Photomatix Pro – Charlie Stout

Creating the HDR Image

1. Before starting Photomatix Pro, organize your HDR images sets so that you know what images belong to each set. You can do this by giving the images in each set the same name, with a, b, c, d, e, appended to the end of the file name. Or you could move each image set into a different folder. The important thing is to know what images go together before starting Photomatix Pro.

2. Start the Photomatix Pro program.

3. Click "Generate HDR Image".

4. Click "Browse".

5. Find the folder where your images are stored. You can hold the CTRL key & select multiply images. Click "Open", then "OK".

6. Take the following HDR – Options:
   Align source images - by correcting horizontal & vertical shifts.
   Attempt to reduce ghosting artifacts – moving objects/people.
   Detection – Normal.
   Take tone cure of color profile.

7. Click "OK" – HDR image will be created. Image will almost always look dark because the monitor is not able to display the full range of tones that are now in the image.

8. At this point you can save this HDR image as a .hdr file, Go to "File / Save As" & give it a name.

9. Now we need to Tone Map the image. Click "Tone Mapping".

Tone Mapping

1. When you first start tone mapping, your image may look terrible. This is because the program automatically loads the settings you used for the last image you processed. These setting may be totally wrong for this image. Go to the bottom of the Tone Mapping Settings Dialog Box on the left & click "Presets / Defaults". This will apply the defaults to your image. This is a good place to start processing all your images.

2. Also note that under "Presets" there is a "Load Settings" & "Save Settings". This will allow you to create your own default settings. You can save as many different setting configurations as you want.

3. In the Tone Mapping Preview window, click "Large". This usually works best.

4. If you move the cursor over the image you will see a square. Click anywhere in the image & you will see an enlarged detail of that area. This will show you the level of detail enhancements. The correct brightness won't be shown until the entire image is processed. Note that if you make an adjustment, you will need to close the enlarged view & reopen again to see the effect of your adjustment.

5. The Tone Mapping Preview window only shows a "preview" of what your image will look like after processing. The difference between the preview & final image is not great, but there is some difference. After some experience you will begin to see how to make your adjustments so that the final image is what you like.

6. Photomatix Pro has two tone mapping operators, "Detail Enhancer" & "Tone Compressor". Using the "Tone Compressor" you will get a very traditional & natural looking image. You won't be able to get that "HDR" look. Because it is very limited in its adjustments, I almost always use the "Detail Enhancer".

7. Make your adjustments. Here is where you will need to experiment with different setting. After awhile you will begin to understand how the different adjustments interact with each other. See below for some details on these adjustments.

8. Then click "Process" at the bottom of the Tone Mapping Settings Dialog Box. This is your final image. If you don't like it, go back & open the .hdr image & start over. If you like it, then you can save this image.

9. Save this image by going to "File / Save As" & giving it a name. Save your image as a 16 bit TIFF. This will give you the maximum flexibility in Post-processing.

Post Processing

Your HDR image will almost always require some post processing in your image editing software, like Photoshop, Nikon NX, or Lightroom. Typically you will have to add some contrast back into your image. You can also combine some of your "normal" images & the HDR image using layers in Photoshop. Ferrell McCollough has some good information on this in his book (see last page for information on his book).

Detail Enhancer Adjustments

Step #1

Gamma (Tone Tab)
2.00 --------------------------------------- 0.35   Default = 1.00
Darker   Lighter

Try to get the midtones in the middle of the histogram. Adjust for overall brightness.

Step #2

Strength (Main Tab)
0 -- 100   Default = 70
Traditional   Surreal
Natural   Painterly

Light Smoothing (Main Tab)
o   o   o   o   o
Very Low   Low   Medium   High   Very High
Surreal   Traditional
Painterly   Natural

Default = High

This step will have the biggest impact on how your image will look.

Step #3

White Point (Tone Tab)
0% -- 5%   Default = 0.25

Black Point (Tone Tab)
0% -- 5%   Default = 0

Adds Global Contrast.
Also changes midtone brightness.

Surreal effect - both full right, 5%

Step #4

Micro-contrast (Micro Tab)
-10 -- 10   Default = 0

Micro-smoothing (Micro Tab)
0 -- 30   Default = 2

Impacts local contrast enhancement.

Use 100 % preview when adjusting (only shows level of adjustment, not brightness). Need to close & reopen preview after each adjustment.

These two controls work together:

Maximum Small - Scale Contrast (Fine Detail)
Raise Micro-contrast, lower Micro-smoothing.

Soft Transitions
Lower Micro-contrast, raise Micro-smoothing.

Don't move both in same direction - will cancel out.

Step #5

Highlight Smoothing (S/H Tab)
0 --- 100   Default = 0

Shadow Smoothing (S/H Tab)
0 --- 100   Default = 0

Shadow Clipping (S/H Tab)
0 --- 100   Default = 0

Highlight smoothing - control halos of objects extending into sky (may not work on clouds)

Using highlight smoothing - will allow raising strength & lowering light smoothing (surreal effect).

Step #6

Temperature (Color Tab)
-10 --- 10   Default = 0

Saturation Highlights (Color Tab)
-10 --- 10   Default = 0

Saturation Shadows (Color Tab)
-10 --- 10   Default = 0

Step #7

Color Saturation (Main Tab)
0 --- 100   Default = 46

Luminosity (Main Tab)
-10 --- 10   Default = 0

Additional Notes:

Watch out for tone reversals - taking areas that are normally brighter & making them darker. Example: Sky (caused by a high strength setting & low light smoothing setting).

White Surfaces - after tone mapping, white areas will go gray. Use highlight smoothing to bring back to white,

Camera Noise - use saturation shadows to reduce.

Grain - due to image compression, reduce by:
- Lower strength
- Raise light smoothing
- Raise highlight smoothing
- Lower luminosity
- Raise micro-smoothing

Lower luminosity, reduces grain, but image is darker. Use gamma adjustment to bring brightness back up.

Luminosity, micro-contrast, micro-smoothing & gamma - use to fine tune brightness & smoothing of image.

HDR Photography is a very complex subject. The Photomatix Pro software makes it seem easy. It's all about the adjustments & how they interact with each other. The only way to get really good images from HDR is practice practice practice. I've only scratched the surface of what can be done using HDR. By sharing our HDR experiences with each other, we'll all be on our way to creating outstanding images.

References:
High Dynamic Range Digital Photography (Recommended)
Ferrell McCollough

Mastering HDR Photography (Very technical & detailed)
Michael Freeman