminates the noise (aliasing, higher frequencies) from the resulting image. AntiAliasing is not applied to the preview.
None (1x1)	No Antialiasing.
Medium (2x2)	Medium antialiasing. Yields with smoother results, but takes more time to render.
High (4x4)	Maximum antialiasing. Yields with the smoothest results, but takes even longer to render.
Preview	Ctrl/Right-Click (Mac) or Right-Click (Win) on the preview and drag to set the light direction. Hold down the shift key to constrain the direction angle to the nearest 45 degrees angle. McGel may take some time to render the final effect. That's why only an approximate but fast real-time preview is offered in the filter options. When the filter is actually applied to the image somewhat slower, but very precise routine is used to create the final result.
Standard Filter Options Controls	see the "Filter Options Controls" chapter in this manual.
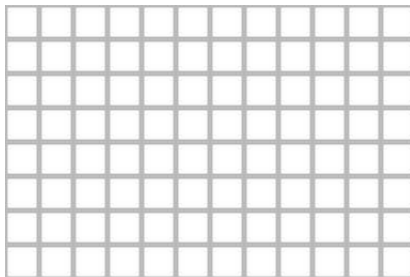
Examples

a) The Background Image

b) The Selection Mask

c) McGel

Figure 12.1. This example shows how the McGel filter can be used to create controlled 3D-looking relieves. a) The background image. b) The selection mask was created by rendering clouds into the selection channel. Then the Photoshop's "Type Tool" was used to write the "McGel" letters. The area around the letters was additionally blurred to smooth out the steep slopes a bit. c) The final relief was rendered into an empty layer placed over the background. The Exponential Opacity was used to allow us to make higher areas of the gel more visible and lower areas more transparent.

b) McLens + McGel

Figure 12.2. This is an example of using McGel in conjunction with the McLens filter. For the full description of this example, see figure 11.3. in the "McLens" chapter in this manual.

Troubleshooting

McGel doesn't seem to be creating any effect at all

- This might be happening if your selection mask is completely black, completely white, or a simple black and white mask. You can check this out by pressing the "Show Mask" button in the filter dialog. Note that it is almost necessary to use grayscale selection masks with the McGel filter. In the case of simple black and white selection mask, try just feathering the selection, or pre-blurring the selection mask itself (see the "Selection Mask" chapter in this manual).

McGel doesn't show the relief defined by the selection mask	- Make sure that the Mask Height parameter is not set to zero. - Make sure that you have set up the light parameters properly
The Draw Outside Selection checkbox doesn't seem to work	- When this option is turned on, McGel is forbidden to draw in areas in which the selection mask is set to zero. However, sometimes the selection mask may seem black, but in fact it is just very dark. Even if the selection mask pixel is set to only 1%, McGel will consider it free to render the effect. Edit your selection mask and use an erasing tool to make sure that all parts in which you don't want the effect to be rendered is set to black.

13. McHue

McHue

The McHue filter does a very simple thing: it rotates the hue of each pixel in the image.

The filter uses the selection mask to modulate the hue rotation angle for the corresponding image pixel.

You can use simple black and white selection masks with this filter (and optionally smooth them with the Mask Smoothness control within the filter), but only by using grayscale selection masks can you achieve cool rainbow-looking color transitions.

Controls

Hue

Hue Angle   This is the maximum hue rotation angle used for fully selected pixels.

Mask

Mask Smoothness   Allows you to additionally smooth out the selection mask. Use this control to create gentle transitions between selected and non-selected areas in an image. See more in the "Selection Mask" chapter in this manual.

Standard Filter Options Controls   see the "Filter Options Controls" chapter in this manual.

Examples

a) The Original Image   b) The Selection Mask   c) McHue
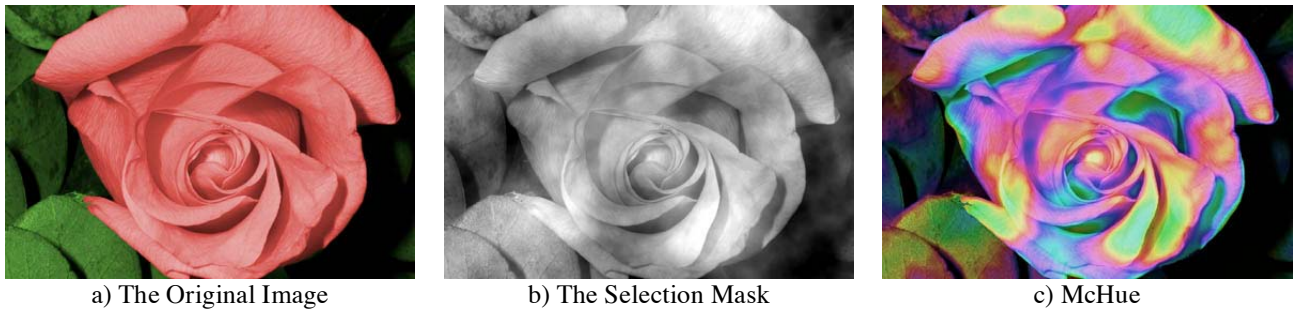
Figure 13.1. A McHue Example: a) The original photo of a rose. b) The selection mask, in which the original image was copied in Photoshop's Quick Mask mode. Then, 50% visible McClouds were rendered over it (also directly in the Quick Mask mode). c) The resulting image with rotated hues.

Troubleshooting

McHue doesn't seem to be creating any effects at all

- the McHue filter does not perform any filtering on gray images, since gray pixels do not have hue. Use this filter only with colored images.

14. McLens

McLens

The McLens filter simulates the distortion of the image as if a refractive, translucent gel was placed on the top of the image. The distortion comes from the fact that light refracts when entering a medium with a different index of refraction (e.g. light passes through air and enters a diamond surface).

The selection mask in this filter is used as a height map. Whiter areas in the selection mask represent thicker layer of the gel, while darker areas represent thinner layer of the gel. Thicker gel (whiter selection map) also means that the image will be more distorted in these areas, because the refracted light rays will have a larger distance to pass through the gel. On the other hand, black areas in the selection mask (unselected areas) mean that there is no gel placed on the top of that part of the image, so the image will not be distorted in these areas at all. However, also notice that the distortion of the image also depends on the slope of the height map in the selection mask. See Figure 14.1.:
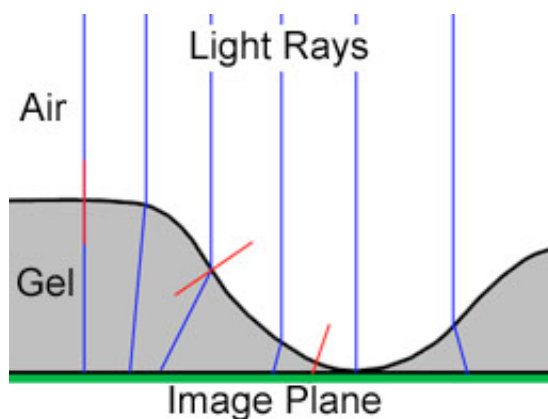
Figure 14.1. This image shows how the light rays travel from the image, through the gel, refract on the gel surface, and reach the viewer (the final result). Notice that the rays which hit the gel surface perpendicularly leave the gel undistorted. Same with the rays that travel trough a gel layer with a minimum thickness.

It's almost necessary to use grayscale selection maps with McLens (see the "Selection Mask" chapter in this manual). That's because a flat color areas in the selection mask will not refract the light at all!

It is a good idea to use the McLens filter in conjunction (after) the McGel filter (see the "McGel" chapter in this manual). This will allow you to create cool, shaded and refractive layers of gel on the

top of your images! To do this, first use the McLens filter to refract the image through the gel, and then use the McGel filter to shade the gel. Notice that both of these filters use the selection mask in the same way, so you can invoke them consecutively, without need to adjust or change the selection mask!

Controls

Refraction

Refraction | Defines the index of refraction of the gel. The higher you set this value, the image will appear more distorted.

Mask

Mask Smoothness | Allows you to additionally smooth out the selection mask. Use this control to eliminate some of the artifacts when the result looks too "noisy". However, be careful when using this control, since it can be a bit destructive to the selection mask. See more in the "Selection Mask" chapter in this manual and in the description of the Preview control below.

Outside Pixels | While the McLens effect is being rendered, some of the light rays may hit the pixels that are actually laying outside of the image. This filter parameter tells the filter how to replace these "missing" pixels:

Color | Replaces the missing pixels with a constant, plain color. You can define this color with the color control next to the "Color" item. If you are working with an image layer, this option just replaces the missing pixels with completely transparent pixels and so the color does not have any effect.

Clamp | Takes the closest pixel in the image.

Wrap | Takes a pixel from the image as if a duplicated image was tiled next to the original image.

Mirror Wrap | Takes a pixel from the image as if a duplicated and mirrored image was tiled next to the original image.

AntiAliasing	Eliminates the noise (aliasing, higher frequencies) from the resulting image. AntiAliasing is not applied to the preview.
None (1x1)	No Antialiasing.
Medium (2x2)	Medium antialiasing. Yields with smoother results, but takes more time to render.
High (4x4)	Maximum antialiasing. Yields with the smoothest results, but takes even longer to render.
Preview	Before applying the effect, we suggest that you always check out the preview with the zoom set to 1:1, to see if there is some noise in the resulting image. If so, set the "Mask Smoothness" to 0.0 and then slowly raise the value until the noise disappears.
Standard Filter Options Controls	see the "Filter Options Controls" chapter in this manual.

Examples
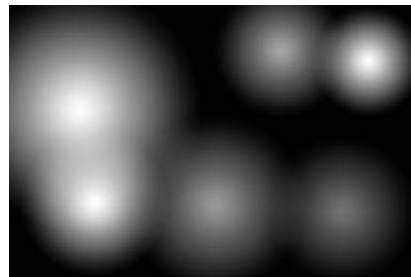
a) The Original Image	b) The Selection Mask	c) McLens

Figure 14.2. The example shows how the image is distorted as the light passes through a transparent layer of gel. a) The original image. b) The blobs of gel in the selection mask were created with the radial gradient tool in Photoshop's Quick Mask mode. c) The resulting image.

a) The Background Image   b) The Selection Mask   c) McLens

d) McGel

Figure 14.3. This example shows how to use the McLens filter in conjunction with the McGel to create refractive gels on the top of your images. a) The initial background. We drew a simple checkerboard background, just to have something in the image to refract. b) The selection mask was painted manually in a separate grayscale image and then was pasted into the selection mask in the Photoshop's Quick Mask mode. c) McLens filter was used to refract the image. d) Finally, we used the McGel filter to shade the layer. Exponential opacity was used to allow us to see through the gel.
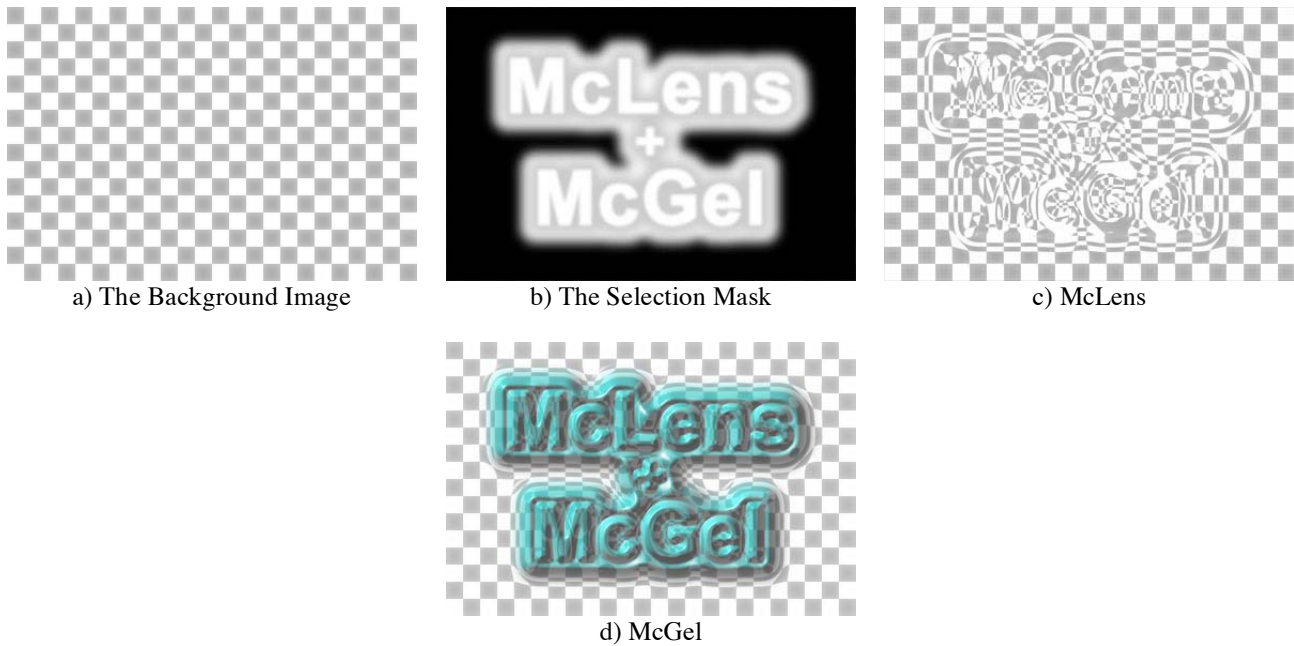
Troubleshooting

McLens doesn't seem to be creating any effects at all	- Your selection mask is uniform, either black or white or plain gray. In this case, the light rays do not refract at all. - The refraction index is set to 1.0. This means that the gel is not refractive. Or you are applying the filter to an empty layer or part of the image filled with a plain color. This is normal behaviour, since there is nothing to distort.
The result looks noisy	- Try adjusting the "Mask Smoothness" and "AntiAliasing" parameters in the filter dialog. See the description of these controls above.

15. McMotionBlur

McMotionBlur

The McMotionBlur filter blurs the image pixels along the motion blur vector. You can choose between two types of motion blur:

- Motion Trail: This is the default mode. It spreads the pixels along the motion direction and creates more natural motion blur effect. Notice that in this mode, the pixels may be spread over the edge of the selection.

- Gaussian Blur: Gaussian motion blur acts more like the McBlur filter, except it blurs the pixels in just one direction.

The McMotionBlur filter uses the selection mask to modulate the blur distance parameter on per-pixel level. The whiter the selection mask is, the pixels will appear more blurred.

You can use this filter with smooth, feathered selection masks of the objects in your image that you want to appear as they were moving while the camera's shutter was open.

Controls

Direction

Angle   Click and drag to define the direction of the motion blur vector. Hold down the shift key to constrain the direction angle to the nearest 45 degrees angle.

Blur

Blur Distance   Defines the maximum blur distance. This is the blur distance which will be used for the pixels with selection mask set to white (100%).

Blur Tail Scale   This parameter allows you to additionally scale the blur distance in direction opposite of the defined motion blur direction. If you set the Blur Tail Scale to a value other than 100%, one side of the motion trail will appear shorter.

|	
Opacity	Use this parameter to adjust visibility of the motion streaks.
Mode	
Motion Trail	Sets the Motion Trail mode.
Gaussian Blur	Sets the Gaussian Blur mode.
Preview	Ctrl/Right-Click (Mac) or Right-Click (Win) on the preview and drag to set the blur direction. Hold down the shift key to constrain the direction angle to the nearest 45 degrees angle.
Standard Filter Options Controls	see the "Filter Options Controls" chapter in this manual.

Examples

a) The Original Image	b) The Selection Mask	c) McMotionBlur
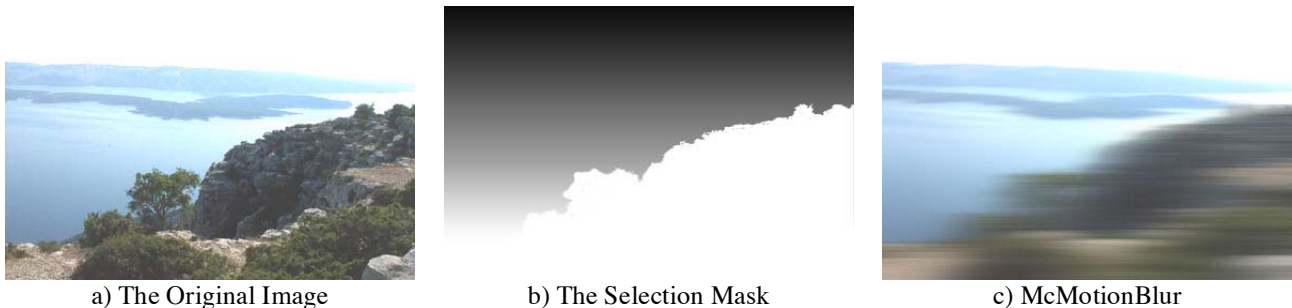
Figure 15.1. This example shows how the McMotionBlur can be used to add realistic motion blurs to the images, to achieve the effect as if they were taken from a moving vehicle. a) The original image. It was taken with a digital camera from a still point of view. b) The selection mask was created in several steps. First the linear top-to-bottom gradient was painted into the selection mask. It was created to roughly follow the depth of the scene. Dark areas in the selection mask describe the farther areas in the scene. Then the large white area was added to the selection mask to additionally describe which areas are close to the camera. c) The final image after applying horizontal McMotionBlur. Note how the areas which we defined as to be close to the camera appear to be moving faster than the areas that we left unselected (dark). The grayscale gradient ensured the gentle transition of the motion blur effect.

a) The Original Image   b) The Selection Mask   c) McMotionBlur

Figure 15.2. This is an example of how the McMotionBlur filter can be used to create realistic motion trails. a) The original photo taken with a digital camera. Due to the short automatic exposure of the digital camera, the whole scene looks "too static". b) The selection mask. First, the Magic Wand tool was used to create the selection of the left walker in the photo. Next, in the Photoshop's Quick Mask mode, a black to white linear gradient was overlaid from bottom to top of the mask. This will create the effect that the lower parts of the object were moving slower than the upper ones! This is natural because at that point during the stepping process, the foot stands almost still, while the body is moving. c) McMotionBlur! We used Motion Trail mode and the Blur Tail Scale parameter set to 0. The same procedure was applied for the right walker, but with reverse motion blur direction.

Troubleshooting

McMotionBlur doesn't seem to be creating any effects at all

- This might be happening if your selection mask is completely black. You can check this out by pressing the "Show Mask" button in the filter dialog. Check out the "Selection Mask" chapter in this manual to learn some ways to create selection masks.
- The other possibility is that you are applying the filter to an empty layer or part of the image filled with a plain color. This is normal behaviour, since there is nothing to blur.

McMotionBlur gives same results as an ordinary motion blur filter

- Your selection mask is probably completely white, or simple black and white mask. You can check this out by pressing the "Show Mask" button in the filter dialog. In the case of simple black and white selection mask, try feathering the selection, or pre-blurring the selection mask itself (see the "Selection Mask" chapter in this manual).

16. McScatter

McScatter

The McScatter filter scatters the image pixels in random directions.

The filter uses the selection mask to modulate the Scatter parameter. The brightness of the selection map tells the filter how far to displace each pixel. That is, the whiter the selection mask is, it is more probable that the corresponding image pixel will be scattered farther. On the other hand, where the selection mask is black (unselected areas), the image pixels will remain in place.

The McScatter filter offers a cool way to add a kind of noise to your images. Although you can use this filter with simple black and white selections, grayscale gradient selection masks will allow you to create nice smooth transitions between scattered and non-scattered areas in your images.

Controls

Scatter

Radius — Defines the maximum scattering distance. The higher you set this value, the pixels in the image will be more scattered.

Mask

Mask Smoothness — Allows you to additionally smooth out the selection mask. Use this control to create gentle transitions between selected and non-selected areas in the image. See more in the "Selection Mask" chapter in this manual and in the description of the Preview control below.

Outside Pixels — While the McScatter effect is being rendered, some of the pixels may be scattered from out of the image. This filter parameter tells the filter how to replace these "missing" pixels:

Color — Replaces the missing pixels with a constant, plain color. You can define this color with the color control next to the

"Color" item. If you are working with an image layer, this option just replaces the missing pixels with completely transparent pixels and so the color does not have any effect.

Clamp — Takes the closest pixel in the image.

Wrap — Takes a pixel from the image as if a duplicated image was tiled next to the original image.

Mirror Wrap — Takes a pixel from the image as if a duplicated and mirrored image was tiled next to the original image.

Standard Filter Options Controls — see the "Filter Options Controls" chapter in this manual.

Examples

a) The Original Image   b) The Selection Mask   c) McScatter
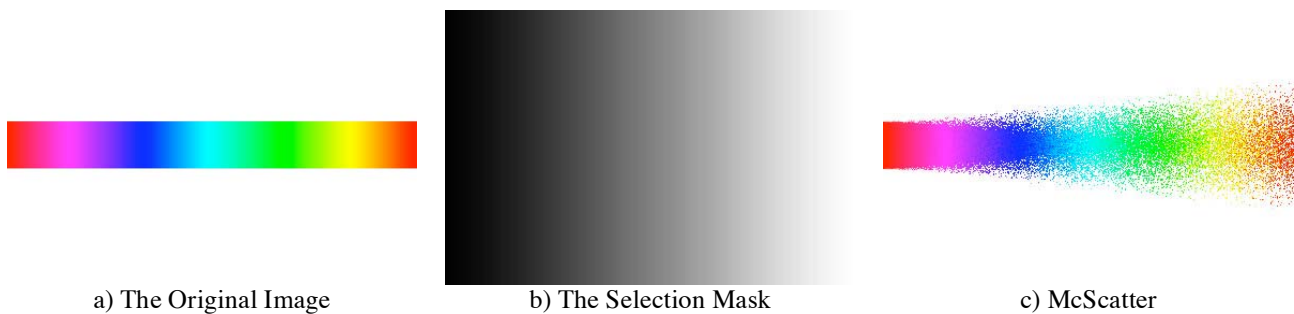
Figure 16.1. A simple example that shows the McScatter effect. a) The original image. b) The selection mask was created in Photoshop's Quick Mask mode with simple linear gradient. c) The scattered image. Notice how the image is more scattered where the selection mask is whiter. The grayscale gradient in the selection mask ensured the gentle transition between scattered and non-scattered areas.

| a) The Original Image | b) The Selection Mask | c) McScatter |

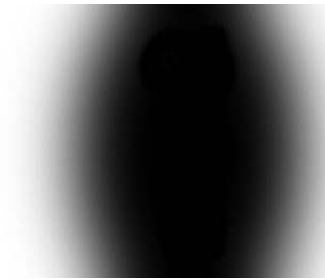**Figure 16.2.** A scattered world around the mouflon! a) The original mouflon. b) The selection mask was created in Photoshop's Quick Mask by roughly painting and additionally blurring the areas around the mouflon. c) The scattered image! Notice how the image gets more and more scattered in the areas farther from the mouflon.

Troubleshooting

The McScatter filter doesn't seem to do anything with the image

- Make sure that the "Scatter" parameter is not set to zero.
- Your selection mask is completely black. You can check this out by pressing the "Show Mask" button in the filter dialog. Check out the "Selection Mask" chapter in this manual to learn some ways to create selection masks.
- Another possibility is that you are applying the filter to an empty layer or part of the image filled with a plain color. This is normal behaviour, since there are no pixels to scatter.

17. McSharpen

McSharpen

The McSharpen filter allows you to controllably sharpen your images!

This filter uses the selection mask to modulate sharpening amount on per-pixel level. That is, it uses the selection mask as an additional sharpness map. The whiter the selection map is, the image pixels will be more sharpened. Black areas in the selection map mean that the corresponding image pixels will be left intact.

Only by using nice, gradient, grayscale selection maps, you will get the most out of this filter. Grayscale gradients will ensure nice, smooth, and cool transitions between fully sharpened and unsharpened areas. If you are using McFilter with white or simple black and white selection masks, it will produce similar simple results as any other ordinary sharpen filter.

However, don't expect a miracle from McSharpen! There is no way to create a filter (or anything!) that could accurately and truly reconstruct the data from a blurred image. Once the image is blurred, the actual data is unfortunately lost forever (except via the Undo command in your graphics application, of course!). McSharpen is just a tool that can be used to subtly point out the details in your images.

Controls

Sharpness

Sharpness — Defines the maximum sharpness. This is the sharpness applied to the pixels with the selection mask set to 100% (completely white). Again, note that for the pixels with the selection mask set to 0, no sharpening effect will be applied, no matter how high you set this parameter.
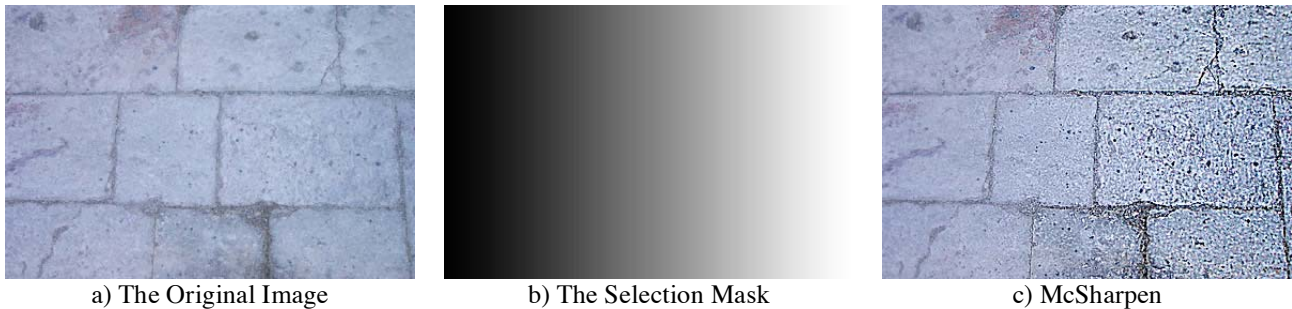
Mask

Mask Smoothness — Allows you to additionally smooth out the selection mask. Use this control to create gentle transitions between selected and non-selected areas in the image. See more in the "Selection Mask" chapter in this manual and in the description of the Preview control below.

Standard Filter Options Controls   see the "Filter Options Controls" chapter in this manual.

Examples

a) The Original Image   b) The Selection Mask   c) McSharpen

Figure 17.1. Here is a basic example that shows how the McSharpen filter works. a) The original image. b) The selection mask was created in Photoshop's Quick Mask mode with simple black to white linear gradient. c) The McSharpened image. The grayscale gradient in the selection mask ensured the gentle transition from unsharpened areas on the left and fully sharpened areas on the right.

a) The Original Image   b) The Selection Mask   c) McSharpen
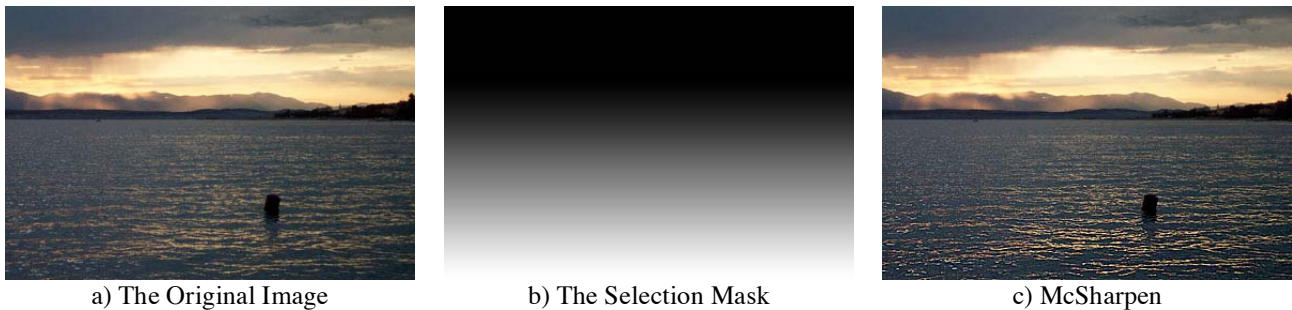
Figure 17.2. An example of how the McSharpen filter can be used to enhance your digital photos. a) The original photo taken with a digital camera. b) The selection mask was created to sharpen areas closer to the camera. The gradient will provide a gentle transition of the sharpening effect. c) The McSharpened image. Notice that the McBlur filter could be used with inverse selection mask in this example to blur the distant parts in the photo.

Troubleshooting

McSharpen doesn't seem to do anything with the image	- The Sharpness parameter is set to zero or very low. Try raising this value until some effect appears. - This might be happening if your selection mask is completely black. You can check this out by pressing the "Show Mask" button in the filter dialog. Check out the "Selection Mask" chapter in this manual to learn some ways to create selection masks. - The other possibility is that you are applying the filter to an empty layer or part of the image filled with a plain color. This is normal behaviour, since there are no pixels to sharpen.
McSharpen gives same results as an ordinary sharpening filter	- Your selection mask is probably completely white, or simple black and white mask. You can check this out by pressing the "Show Mask" button in the filter dialog. In the case of simple black and white selection mask, try feathering the selection, or pre-blurring the selection mask itself (see the "Selection Mask" chapter in this manual).

18. McTurbulence

McTurbulence

The McTurbulence filter distorts the image pixels as if they were placed into some kind of turbulent fluid.

The selection mask in this filter is used to modulate the strength of the turbulence and/or to fade the final effect (see the Controls below). In other words, brightness of the selection mask tells the filter how turbulent the fluid is in that part of the image.

The filter internally generates a fractal noise, just like the one which is used to create the McClouds (see the McClouds chapter in this manual). This noise is then used to perturb the pixels in the image. That's why some of the controls and options are very similar to the ones in the McClouds filter.

You can use the black and white selection masks with this filter (and optionally smooth them with the Mask Smoothness control within the filter), but grayscale selection masks will ensure smooth transitions between turbulent and non-turbulent areas in the image.

Controls

Turbulence

Turbulence	Use this control to define the maximum turbulence strength.
Frequency	The frequency of the turbulence.
Horizontal	Allows only horizontal turbulence.
Vertical	Allows only vertical turbulence.
Horizontal & Vertical	Allows turbulence in all directions.

Mask

Mask Smoothness	Allows you to additionally smooth out the selection mask. Use this control to create gentle transitions from the selected and non-selected areas in the image. See more in the "Selection Mask" chapter in this manual.
Modulate Turbulence	This enables the turbulence strength to be modulated by the selection mask.
Fade Turbulence	If this option is turned on, the final effect is faded by the selection mask (more visible in the whiter areas of the selection mask).
Noise	These controls allow you to adjust the fractal noise which is used to form the turbulence.
Rectangular	In this mode, the turbulence appears as small rectangles beacause no interpolation is used for generating the fractal noise.
Bi-Linear	The Bi-Linear interpolation is used for generating fractal noise. The turbulences appear a little sharper and stronger than with the Bi-Cubic mode.
Bi-Cubic	The Bi-Cubic interpolation is used for generating the fractal noise. This results are smoother turbulences.
Noise Details	The level of details in the fractal noise. The higher you set this value, the noise (and therefore the turbulence) will contain more small details.
Random Seed	This is an integer value that is used as the initial random seed in the fractal noise generator. Each number between 0 and 9999 will result in a different noise pattern. On the other hand, this means that one random seed number will always reproduce the same noise pattern. Click the "Random Seed" button to randomly set this value, or enter the value manually in the edit box.

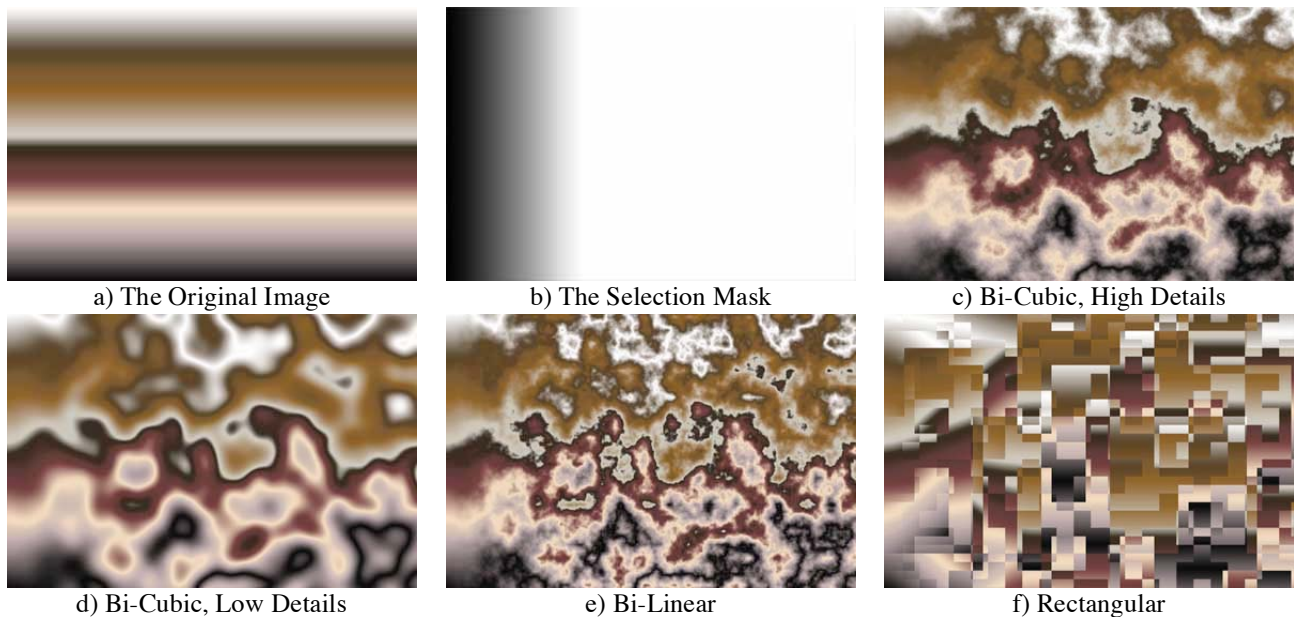|	
Outside Pixels	While the McTurbulence effect is being rendered, some of the pixels may be gathered out of the image. This filter parameter tells the filter how to replace these "missing" pixels:
Color	Replaces the missing pixels with a constant, plain color. You can define this color with the color control next to the "Color" item. If you are working with an image layer, this option replaces the missing pixels with transparent pixels so that the color does not have any effect.
Clamp	Takes the closest pixel in the image.
Wrap	Takes a pixel from the image as if a duplicated image was tiled next to the original image.
Mirror Wrap	Takes a pixel from the image as if a duplicated and mirrored image was tiled next to the original image.
AntiAliasing	Eliminates the noise (aliasing, higher frequencies) from the resulting image. AntiAliasing is not applied to the preview.
None (1x1)	No Antialiasing.
Medium (2x2)	Medium antialiasing. Yields with smoother results, but takes more time to render.
High (4x4)	Maximum antialiasing. Yields with the smoothest results, but takes longer to render.
Standard Filter Options Controls	See the "Filter Options Controls" chapter in this manual.

Examples

a) The Original Image

b) The Selection Mask
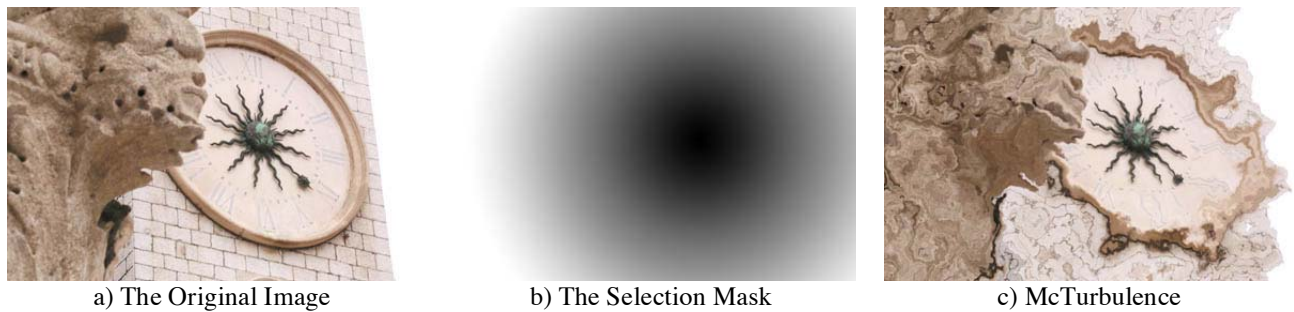
c) McTurbulence

Figure 18.1. "Turbulent Times" - an example of McTurbulence: a) The original photo of a clock tower. b) The selection mask was created with the radial gradient tool in Photoshop's Quick Mask mode. c) The final effect shows how the turbulence gently falls with the gradient in the selection mask.

a) The Original Image

b) The Selection Mask

c) Bi-Cubic, High Details

d) Bi-Cubic, Low Details

e) Bi-Linear

f) Rectangular

Figure 18.2. This example shows how the McTurbulence filter can be used to derive a wide variety of textures from a single source image. a) The original image was created in Photoshop using the Linear Gradient tool. b) A narrow linear gradient was painted into the first third of the selection mask, just to show how it will modulate the turbulence. c) This image was created by setting the noise type to Bi-Cubic, and Noise Details to 8.0. d) Same as the previous, but the Noise Details was lowered to 1.5. e) Bi-Linear Noise Type, medium Noise Details. f) Rectangular Noise Type, low Noise Details.

Troubleshooting

McTurbulence doesn't seem to be creating any effects at all	- you are applying the filter to an empty layer or part of the image filled with a plain color. This is normal behaviour, since there is nothing to distort.
The result looks noisy	- Try adjusting the "Mask Smoothness" and "AntiAliasing" parameters in the filter dialog. See the description of these controls above.

19. McTwirl

McTwirl

The McTwirl filter twirls the image pixels around the defined center of rotation. The rotation angle for each pixel is defined by the brightness of the selection mask.

This filter uses the selection mask as rotation angles (rotation intensity) map. The whiter the selection mask is, the image pixels are more rotated. Where the selection mask is black, the image pixels are not rotated at all.

You can use the McTwirl filter to create very controllable "twirl" effects in your images. The obvious choice for the selection map may be various kinds of radial gradients. Although the results are not always easy to predict, you can experiment with other kinds of grayscale selection maps (linear gradients, blurred shapes, or clouds! See the McTwirl examples below.). Note that if you use completely white or simple black and white selection, the filter will create simple image rotation effect! That's because all pixels will be rotated by the same angle!

Controls

Twirl

Twirl	Defines the maximum rotation angle.
Center X	Horizontal coordinate of the center of rotation (also see the description of the "Preview" control below).
Center Y	Vertical coordinate of the center of rotation (also see the description of the "Preview" control below).
Center	Places the center of rotation on the center of the image.

Mask

|	
Mask Smoothness	Allows you to additionally smooth out the selection mask. Use this control to eliminate some of the artifacts when the result looks too "noisy" or when the edge between rotated pixels is too visible. However, be careful when using this control, since it can be a bit destructive to the selection mask. See more in the "Selection Mask" chapter in this manual and in the description of the Preview control below.
Outside Pixels	While the McTwirl effect is being rendered, some of the pixels may be rotated from out of the image. This filter parameter tells the filter how to replace these "missing" pixels:
Color	Replaces the missing pixels with a constant, plain color. You can define this color with the color control next to the "Color" item. If you are working with an image layer, this option just replaces the missing pixels with completely transparent pixels and so the color does not have any effect.
Clamp	Takes the closest pixel in the image.
Wrap	Takes a pixel from the image as if a duplicated image was tiled next to the original image.
Mirror Wrap	Takes a pixel from the image as if a duplicated and mirrored image was tiled next to the original image.
AntiAliasing	Eliminates the noise (aliasing, higher frequencies) from the resulting image. AntiAliasing is not applied to the preview.
None (1x1)	No Antialiasing.
Medium (2x2)	Medium antialiasing. Yields with smoother results, but takes more time to render.
High (4x4)	Maximum antialiasing. Yields with the smoothest results, but takes even longer to render.

Preview	Ctrl/Right-Click (Mac) or Right-Click (Win) on the preview and drag to set the center of rotation. Before applying the effect, we suggest that you always check out the preview with the zoom set to 1:1, to see if there is some noise in the resulting image. If so, set the "Mask Smoothness" to 0.0 and then slowly raise the value until the noise disappears.
Standard Filter Options Controls	see the "Filter Options Controls" chapter in this manual.

Examples
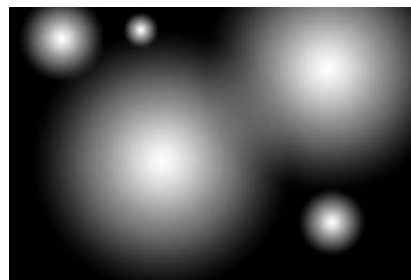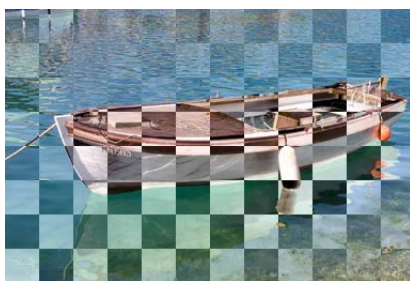

a) The Original Image   b) The Selection Mask   c) McTwirl

Figure 19.1. This example shows how the McTwirl filter can be used to create cool swirl looking effects. a) The original image. b) The selection mask was created with few overlaid radial gradients in the Photoshop's Quick Mask mode. The white centers of the gradients will become centers of the swirls. c) The final result - the swirls!. The center of rotation was placed in the lower - left corner of the image.
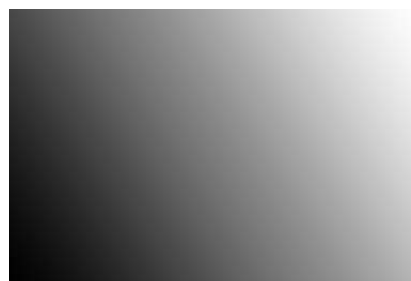
a) The Original Image   b) The Selection Mask   c) McTwirl

Figure 19.2. By using linear gradients for the selection mask, you can achieve some weird distortions. a) The original image. b) The selection mask. c) The result.

Troubleshooting

The McTwirl filter doesn't seem to do anything with the image	- Make sure that the "Twirl" parameter is set to a value other than zero. - Your selection mask is completely black. You can check this out by pressing the "Show Mask" button in the filter dialog. Check out the "Selection Mask" chapter in this manual to learn some ways to create selection masks. - Another possibility is that you are applying the filter to an empty layer or part of the image filled with a plain color. This is normal behaviour, since there are no pixels to rotate.
The McTwirl filter just rotates the image or a part of the image	- Your selection mask is completely white or simple black and white mask. In this case all pixels are rotated by a constant angle, so the filter does just a simple image rotation. See more in the "Selection Mask" chapter in this manual to see how to create grayscale gradient selection masks. By simply raising the "Mask Smoothness" parameter in the filter options, you can achieve a subtle twirl effect at the edges of the selection.
The result looks noisy	- Try adjusting the "Mask Smoothness" and "AntiAliasing" parameters in the filter dialog. See the description of these controls above.

20. McZoomBlur

McZoomBlur

The McZoomBlur filter simulates the motion trail of the image pixels as if they were moving toward the camera while the camera's shutter was open.

The selection mask in this filter is used to modulate the blur distance parameter. It tells the filter how much each pixel was moving while the camera's shutter was open.

You can use this filter with no selection at all. In that case the selection mask will be completely white and all the pixels will be considered as equally moving toward the camera.

Controls

Zoom Blur

Distance | This number defines the maximum blur trail. It is applied to the fully selected pixels farthest from the zoom center.

Opacity | You can use this control to fade the final effect, and adjust the visibility of the motion streaks.

Center | The Center defines the point in the image which is moving directly toward the camera. Since the movement of this point is completely colinear with the view direction, it is not blurred at all.

Center X | The horizontal coordinate of the zoom center (also see the description for the "Preview" control below).

Center Y | The vertical coordinate of the zoom center (also see the description for the "Preview" control below).

Center | Click this button to place the zoom center on the center of the image.

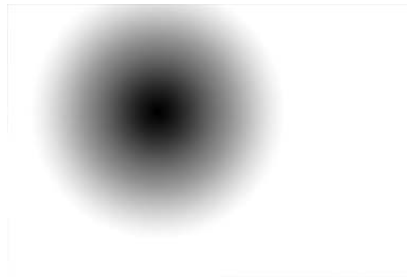| Preview | Ctrl/Right-Click (Mac) or Right-Click (Win) on the preview and drag to set the zoom center. |
| Standard Filter Options Controls | See the "Filter Options Controls" chapter in this manual. |

Examples

a) The Original Image   b) The Selection Mask   c) McZoomBlur

Figure 20.1. The example shows how you can use the McZoomBlur filter to add dramatic motion to your image. This effect also focuses the viewer's attention to a particular point in the image. a) The original photo. b) A tight radial gradient was drawn in Photoshop's Quick Mask mode around the point which will be set as the zoom center, ensuring a slightly larger portion of the image around the point of interest to remain unblurred. c) The resulting image.

Troubleshooting

| McTurbulence doesn't seem to be creating any effects at all | - you are applying the filter to an empty layer or part of the image filled with a plain color. This is normal behaviour, since there is nothing to blur. |

PART III:

APPENDICES

21. Q&A and Troubleshooting

Here we listed some questions and troubles you might have while using McFilters. If you can't find an answer for your question here, try looking for a solution on our web pages, or contact us directly by e-mail.

Question	**Answer & Solution**
The McFilters installer reports that the software could not be installed	Check out that the Stuff-It/ZIP archive has been properly un-packed and that everything is in place. The unpacked installer folder should contain the following items: McFiltersInstaller (the installer exe) McFilters.rsc (the resources file) McFiltersManual.pdf (the manual PDF file) InstallerData (a folder containing one or two data files) In case some of the items are missing, check out the preferences and options in the software that you are using to unpack the archive. Some of them might be offering an option to disable un-packing of the sub-folders. Turn this option off, since it prevents the InstallerData folder to be un-packed.
I have not received my Serial Number **I can't find my Serial Number**	If you have purchased your package of the McFilters from our online store, you should have received an e-mail from our distributor, containing your Serial Number. It looks like a bunch of letters and numbers in form: xxxx-xxxx-xxxx-xxx-xxxx If you can't find it or if you have not received the e-mail from our distributor you should: - Try to contact our distributor. Check our web site (www.pixelribs.com) and find the information about how to reach them. - Or contact us directly.

The serial number does not work	- Make sure that you entered the complete serial number and that you separated the groups of numbers/letters with "-". - Try typing the numbers using number keys from the top of the keyboard. On some keyboards, the numbers from the keypad may not work properly.
The McFilters do not show up in my graphics application	The McFilters were probably not installed in the correct plug-ins folder during the installation process, so your graphics application can't find them. - First, you should search your hard disk for the "Pixel Ribs McFilters" folder, and see where it was actually installed. If it is placed in an incorrect folder, delete it manually. - Please, read the "Installation" chapter in this manual and try to install the McFilters again by selecting the correct plug-ins folder.
When I try to run McFilters, my graphics application reports that there is not enough memory	In most cases, the McFilters require a lot of physical memory (RAM) to work. Here are some tricks about how to increase the available memory: - Try quitting all other applications while you are working with your graphics application and McFilters. - Try working only with one image in your graphics application at the time. - Photoshop: Try erasing the history. It may use quite a lot of the memory. - Mac OS 9 only: try assigning more memory to your graphics application.
The McFilters appear grayed out in my graphics application	The image that you are working on is not in 8-bit / channel Grayscale, RGB, or CMYK mode. - Convert your image to RGB mode, do the filtering, and (optionally) convert it back to the original color mode.

There are types of layers in Photoshop which can not be filtered.

- Such layer types have to be rendered before a filter can operate on them. (See the Photoshop's manual for more information).

A McFilter does not differ very much from an ordinary filter and/or produces very simple and naive results

You probably haven't created a suitable selection mask for the filter. Your selection mask is probably white or simple black and white. McFilters mostly require a grayscale selection mask to work properly.

- In case your selection mask is simple black and white, try just feathering or blurring the selection a bit.

- Read the troubleshooting section in the particular McFilter chapter.

- Read the "Selection Mask" chapter in this manual.

A McFilter does not produce any result at all

There are a few possibilities for such behaviour:
a) Your selection mask is not suitable for the filter. It is probably black or very dark. McFilters mostly require a grayscale selection mask to work properly.
b) Some of the filter's parameters are not properly set up.
c) You are operating on an empty image layer or a part of the image filled with a plain color.

Anyway, you should:

- Read the "Selection Mask" chapter in this manual.

- Read the chapter in this manual about the particular McFilter.

The preview is very slow

The speed of the preview vastly depends on the speed of your computer and the size of the image that you are working on.

- Try operating with as little mouse clicking and dragging as possible.

Why is the preview so too small ?

Why is the preview "noisy" ?

Why are the zooming options so limited ?

The preview does not truly represent the effect! Why ?

Speed! Speed! Speed! Speed! One of our main goals was to create instant, real-time previews for all McFilters. Many of the McFilters are very complex and compute-intensive graphics algorithms, and therefore can be very slow when actually applied. We needed to find as many tricks to achieve real-time previews for these effects. Unfortunately, some of the tricks had to involve trade-offs between speed on one side, and quality, preview size and zooming options on the other. We are constantly trying to find ways and methods to improve the speed and quality of our filters' previews.

The filter takes ages to apply!

While we were trying hard to make the previews as fast as possible (see the Q&A above), we strongly did not allow any compromises in the quality of the final, rendered effects! We took great efforts to make the rendering routines work as fast as possible, but ANY KIND OF LOSS OF QUALITY OF THE FINAL RESULT WAS NOT AN OPTION!

How to reach Pixel Ribs ?

Pixel Ribs d.o.o.
Vlaska 79
10000 Zagreb
Croatia
Europe
Web: www.pixelribs.com
E-mail: support@pixelribs.com

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