

work visually with some sort of display, comparing different possibilities, leaving the technical details to the sharpening tool. You can, for example, use PhotoKit Sharpener to apply capture sharpening and all you have to do is select the image source and mask width: something like high resolution digital camera and medium width. PhotoKit sharpener will then take care of the messy details of the USM sharpening settings, the Blend If settings, layer opacity, etc. Everything will be placed in a tidy layer group, too.

You don't need to invest in a third-party tool to obtain excellent sharpening results. Because the third-party tools tend to use the same tools that are available to us in Photoshop, you can get equally good results using the automation tools that come with Photoshop: actions and scripts. More about those solutions in the next chapter.

Before we move along to more advanced sharpening topics, I thought it would be helpful to explore several of the available Photoshop plug-ins for sharpening in this chapter, and then in the next chapter, look at the details for some sophisticated actions and scripts that I share freely with the digital photography community.

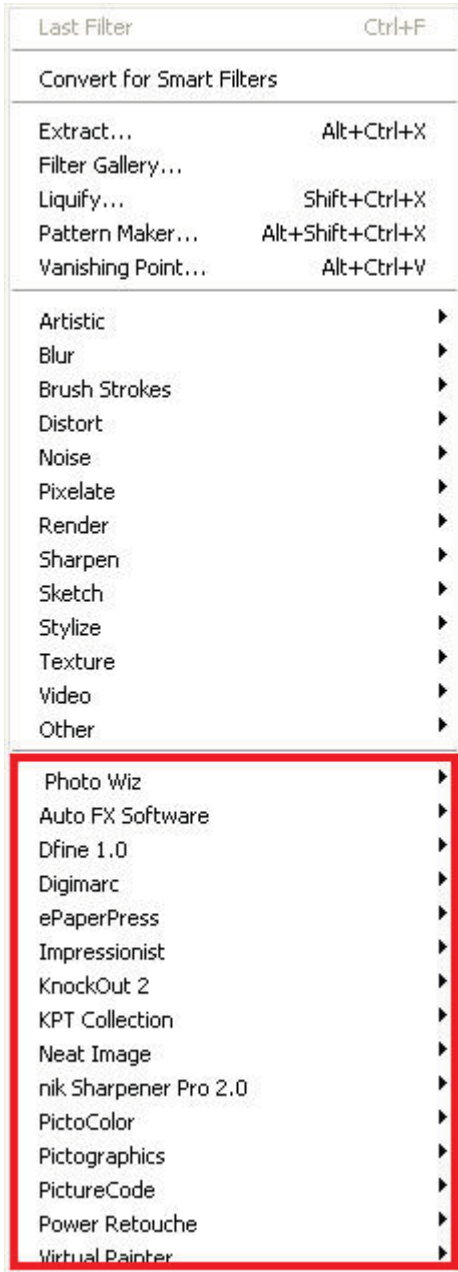
Third-Party Sharpening Plug-ins

There's a large handful of commercial sharpening tools. I only review tools that I purchase and use (at least occasionally), so you only need to suffer through a handful of reviews. Unlike most of the authors with blogs and digital photography sites, I don't accept free copies of software (or hardware) to review. At a minimum, it provides the appearance of a conflict of interest.

People who accept free copies will tell you their opinion can't be bought. I'm making a general statement and impugning no particular individual, but I'll flatly say that I'm not so sure. By reviewing software I buy myself and use, I'm more familiar with the product and have no reluctance about giving readers my candid opinion. Getting the next release for free is not a consideration for me.

I own a small handful of commercial sharpening tools that integrate into Photoshop. Others might disagree, but I believe these are the most popular and best of the available plug-ins.

If you're unfamiliar with plug-ins, Adobe Photoshop exposes an application programming interface (API) that software developers can use to add new functionality. More precisely, Photoshop exposes several different programming interfaces.



Filter plug-ins

The most popular commercial method adds new functionality through the **Filter** menu. Several popular photo editors can also use these filter plug-ins, expanding the market and giving the manufacturers an incentive to make a more professional product. The filter plug-in receives the pixels of the current layer. It can manipulate them and hand back the new modified layer to Photoshop. The main advantage of filter plug-ins is the ability to implement new algorithms for manipulating individual pixels. The most innovative plug-ins usually come packaged as filter plug-ins. The noise reduction plug-ins reviewed in chapter 5 were filter plug-ins.

Automation plug-ins are another method of adding tools to Photoshop. You access those tools from the **File | Automate** submenu. Photoshop CS3 ships with several automation plug-ins. **Contact II**, **Crop and Straighten Photos**, and **Picture Package** are examples. They can only implement the tools and commands available in Photoshop. That makes them similar to actions and scripts. They hide their implementation details, so users can't see how they work or modify them easily, something users can easily do with actions and scripts. Automation plug-ins can also add their own user interface, so they tend to look snazzier than scripts and actions.

Working with a Layer

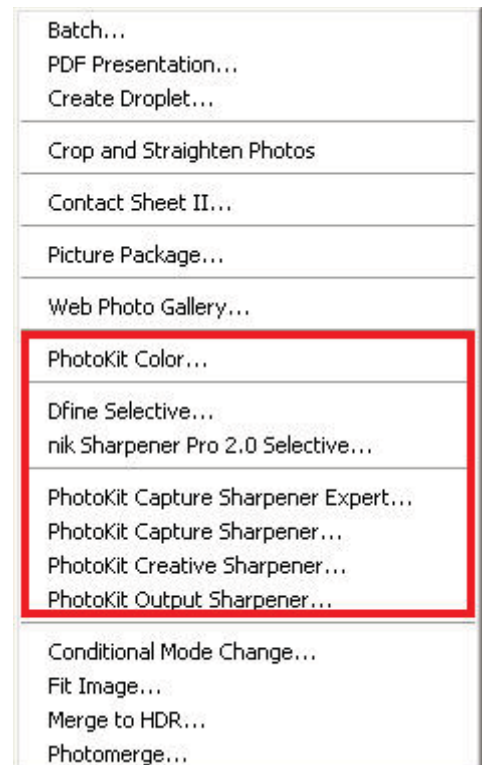
Most of the commercial sharpening tools apply their effects to the current layer. If that's the case with your sharpening tool, take the extra step and create a duplicate layer first and then sharpen that.

Sharpening on a layer with commercial plug-ins gives you extra flexibility, just like it does with the tools and commands that are built into Photoshop. You can adjust the effect by altering the layer's **Opacity** setting, using the **Blend If** sliders, and even try a different layer **Blend Mode**. In the future, the commercial tools will also likely take advantage of the new **Smart Filter** option in Photoshop CS3 to allow subsequent refinement to their filter settings.

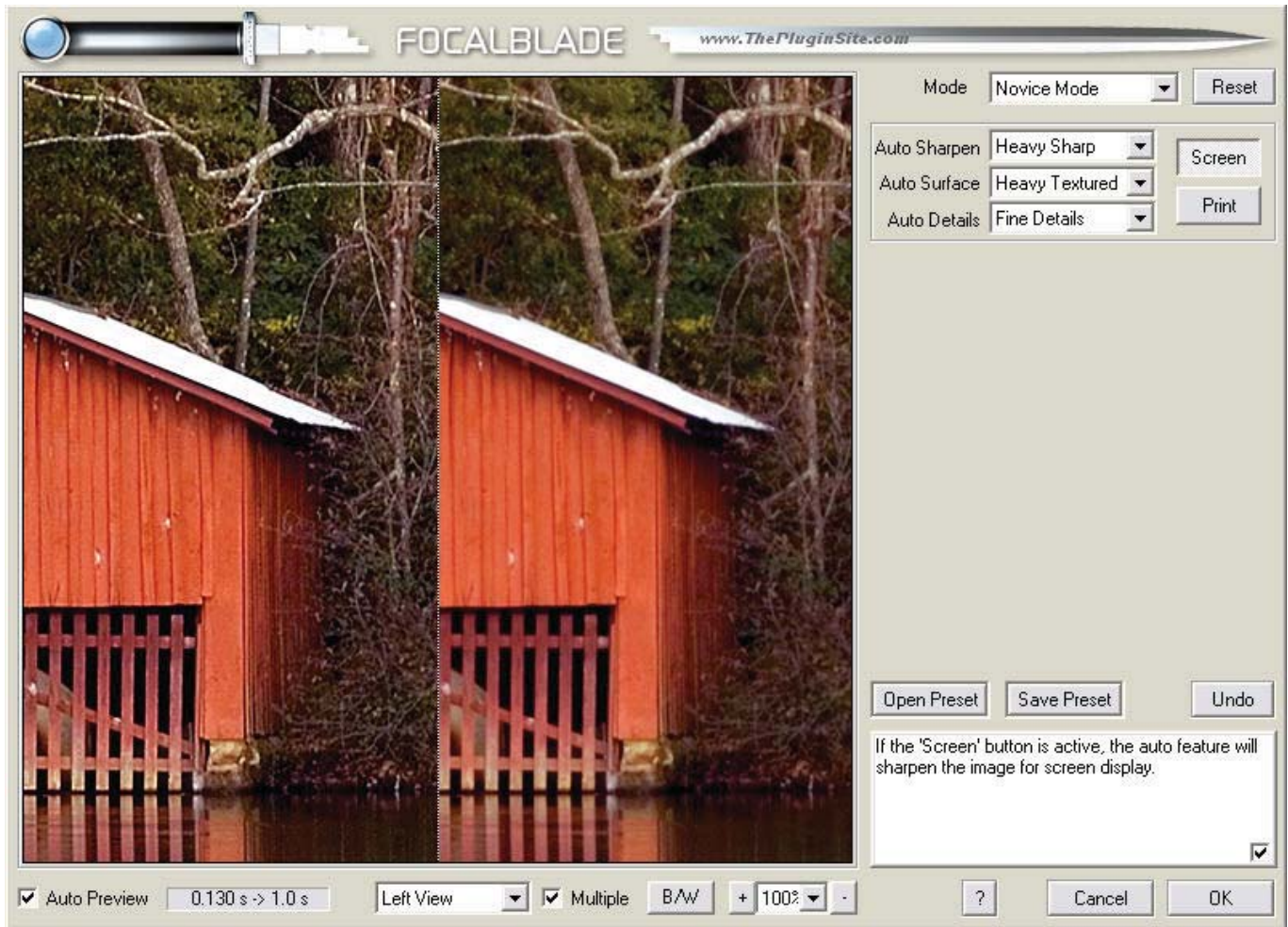
Focal Blade

Focal Blade was my first commercial plug-in for sharpening photos. It's still my favorite.

Focal Blade is marketed by The Plugin Site. The author is Harold Heim. Support is among the best on the Web. Harold answers e-mails quickly. Upgrades are free. E-mail notices are sent out to users to notify them about updates, so they can stay current. Harold



Automation plug-ins



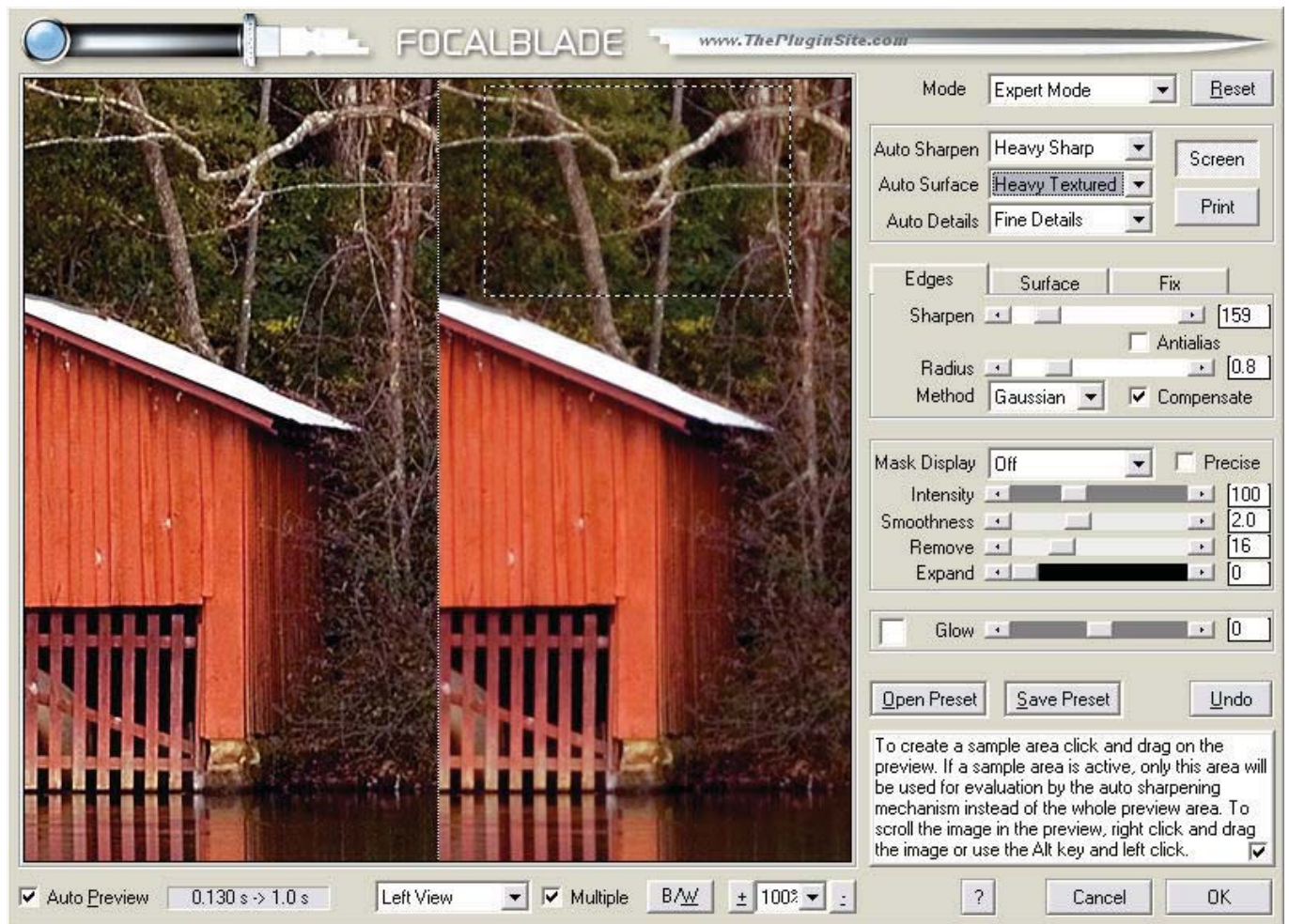
Novice Mode for Focal Blade provides a less complicated user interface. Instead of pulling a slider or entering a number for something like Radius, you select options from dropdown lists with descriptions like Fine Details.

recently sent out a survey to find out the features users want to see in the next version. All of that tells me that Harold has a solid commitment to his customers.

Focal Blade is a very flexible tool. You can work with it in **Novice Mode** until you gain some sharpening experience, and then when you're ready, switch to **Expert Mode** and take control over the sharpening settings. There are thirteen modes in all, letting you focus on just the settings you need to accomplish your work.

One of the distinguishing features of Focal Blade is the ability to sharpen edges and surfaces separately. If you've read through the previous chapters, then you know that images often have a combination of very distinct features with well-defined edges and other features with important details but less distinctive edges. It's difficult or impossible to adequately sharpen both with the same settings.

By default, Focal Blade evaluates the entire preview for its settings recommendations. You can instead make Focal Blade work smarter and focus in on a portion of the preview by dragging out a rectangular marquee. This can be helpful with a photo like the sample for this chapter, where the details in the leaves and finer tree branches are more important than the water or even the surface texture of the boathouse. You can see one of these marquees dragged out on the **Advanced Mode** screenshot on the next page.

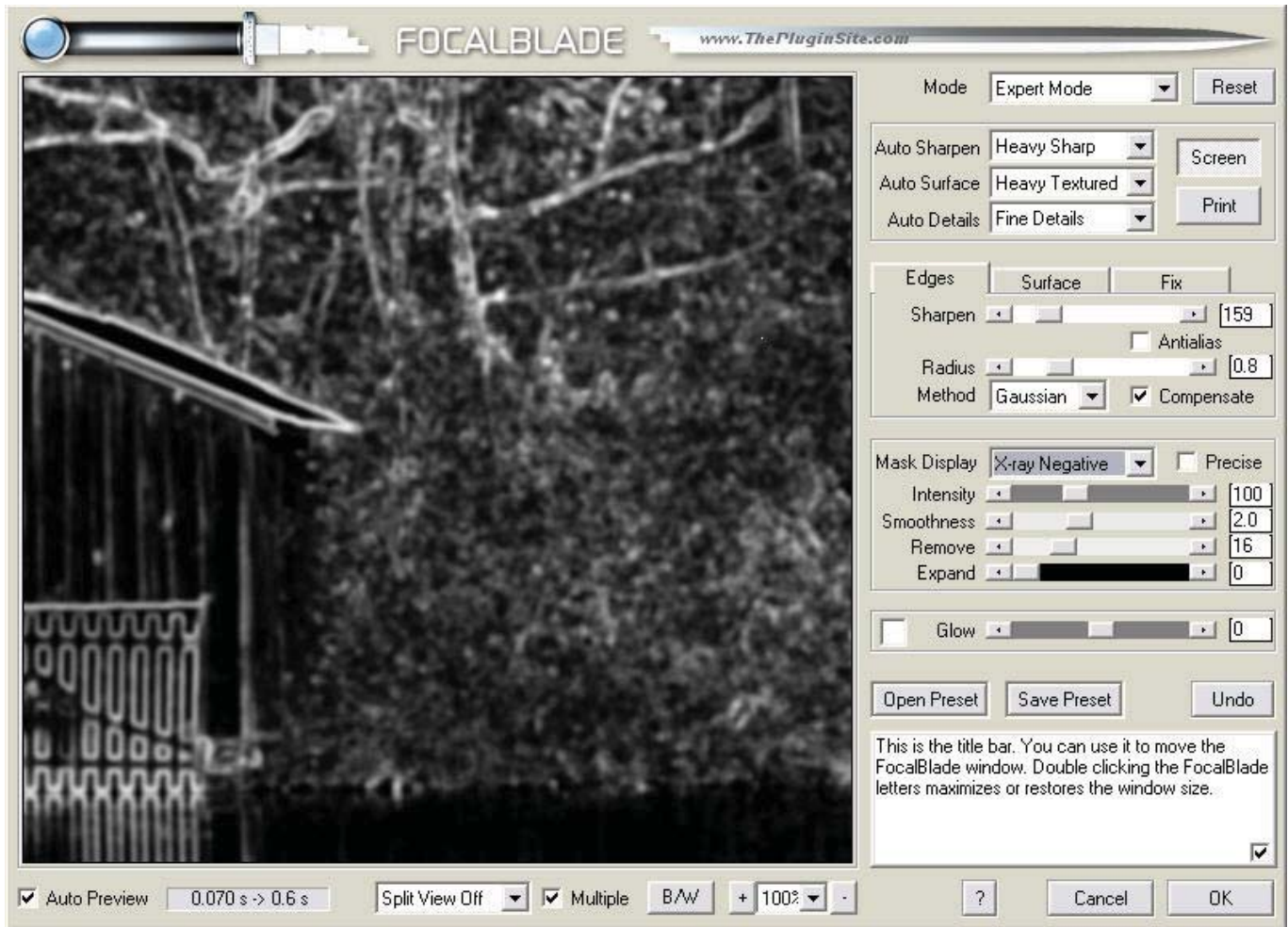


Advanced Mode for Focal Blade gives more control over the sharpening settings. You can drag a slider or enter a number for something like Radius or select options from small descriptive lists. You can decide how much control to take over the sharpening settings.

Focal Blade gives you a lot of options for comparing before/after sharpening effects. I selected **Left View** for the samples in this chapter. As the name suggests, the after version is the left half of the preview. You can put the after effect on the right, top, or bottom. You can also select no split to the screen whatsoever. You can control the zoom, turn off color and look at a black and white version (which can be very helpful), and even view the sharpening mask in various ways. These are all helpful options for deciding on your sharpening settings.

Another distinguishing feature of Focal Blade is a button that toggles between **Screen** and **Print** previews. When you select **Screen**, the automatic settings behind the descriptive names are optimized for photos that are intended for the Web or viewing on a computer screen. Select **Print** instead and the settings will result in a photo with a “crunchier” look for printed output.

You can also use Focal Blade to give your photos an artistic blur, soft focus, or glow effect. Again, you can let Focal Blade make automatic setting recommendations or you can take creative control. You’re not limited to automatic or manual, either. Whether you use Focal Blade to sharpen or apply a blur, you can run it on automatic, manually, or with varying degrees of automation.



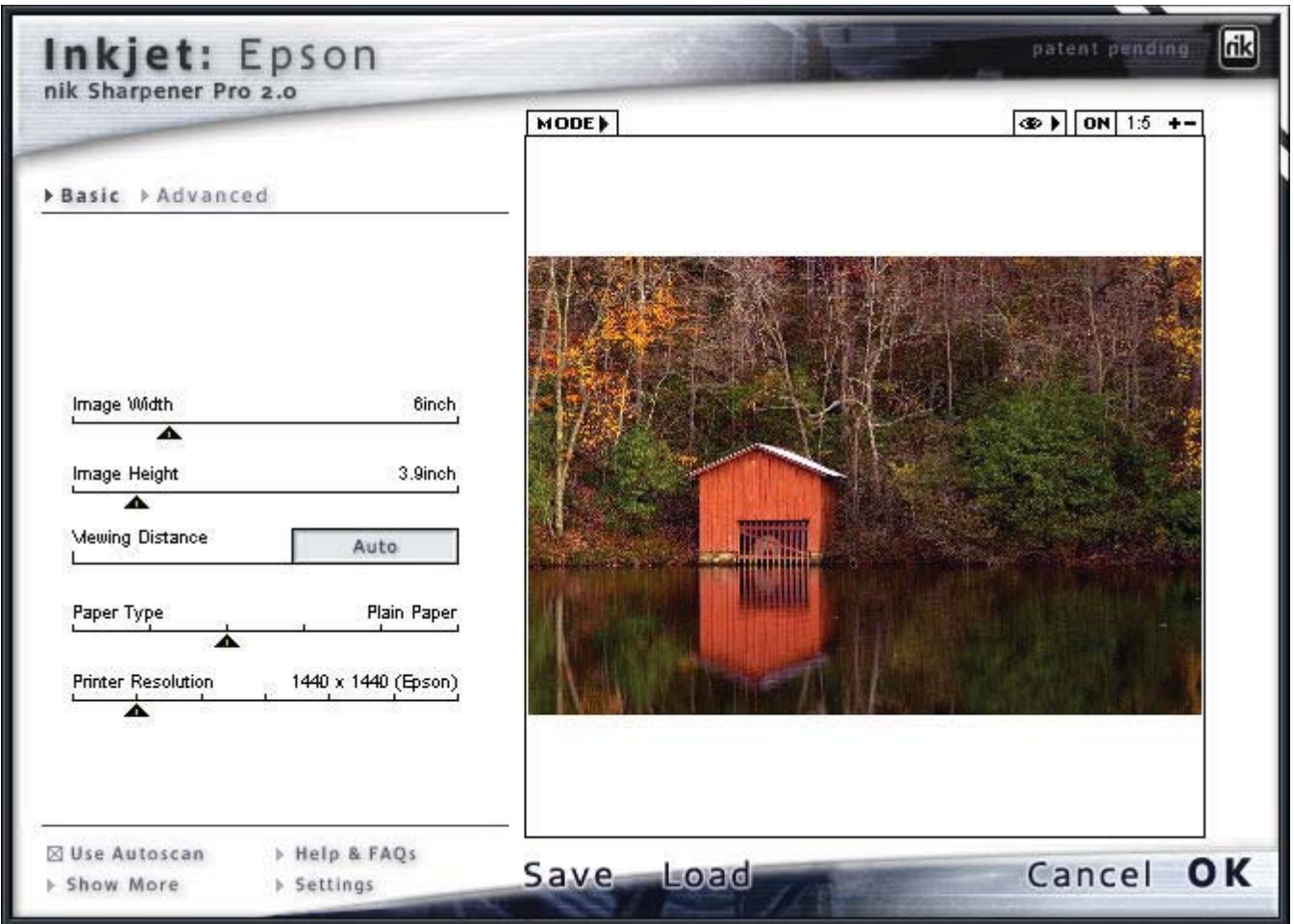
Focal Blade gives you a lot of control over the sharpening mask. You can control the width of the edges, filter out smaller details and noise, and view the mask in a variety of ways.

As you develop more expertise with sharpening, you'll come to appreciate how Focal Blade lets you apply some more sophisticated algorithms for sharpening. Because Focal Blade analyzes and adjusts individual pixels, Harold Heim decided to give it some additional sharpening smarts. He also added light and dark halo fix sliders, too. There's even highlight/shadow sliders for even more control over the sharpening effect.

I have always appreciate the large tip window at the bottom right corner of Focal Blade. Hover over any setting or option and Focal Blade will give you helpful descriptions.

The quality of the sharpening mask has a large effect on sharpening. You already know from previous chapters that a well-defined edge mask can allow for increased sharpening without making noise into a visible problem. Focal Blade has a comprehensive palette of settings to control the generation of the sharpening mask.

Focal Blade can be used in dozens of graphics applications including Photoshop, Paint Shop Pro, PhotoImpact, Photo-Paint, Fireworks and Photoshop Elements under Windows as well as MacOS X and natively in Photoshop CS3 on Intel-Macs. It works with 8-bit and 16-bit RGB and grayscale images. You'll also find that Focal Blade is reasonably priced. More information is available at <http://www.thepluginsite.com/products/photowiz/focalblade/index.htm>.



nik! Sharpener Pro provides a handful of sharpeners for different output devices. There are even sharpeners for different inkjet printers that incorporate information about how image pixels are converted by these devices into printed dots.

nik! Sharpener

nik! Sharpener comes in several variants. For example, there's a modestly priced inkjet version that will serve the needs of most hobbyists. This review will look at the complete package, nik! Sharpener Pro. The pro version adds filters for photo labs and prepress work.

Focal Blade and Power Retouche Sharpen know nothing about multipass sharpening. You can kludge them to work with a multipass sharpening workflow, but they weren't really designed for capture sharpening or the selective application of creative sharpening. PhotoKit Sharpener from Pixel Genius was designed from the start to be used with multipass sharpening. You can use it for sharpening in one or two passes, but you'll forego some of its sophistication. nik! Sharpener takes a middle road. The original version was designed for single pass sharpening at the end of the workflow. Version 2.0, the current version, adds support for RAW presharpening and brushed in selective sharpening for creative effects.

One of the distinctive features of nik! Sharpener is the inclusion of viewing distance in the calculation of optimal sharpening settings. Output considerations are a big part of nik! Sharpener. There are different sharpeners for several classes of output devices. Some even specific to the manufacturer of inkjet printers. The example above is the sharpener for Epson printers, my choice for my inkjet printing.

With Focal Blade, you could go automatic, semi-automatic, or manual right from the same dialog. *nik!* Sharpener doesn't let you take control over the sharpening settings used "under the hood." Not even the **Advanced** option exposes settings like **Amount** or **Radius**. You instead select viewing distance (or leave that on automatic, which is based on image size), paper type, and printer resolution. *nik!* Sharpener handles the sharpening settings automatically. I miss the display of the sharpening settings from version 1.0. You couldn't adjust them, but you had the comfort of seeing them.



nik! Sharpen Selective lets you paint the sharpening effect in or out.

nik! Sharpener is really two separate tools. *nik!* Sharpener appears on the **Filter** menu. *nik!* Sharpener Selective is the tool to use when you want to paint in (or paint out) the sharpening effect. You access *nik!* Sharpen Selective from the **File | Automate** submenu. I don't like this separation across two different menu trees but that's a personal nit.

The earlier version of *nik!* Sharpener tended to be more aggressive in its sharpening settings, even when you selected the softest among possible setting. Version 2.0 seems to be less aggressive. Keep in mind, you can use Photoshop's **Fade** command immediately after you apply *nik!* Sharpener, since it is a filter. You can also follow my advice and sharpen on a layer and then reduce the opacity of the layer.

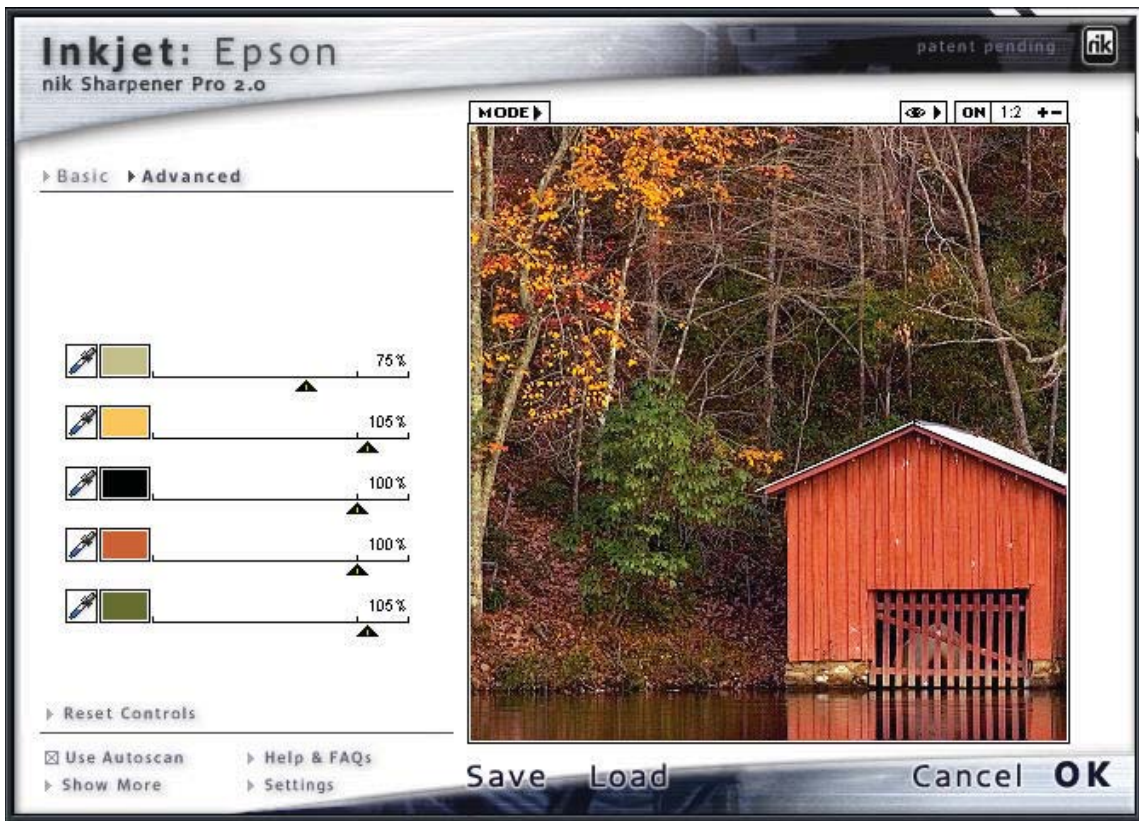
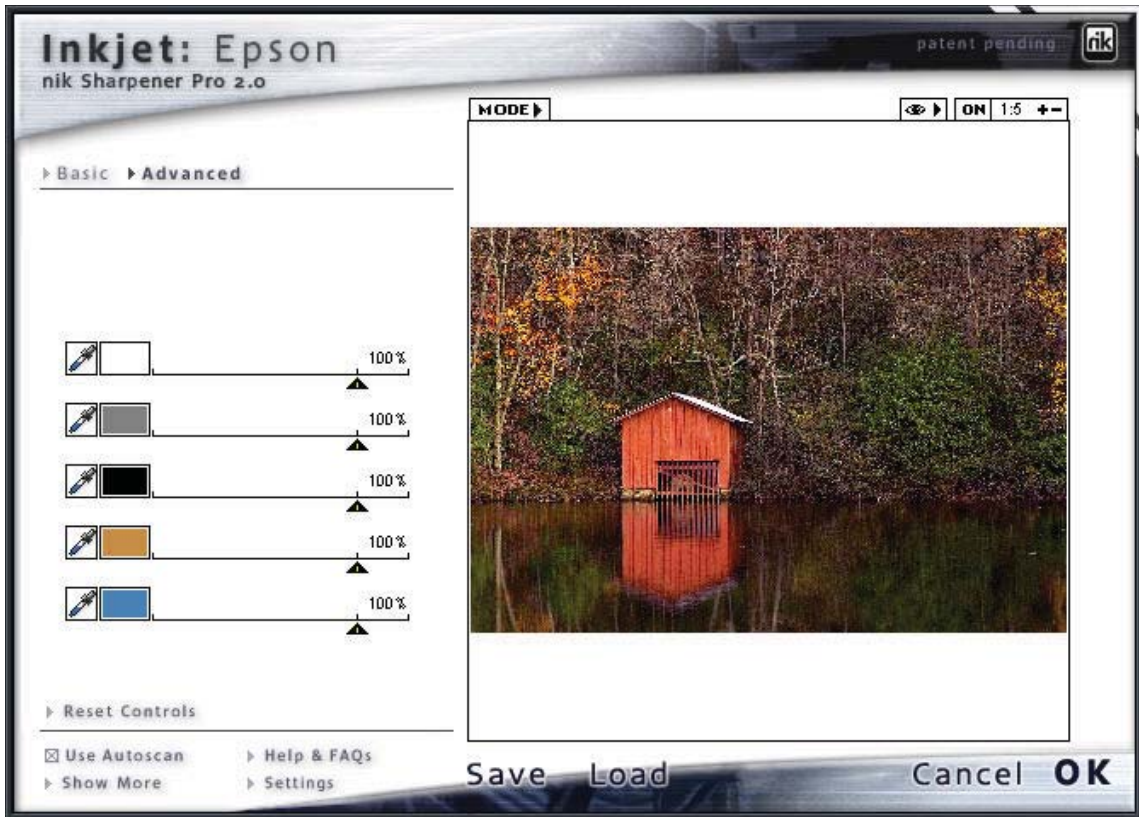
If you work with large batches of photos, you'll appreciate the ability to use *nik!* Sharpener for unattended sharpening. You can create presets and store them. Once you decide on the parameters for a batch of prints -- viewing distance, paper type, printer resolution, and output device -- it's easy to apply those settings to an entire batch of photos. This is very helpful for wedding and event photographers who sometimes need to sharpen hundreds of photos in a single batch.

The RAW presharpening filter offers little control. There's just one slider: **Strength**. You drag it, watching the preview window. If you use Photoshop CS3, you're better off using the sharpening in Adobe Camera Raw 4.1. If the only alternative is Adobe Camera Raw or the RAW presharpening filter in *nik!* Sharpener, I wouldn't bother with the RAW presharpening filter in *nik!* Sharpener at all and use Adobe Camera Raw for capture sharpening.

The Display sharpener, which is used for Web images, also offers minimal control. Again, just a **Strength** slider.

You can also use any of the Photoshop selection tools to limit where your brush strokes will be applied. A very nice feature!

nik! Sharpen Selective actually uses a layer mask. When you finish with *nik!* Sharpen Selective, the layer mask is left intact, making it



nik! Sharpener Pro lets you tune the sharpening effect for different colors and tones in your photo.

possible to refine the creative sharpening effect in a later editing session. This is important, since too much aggression with creative sharpening can result in over-sharpening at output. It helps to be able to step back and tone down a creative round of sharpening.

The **Advanced Mode** lets you tune the sharpening effect for different color ranges. You can see the defaults in the uppermost example on the previous page. In the example underneath, I used the eyedroppers to select color ranges more appropriate to the sample image.

nik! Sharpener comes with excellent documentation. You can learn a lot about sharpening from the manual. In fact, everything about nik! Sharpener is very professional. That's true of the documentation, the packaging, and the dialog windows. Where other software packages provide a busy or minimalist interface, nik! Sharpener provides a very clean and elegant user experience.

Many users will find the price to be more than they're willing to pay. At the time of writing, nik! Sharpener Pro is \$329.95. The inkjet and Internet version costs about half that at \$169.95. If you adopt Michael Reichmann's viewpoint and weigh the cost against the hundreds or thousands of photos you're likely to sharpen, it's not all that expensive. When you compare it to Focal Blade at \$49.95 or PhotoKit Sharpener at \$95 and realize you can get equally good results with either of those tools, you have to really like the polished user interface in nik! Sharpener Pro.

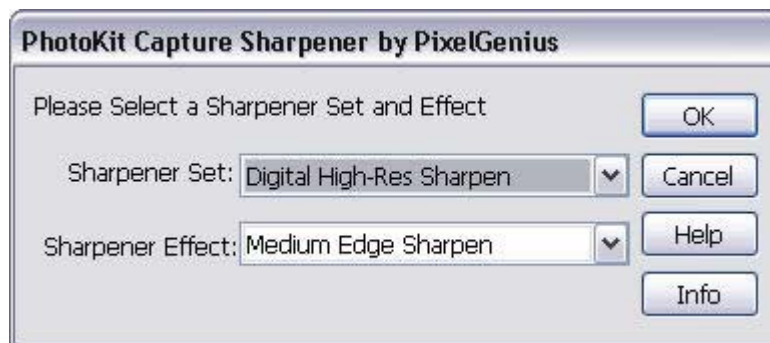
Visit <http://www.niksoftware.com/sharpenerpro/usa/entry.php> for more details.

PhotoKit Sharpener

If you're convinced about the advantages of multipass sharpening, then you'll want to take a close look at PhotoKit Sharpener from Pixel Genius. The tool was designed to implement Bruce Fraser's sharpening philosophy.

You can use PhotoKit Sharpener with the traditional one-pass at the end of the workflow approach. If you do, you'll want to focus your attention on the output sharpeners.

You access PhotoKit Sharpener from the **File | Automate** submenu. The reason is obvious. The sharpening tools in PhotoKit Sharpener are just compiled versions of Photoshop scripts/actions. Unlike Focal Blade, nik! Sharpener, or Power Retouche Sharpness Pro, there are no new sharpening algorithms in PhotoKit Sharpener. Using compiled



The capture sharpener in PhotoKit Sharpener offers the merest user interface.

code does speed the operation compared with interpreted scripts/actions and allows PhotoKit Sharpener to offer a minimalist user interface.

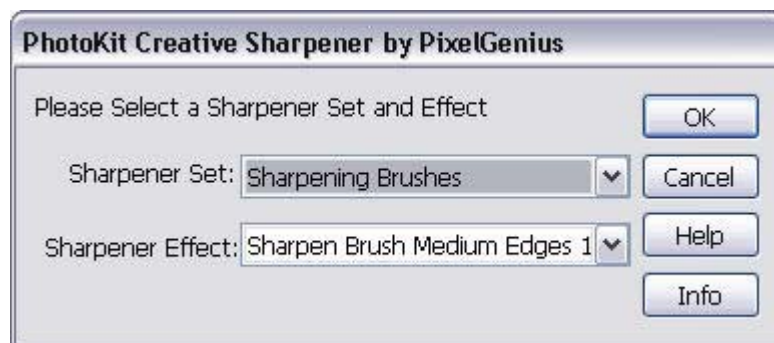
If you're the sort of digital photographer who wants to take control over the sharpening and fine tune the automatic results, you'll want to use another sharpening tool. The partners at Pixel Genius are so convinced that their settings are optimal that their tools offer very little control over the sharpening effect. For example, if you take a look at the PhotoKit Capture Sharpener screenshot on page 235, you'll notice that you can select the image source and the width of the sharpening mask. That's it. There's a PhotoKit Capture Sharpener Expert tool, but don't expect "Expert" to mean more control over sharpening settings. Nope. The user interface is the same. The expert sharpener leaves a layer mask that you can edit to adjust where capture sharpening is applied.

The only control that PhotoKit Sharpener gives you is adjustments to the layer itself. That pretty much limits you to adjusting **Opacity** and/or **Blend Ifs**. PhotoKit Sharpener sets the default opacity at less than 100%. The amount varies, but it tends to be between 75% and 50%, depending on the sharpener. That might not sound like a lot of control, but it does give you considerable headroom to adjust the effect.

Unlike most of the commercial sharpeners, PhotoKit Sharpener works non-destructively with images. Everything is done on a layer. The downside is that the files can grow very large, because most of the sharpening effects involve a couple of layers, one each for the light and dark sharpening halo contours. I've hammered away at this point already: I always work with layers, and I appreciate tools that work that way, also. If you need to reduce the file size, you can flatten the image after you run one of the sharpeners.

Photokit Sharpener uses masks to focus sharpening along distinct edges. You can select from wide, medium (the general-purpose default), narrow, and extra narrow. The partners at Pixel Genius put a lot of thought into the interaction between masks, **Blend Ifs**, and sharpening settings. The final sharpening effect is an interaction of all three.

The capture sharpening settings are tuned to different classes of capture devices. There are capture sharpeners for a range of digital cameras and scanned film. There are variants that apply noise reduction and/or JPEG artifact reduction, too. Output sharpeners, likewise, are also specific to different devices. PhotoKit sharpener doesn't go to the extreme of separate sharpeners for Canon, Epson, and HP inkjet printers, but it does recognize that sharpening for the Web, prepress, continuous tone, and inkjet printers requires different approaches both to sharpening method and sharpening settings. Most of the output sharpeners use a round of USM followed by a round of High Pass filter sharpening.



The creative sharpener in PhotoKit Sharpener provides a lot of options for enhancing photos.

I don't know if PhotoKit Sharpener was the first commercial sharpening tool to include the idea of brushing in creative sharpening effects. It certainly has extended that idea the furthest. There are sharpening brushes and smoothing brushes. Even that simple list doesn't give a full appreciation of how many creative effects can be brushed in. There are haze cutter brushes, depth-of-field brushes, fog brushes, diffusion brushes, etc.

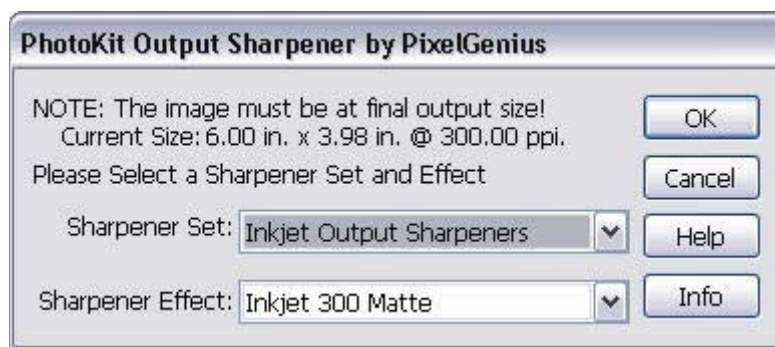
Magic numbers. I've seen a lot of settings tossed around in forums and in books by pros like Jack Davis and Scott Kelby. It's quite common to read a chapter or article on sharpening and see a handful of generic settings tossed around. PhotoKit Sharpener is a more sophisticated variant on this idea. The partners in Pixel Genius are not reticent about claiming their sharpeners provide optimal sharpening. What scientific evidence is there for this claim?! There's none. It's a naked assertion. If you ask, the partners at Pixel Genius will gesture at their years of experience, quote testimonials, etc. In other words, they'll change the subject and make it about them and not provide any demonstrable evidence that their sharpener provides optimal results.

I think this claim about optimal sharpening is important. There is no standard test target for comparing sharpening tools. There are no agreed-upon scientific measures that can be used to say this image has been sharpened optimally, another undersharpened, and a third oversharpened.

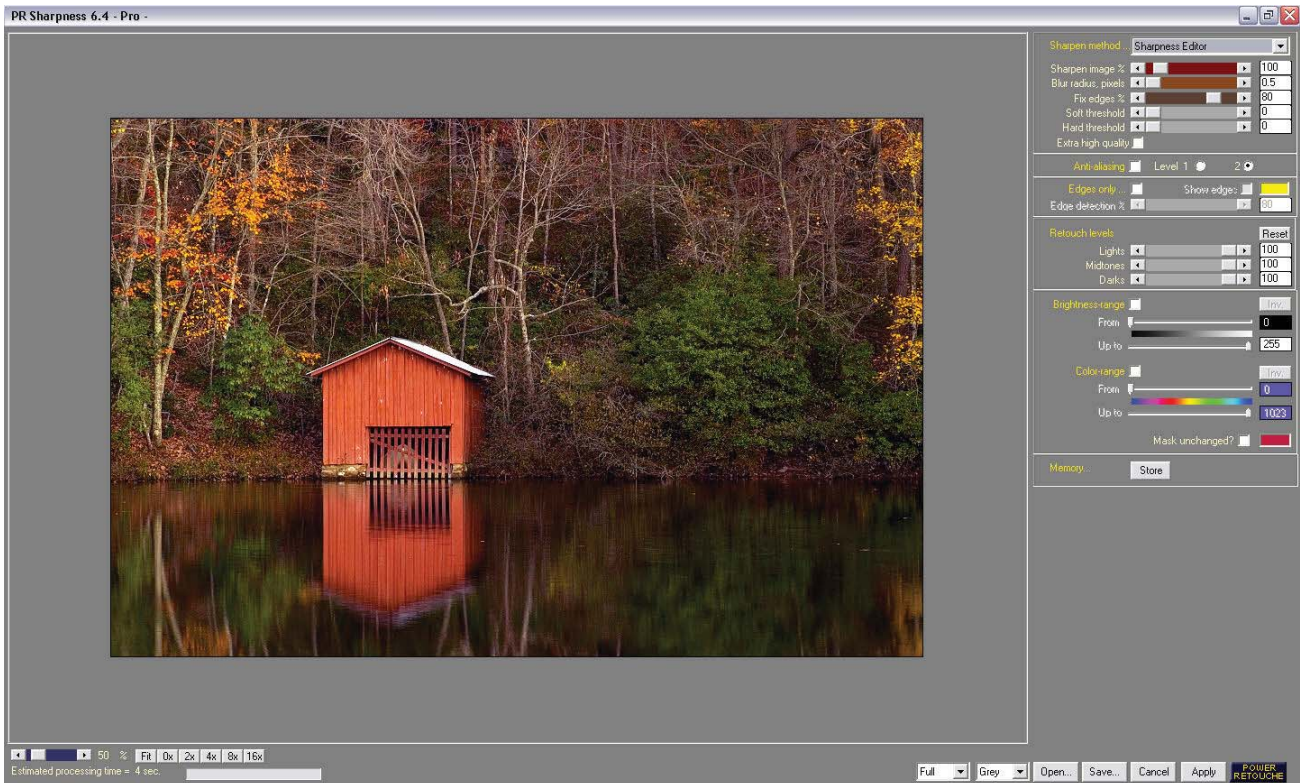
You can use a tool that has presets for its sharpening settings and obtain excellent results on many images. You can adjust **Blend Ifs** and **Opacity** to adjust the sharpening effect and obtain excellent results on a wider range of images. This is what PhotoKit Sharpener offers. There is no question that you can obtain excellent results.

Magic numbers have their utility, if they are well-chosen. They make it easier for batch processing of photos. If you can select something like high resolution digital camera and medium edges for a whole wedding photo shoot and get reliable results that are acceptable to your customers, that's a valuable tool for the wedding photographer. Magic numbers also work well if your standards are not extreme. I'm obsessive about my prints, however. I might spend as much time on a single photo as a wedding photographer might spend on correcting and sharpening a batch of 250 photos. Critical standards can demand more control over the final sharpening effect than a preset can offer.

The sharpening settings in PhotoKit Sharpener are obviously well-chosen. They work very well on a wide range of images. It's not easy to come up with a combination of sharpening settings and layer style settings to handle inkjet printers at 300 dpi on matte paper, then do that for glossy paper, then again do it for 240 dpi for both paper types, repeat it for a handful of additional printer resolutions, and then do the same for other output devices. I've spent man-months doing it for my sharpening actions and scripts.



The output sharpener in PhotoKit Sharpener is tuned for a number of output device and paper combinations.



Power Retouche Sharpness is available as a single filter or part of a comprehensive package of photo editing tools that plug into Photoshop and several other photo editors.

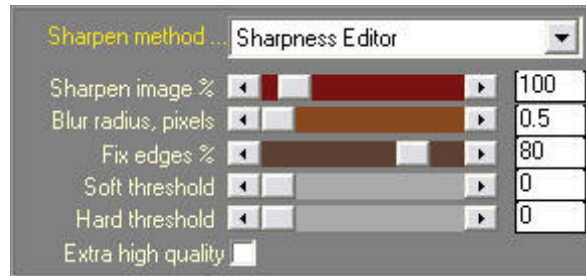
I'll state flatly, I don't think the sharpening results with PhotoKit Sharpener are optimal. PhotoKit Sharpener is my second-most preferred commercial sharpening tool. It does a very competent job of sharpening and it's a very reliable performer. But PhotoKit Sharpener does sometimes oversharpener or undersharpen an image. In most of those cases, a simple adjustment to Opacity or the Blend Ifs is sufficient. Occasionally, there's an image where you can do better with a different sharpening setting altogether (such as a different Radius setting) and PhotoKit Sharpener just doesn't give you that flexibility.

You can learn more about PhotoKit Sharpener at <http://www.pixelgenius.com/sharpener/info.html>.

Power Retouche Sharpness Pro

Power Retouche plug-ins are a comprehensive set of photographic retouching tools for use with Photoshop. They're also compatible with other photo editors that accept Photoshop plug-ins. While the individual tools are marketed individually, most digital photographers will probably prefer to buy them as a collection.

Power Retouche Sharpness Pro offers several sharpening methods. Most are minor twists on USM sharpening. There's Gentle Unsharp Mask (GUM), Enhanced Unsharp Mask, Sharpness Editor (SHED), Smart Sharpen (designed for JPEGs), and a de-focus Blur. The documentation, which is online and poor in quality, states the Enhanced Unsharp Mask is obsolete. So, why is it still an option?! Especially when the user interface is already rather cluttered. GUM is best used on photos with very little noise. SHED is the work horse. It's the recommended method for most images. Smart Sharpen works like Enhanced Unsharp Mask with some extra control over JPEG artifacts. If that sounds confusing, the documentation isn't much clearer.



The main sharpening controls for Power Retouche Sharpness Pro.

You can see the main sharpening controls in the figure above. Sharpen % corresponds to USM Amount. Radius has the same meaning in USM. Hard Threshold is the USM Threshold setting. Fix Edges % and Soft Threshold are unique to Power Retouche Sharpness. Fix Edges % detects specular highlights along edges and controls how they are handled. Soft Threshold makes the transitions smoother between sharpened and unsharpened pixels that can result from the Hard Threshold setting. All of this gives you a lot of control over aliasing along the distinct edges of your photo. Power Retouche Sharpness Pro also provides considerable control over where sharpening occurs. There are both tone and color controls that can throttle sharpening in selected portions of a photo.

If you want to automate your sharpening and apply it to a batch of photos, you'll be very disappointed. Power Retouche Sharpness Pro doesn't work in unintended mode. You'll be taken to the editor for each photo.


Power Retouche Sharpness Pro wasn't designed to work with multipass sharpening. The documentation talks about using multipass sharpening. It even recommends multipass sharpening. But the discussion is a real muddle and appears to be an after-thought addressing an issue raised by potential customers. It doesn't even address creative sharpening at all.

If you adopt Power Retouche Sharpness Pro, I recommend you run it on a duplicate layer. Keep your options open. If you want to do some creative sharpening, you can add a layer mask.

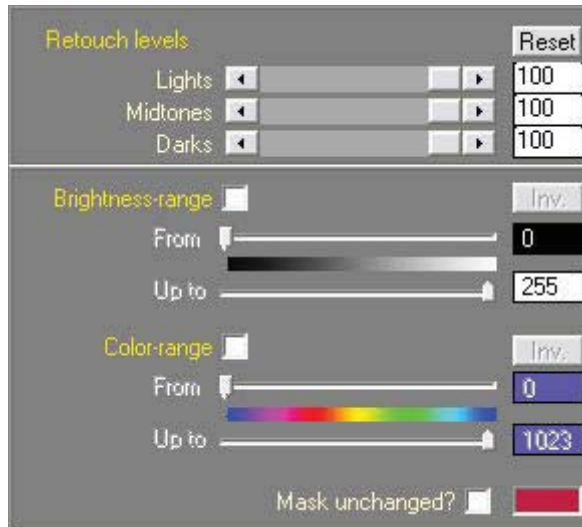
In practice, Power Retouche Sharpness Pro works extremely well. You can fine tune the sharpening effect quite nicely. The anti-aliasing controls are helpful for avoiding high contrast edges along your sharpening halos.

More information on Power Retouche is available from <http://www.powerretouche.com>.

Which Tool Is Best?

The sample photo in this chapter has a range of detail. There are areas with low frequency details. Then there's the trees, with their finer branches and twigs. There's leaves of different sizes and shapes. Highly saturated colors. I wouldn't argue it's a great test target, but I did try each of the sharpening tools against it. You can load the results into your photo editor. It's called **DesotoFallsBoathouse_SharpeningPlugins.psd** and it's  located in the \SharpeningTools subfolder.

I want to be clear on this point. The sample file shows examples from each tool using their automatic or default settings (whichever was appropriate). There's no doubt that you could improve on the result by refining it, choosing to tweak the automatic settings, or by applying settings manually.



Controls to restrict where sharpening gets applied.

You'll see 6" x 4" samples of each sharpening result on the following pages. I started with the unsharpened original. I also included the result from my own sharpening script. Again, using the defaults. More about my sharpening script in the next chapter.

Each of the sharpened photos is a significant improvement over the unsharpened original image. The automatic settings result in a photo from Focal Blade and Power Retouche Sharpness Pro that appear less sharp than the other tools. Finesse the settings in either and you could obtain results that mirror the others.

I've used all four of these tools on hundreds and sometimes thousands of photos. It's my personal experience that none of these tools consistently outperforms or underperforms the others. Take an unsharpened photo at random and use the automatic mode or the defaults and any of these tools can show a slightly sharper (or softer) result. Learn how to work with any of these tools and you can reliably obtain sharp photos. In terms of sharpening ability, none of these tools is "best."

The workflow for these tools is very different. To my mind, that's the more meaningful comparison. Which tool fits in better with how you edit your photos? That's a matter of personal preference. If you expect to work on batches of photos, no need to think about Power Retouche Sharpness Pro. If you tend to use automatic modes and hardly ever make any adjustments after the sharpener finishes, there's PhotoKit Sharpener. If there are occasions when you're pressed for time so you use automatic sharpening but there are other occasions when you want to take full control or at least some control over the sharpening settings, then Focal Blade will probably be a better fit for you.

Price is also a pertinent consideration. Focal Blade and Power Retouche Sharpness Pro are less than \$50. PhotoKit Sharpener is under \$100. nik! Sharpener Pro starts at \$170. I don't expect a tool that costs \$170 to be three times as good as a tool that costs less than \$50 but it's a harder sell when you can obtain equally good results with either tools.



Unsharpened original.



Focal Blade.



nik! Sharpener Pro



PhotoKit Sharpener.



Power Retouche Sharpness Pro.



My free TLR Professional Sharpening Toolkit

