

Software Review - AKVIS HDRFactory

By Mark Mattson, Computer Users of Erie

Even though the technique has been around a few years now, one of the hottest new trends in digital imaging is the use of HDR tools to give your photos an extra punch, and thereby increasing their impact.

HDR stands for High Dynamic Range. But what exactly is it, and why is it so popular?

The dynamic range of a scene is the difference in brightness between the darkest areas and the brightest areas of a given image. Digital cameras have a dynamic range of around 7-10 f-stops, negative film between 10-12 stops, and the human eye on the order of up to 24 stops.

A typical example of a scene that has a wide dynamic range is that of being inside a room in your home, with a bright, sunlit day outside.

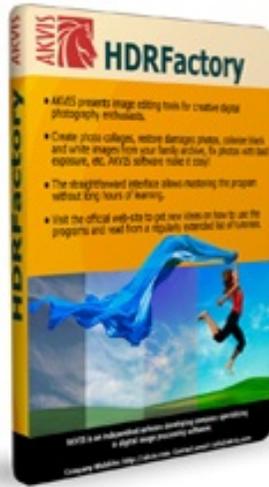
Viewing this scene with your eyes you'd not really notice anything unusual. The room would appear normally lit, with dark, possibly almost black shadows under things, while the outdoors would appear brightly lit, colorful and normal appearing as well. Human visual range is much wider than that of film and digital cameras, so you can see this view normally.

If you would take a photo inside that room, you'd have an exposure that would show the room pretty much normally exposed, but the view through the windows would be 'blown out', or very highly over-exposed, showing as nothing more than a bright, almost white area.

In the traditional 'wet' darkroom of the past, to get a photo that would not only show the interior of the room properly as well as the view out the window, you would need to spend hours dodging and burning the print, trying many different combinations of exposures to arrive at the final image. If you were very lucky, you could repeat this for as many prints as you would need. But a change in chemistry or paper could mean starting all over again. Lots of wasted time and materials...and money.

The advent of digital imaging and processing has greatly simplified the process in producing an image that records all the details you can see in the original scene. By utilizing a series of exposures, HDR processing tools can merge them all together into an incredibly detailed view of what would take an incredible amount of time to produce any other way.

One of the newest kids on the HDR block is from AKVIS, known as HDRFactory. Released on March 17th of this year, it has a simple yet powerful feature set that allows you to produce high quality images.



System Requirements

Due to the processing needed to produce an HDR image, software of this class takes some hefty system resources to operate efficiently and quickly.

The minimum recommended system configurations are:

Windows: Pentium II CPU with 1GB RAM, 100 MB free hard drive space, a video card with 32 MB RAM and DirectX v8 compatibility running at 32 bits per color and a monitor capable of 1024x768 resolution.

Mac: Intel/G4, 1GB RAM, 100 MB drive space, and a 1024x768 display resolution.

Recommended configurations give you more processing power:

Windows: Dual core CPU with 2GB RAM and hard drive space, display card with 128 MB RAM, DirectX v8 compliant and a display resolution of 1280x1024 at 32 bit color depth.

Mac has the same requirements as the Windows platform, but running on an Intel/G5 platform.

There is not a CPU speed rating listed for the software, either as a minimum or recommended value. In any case, the faster your CPU clock speed, the faster your processing will go and the faster you have your final images. The system I am using for this review runs at 1.67 GHz, and it has an acceptable time for processing an HDR image set.

Installation is quick and pain-free. Simply answer a couple simple configuration questions, and you're ready to go in a matter of minutes.

As with many of the other AKVIS plug-ins, HDRFactory comes as either a stand-alone application, or a plug-in for an image editor, such as Adobe Photoshop. You may purchase it in either version, or as a bundle that includes both. However, if you are a Mac user, there is no bundle. Also, you have to be certain you order the correct plug-in for a Mac platform. There are two versions available, targeted for specific versions of Adobe and other products. The website lists the differences on the download page:

<http://akvis.com/en/hdrfactory/download-hdr-image.php>

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Creating an HDR Image

Using HDRFactory is not difficult. You open your set of images (or a single image, if that is how you want to produce it), and adjust the various controls for the effect you desire.

To start with, an HDR image set consist of a minimum of three images: one taken at a normal exposure, one at a stop under exposed and the last a stop over-exposed. You can have more exposures than this, but three is the ideal minimum. As mentioned, you CAN use a single exposure to generate HDR photos, but the results are not always as good as having a set of different exposures. And be sure to use a tripod whenever possible, to minimize shifts between exposures.

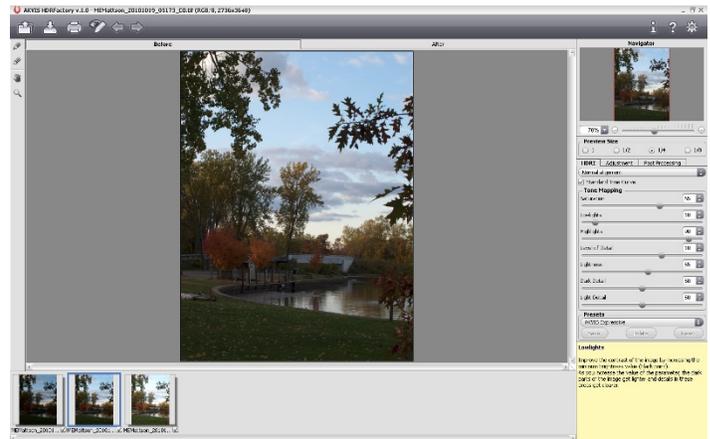
Once you have your images gathered, open up HDRFactory. (the photos used here for illustration are from the stand-alone version). The interface window will appear:



The large gray area is the Preview window, where you can see the before and after views of your image. Directly below that is a thumbnail strip, showing you views of the files in your HDR image set. To the right is the main control panel, with a navigational preview above them.

Top begin, you click the Open button at the left side of the button bar above the preview window; it looks like a set of folders with an upward pointing arrow on them. A dialog box opens, allowing you to browse to the folder where your source images are stored. Select all the source images, and click Open.

When the images are all imported, the Preview window shows a view of the image that has the normal exposure, i.e., not over or under exposed. It is also highlighted in the thumbnail area with a blue border around it. If you wish, you can click on any of the thumbnails to view a larger version in the preview window.



In the sample shown above, it took about 50 seconds to open the preview of the three images I used, each of which was a TIF file approximately 25 MB each in size.

After opening the previews, HDRFactory then processes the images and presents you with an initial HDR image, according to the settings of the sliders in the controls area. There is a Presets pull-down box immediately above the Help area (the yellow box) that controls how the initial HDR is presented to you. After initial installation, the pull-down is set to AKVIS Default. This is an ideal starting point for you to experiment with your own images, to see how the software operates. The other two settings bundled in the program are AKVIS Natural, and AKVIS Expressive. Each of these gives you a different look to your final image, one of which may be exactly what you're looking for.

However, you needn't be satisfied with their presets. The sliders give you enormous control over the look of your image, allowing you to adjust it in many ways. On the HDR1 tab there are controls to adjust saturation, highlights, lowlights, detail amount, and even adjust light and dark detail separately. There are other adjustments as well to be found on the Adjustment and Post-Processing tabs.

As you make adjustments to the sliders, the preview window updates instantly (when you let go of the mouse button), to give you a look at what you just did as far as changing the settings. It may take a few seconds to make the adjustment, but there is no need for an extended amount of re-processing to see what has taken place.

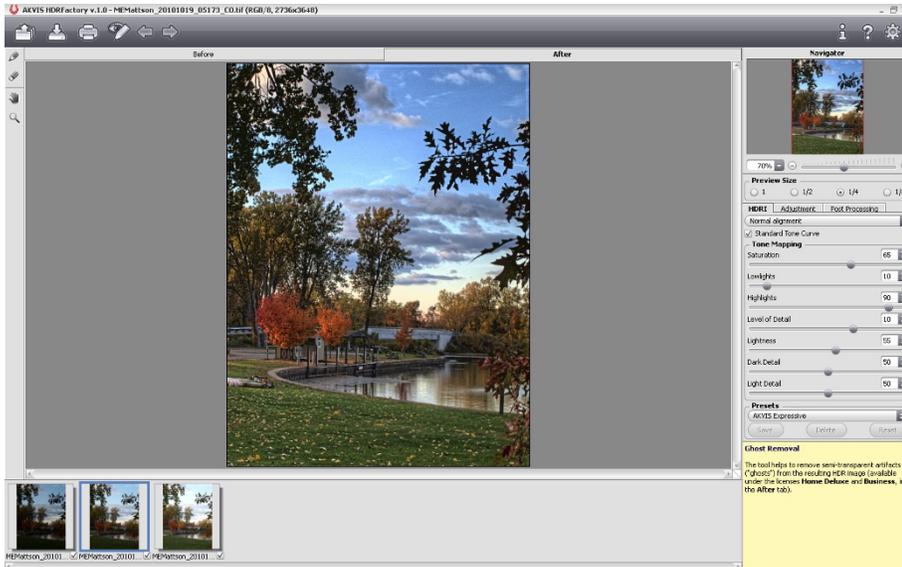
One thing to remember is that there are no "right" or "Wrong" settings for any of the controls in this application. Every photo will need its own unique set of adjustments to make it the best HDR image it can be. As such, there are only some general guidelines to follow, the most important of which is to experiment to see what IS possible.

What you need to keep in mind, though, is that it's very easy to go TOO far, and make your images look fake and even cartoonish. A little bit can go a long way with some of the control settings. Only by experimentation will you

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know what works best for your particular set of images.



The screenshot above shows the result of processing my three image test set using the AKVIS Expressive preset. Of the three installed with the program, this one gave me the results I was looking for. I know those of you receiving this via printed copy only see it in black and white, but I can email you a set of samples of the finished image as well as the source; drop me a note at my email address cuerie1@verizon.net if interested.

Another feature of the application is that it allows you to store your own custom presets, for use at a future time. Perhaps you find one you really like, and want to try it on similar images in the future. All you need to do is to click the Save button under the Presets pull-down, and name it, and you'll have those settings available at any time. This is a great time-saver, trying to find that exact combination again.

On the left side of the Preview window are a set of four tools, the top-most one is known as the Ghost removal tool. This is a handy tool to eliminate ghosting effects in your HDR images. An example might be if there had been a breeze blowing when I captured my sample images,

making the leaves move. With the ghost removal function, you can minimize or eliminate ghosting effects, giving your image a cleaner, crisper look. Unfortunately, I couldn't find any ghosting in this set of source images, so I didn't have a chance to try this functionality out for myself...but I am familiar with it from reviewing another (similar) software package.

Thoughts and Impressions

This is a neat little application to have and use. AKVIS definitely has a winner in this one, and it's only in the v1 release. Can't wait to see what they have in store for future versions.

It's fast, small, and does an outstanding job in what it's meant to do, producing HDR images. Compared to the competitive product I reviewed previously here, it has a smaller set of adjustment controls. But I don't think that this is a deficiency; on the contrary, it makes the processing simpler and easier, as well as faster. A bonus for those of you just starting to get your feet wet with HDR imaging.

The plug-in version that runs inside Photoshop or other image editors operates almost the same as the stand-alone. However, you lose a couple things: no thumbnail preview strip, and only a single tab of adjustment controls. The presets are different as well. You still have the AKVIS Default, but you now have AKVIS Soft HDR and Hard HDR instead of Natural and Expressive.

To use this as the plug-in, you need to open your source files in your editor of choice first, then launch the plug-in. It opens, and builds a preview of the HDR image immediately (you still have the Before and After views in the Preview window). But the updating is on-the-fly as with the stand-alone version, and the speed is still as fast.

If you want to try HDRFactory out for yourself using your own images, you can download a fully functional 10 day trial direct from AKVIS at the following web page: <http://akvis.com/en/hdrfactory/download-hdr-image.php> .

The pricing for the standalone or plug-in version is \$69. If you want the bundle (standalone AND plug-in together), the price is \$99, a savings of \$39. Delivery is via electronic download from the AKVIS store. You can also see their other products on their website, <http://akvis.com> .

I now shoot all my photos as HDR source image sets. It will make it so much easier to produce HDR images this way. And HDRFactory will be the fastest and easiest way to produce the final images. If you want to plunge into this hot trend, this is the way to go!

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