Focus Magic (htpp://www.focusmagic.com)

Focus Magic ($45) is a remarkable piece of software. It's an honest-to-God real sharpening algorithm that works as a stand-alone program or a Photoshop plug-in. I'll spare you the math about how it works. What's important is that this is not a mere edge-enhancement routine like most so-called sharpening filters; this one actually undoes the blur.

Focus Magic can remove motion blur as well as out-of-focus blur (Figure 3-17). Sometimes its improvements are astonishing. It cannot work true miracles; I'd estimate that usually it's limited to about a factor of two gain in real fine detail and sharpness; that's often enough to take a lousy photo and turn it into an acceptable one or make a borderline photograph really sharp.

The cleaner and more noise/grain-free a photograph is, the better Focus Magic will work; it indiscriminately sharpens noise and grain just as much as image detail. This can produce objectionable artifacts, especially in areas that demand smooth tonality, like faces. Focus Magic has settings that will minimize these artifacts at the expense of some efficacy. Its default source setting is *Digital Camera*, which requires a very noise-free original. Unless your photograph has almost no grain, dirt, and noise, the *Grainy Image* source setting will work a lot better. That may give sharpened photographs a slightly plastic look, with sharpened edges but smoothed-out continuous tones.

I use Focus Magic to help deal with textured photographs, especially those printed on that annoying "honeycomb" paper surface that used to be so popular and creates so much trouble when I scan it. It's not hard to get rid of that texture with one or another of the noise or blur filters in Photoshop, but that almost always degrades the fine detail in the photograph. An adroit use of a filter to remove the paper texture followed by an application of Focus Magic often eliminates the paper texture with little or no loss of any actual image detail (Chapter 8, page 307).
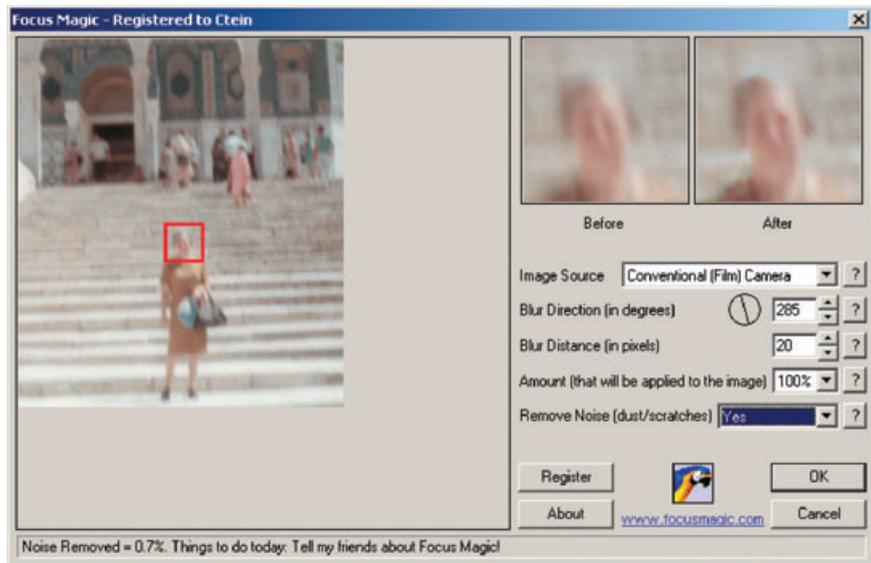
Focus Magic - Registered to Ctein

Before   After

Image Source   Conventional (Film) Camera
Blur Direction (in degrees)   285
Blur Distance (in pixels)   20
Amount (that will be applied to the image)   100%
Remove Noise (dust/scratches)   Yes

Register   About   www.focusmagic.com   OK   Cancel

Noise Removed = 0.7%. Things to do today: Tell my friends about Focus Magic!

Focus Magic - Registered to Ctein

Before   After

Image Source   Conventional (Film) Camera
Blur Width (of an edge, in pixels)   Detect   6
Amount (that will be applied to the image)   100%
Remove Noise (dust/scratches)   Auto

Register   About   www.focusmagic.com   OK   Cancel

Noise Removed = 0.2%. Try adjusting the Blur Width until you get the best result.

Fig. 3-17 The plug-in version of Focus Magic can remove motion blur (top photo) and out-of-focus blur (bottom photo). It will actually retrieve detail that is invisible in the original photograph. Here, I used it to correct both camera shake and bad focus that afflicted this snapshot. Focus Magic can also be used to pull maximum detail out of already-sharp photographs.

Given that many of the photos we get to restore aren't really sharp, this tool is great to have. With a low-noise photo, the results can border on the unbelievable (Figure 3-18). I apply Focus Magic in some fashion or another to many photographs I restore. Even when working with high-quality scans from my own original photographs, I often apply Focus Magic with a one-pixel radius setting to subtly enhance fine detail and kick up the edge sharpness a bit.

Fig. 3-18 On the left, the snapshot before Focus Magic. On the right, the improvements Focus Magic wrought. The plug-in turned an unusable photograph into an acceptable one. With a better original, Focus Magic can make a marginal photograph excellent.

As a stand-alone program, Focus Magic has some features that aren't available through the plug-in. The *despeckle* filter does a very good job of descreening scans of halftone photographs. It minimizes the halftone dots and extracts the maximum amount of real image detail at the same time (see Chapter 9, Tips, Tricks, and Enhancements, page 320, for other good ways to descreen halftones). It's fast, too. The big disadvantage of the stand-alone program is that it can only open and save JPEG files. The plug-in works on any file that can be opened in Photoshop.