Photomatix Pro
Version 5.0

# User Manual

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Introduction

Photomatix Pro works with photographs of the same scene taken under different exposure settings. These differently exposed images of the same scene are often called "bracketed" images in reference to the auto-bracketing exposure functions available on many camera models. If you have not taken any bracketed photo sets, you can start using Photomatix Pro with the sample images available from the download page of the Photomatix Pro website – **http://www.hdrsoft.com**. Use the information in **Section 1, Taking Photos for HDR** to try Photomatix with your own bracketed images.
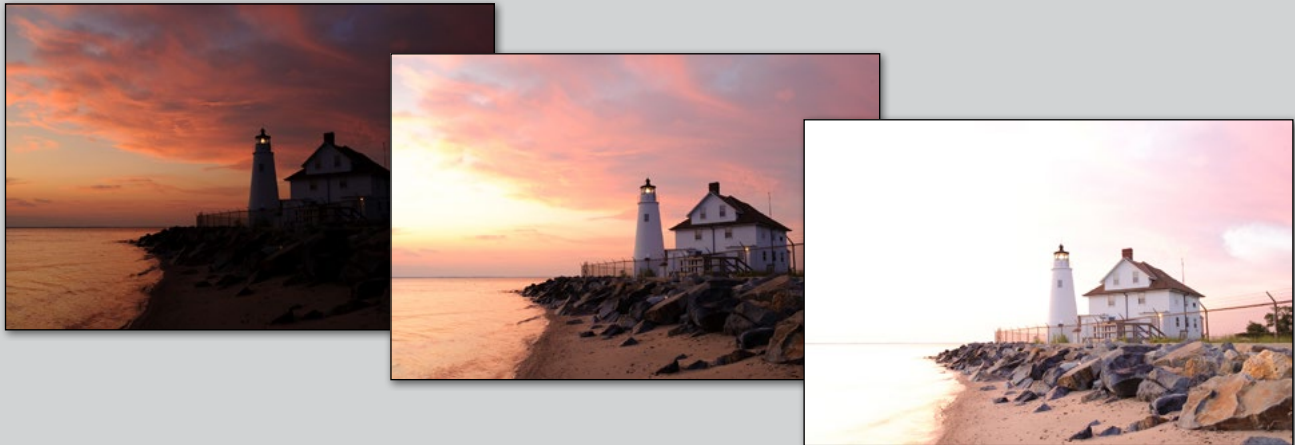
Cove Point Lighthouse photo © Ferrell McCollough

This manual contains information about how to use Photomatix Pro to adjust images using different Tone Mapping or Exposure Fusion methods. All of the methods are accessed from one window within the application, making it easy to try different settings to achieve the results you want. Refer to **Section 2, Loading and Pre-Processing Images** and **Section 3, Adjusting Images Using Tone Mapping or Exposure Fusion** for detailed information about the different settings that are available.

1   Taking Photos for HDR

The shooting phase is essential for getting good results with Photomatix. To photograph a high contrast scene, you need to take several exposures in order to capture information in both the highlights and the shadows of the scene. The exposures taken must properly cover the dynamic range of the scene, especially the shadows.

The number of photos you need depends on the scene. It also depends on the **Exposure Value** (EV) spacing separating the photos. If you take them in one-EV steps (e.g., -1, 0, +1 EV), you will need more photos than if you take them in two-EV steps (e.g., -2, 0, +2 EV). We recommend shooting in two-EV steps whenever possible.

High contrast scenes can be grouped into roughly two types depending on their dynamic range:

- **Medium dynamic range scene**: Most landscapes and other types of outdoor scenes fall into this category. Three exposures taken in two-EV steps (i.e. –2, 0 +2 EV), or five exposures taken in one-EV steps, are usually sufficient for this type of scene.

- **High dynamic range scene**: A typical example is the interior of a room with a view outside the window on a sunny day. You need to take at least five exposures in two-EV steps (or nine exposures in one-EV steps) to capture this type of scene, but you may need more. Taking the exposures manually is recommended in these cases.
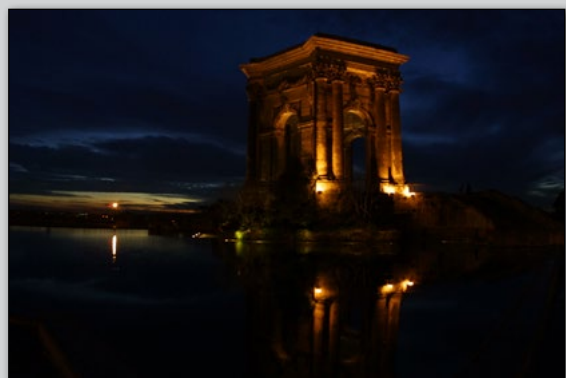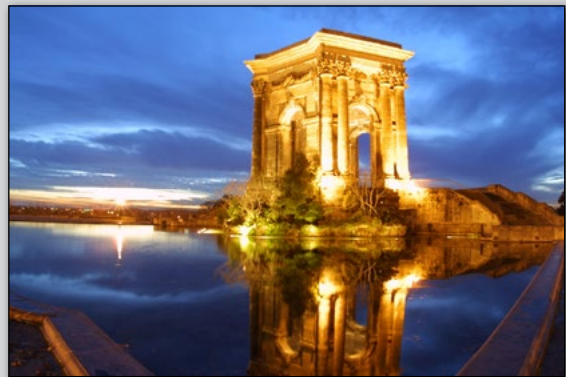
Three exposures of a medium dynamic range scene, taken in two-EV steps

The source photographs for HDR processing can be taken with digital or film-based cameras. The only requirement is that the exposure can be adjusted when taking pictures. If you use a film-based camera, you will need to scan the photographs into your computer before processing them (refer to **Section 1.3**).

1.1   Setting up the Camera

- Set your camera to **Aperture priority** (the "A" setting) so that only shutter speed will vary between the exposures.

- Set a low ISO such as ISO 100, or lower if available.

- Turn off the flash. The flash may try to balance the exposure of all the images, when the goal instead is a range of exposures.

- Use a tripod whenever possible. Even though Photomatix Pro offers automatic alignment of hand-held photos, using a tripod is almost always better. DSLR cameras and some compact digital cameras offer **Automatic Exposure Bracketing** (AEB). This enables you to automatically take three or more exposures in a row; one at the proper exposure, one or more underexposed, and one or more overexposed. Follow these steps if your camera offers AEB mode:

- Select the **Continuous shooting** mode on the camera's drive setting. Consult your camera manual for model-specific instructions for using this setting.

- Set the camera to **Auto Exposure Bracketing** (AEB)

- If possible, use the camera's self-timer setting, a cable release or a wireless shutter release to minimize camera shake.

- Set the exposure increment to +/- 2 for optimal exposure range. If your camera does not offer +/- 2 exposure increments, select the maximum possible. Consult the camera manual for model-specific instructions for choosing this setting.

Canon Rebel T2i/550D LCD showing AEB with +/-2 EV increments selected

AEB settings on a Nikon D7000 (3 frames, at +/- 2 EV)

> **Note**
>
> The continuous shooting mode may not always be the best strategy because camera shake may build up. It is recommended to use a method that ensures the least possible shake for each single shot, such as mirror lock-up functionality, if available.
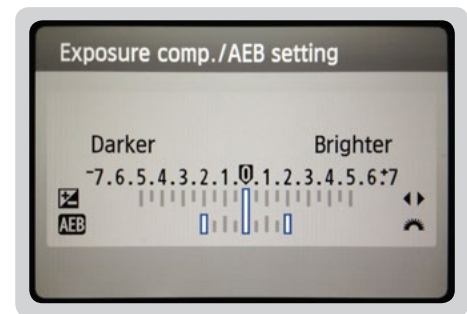
1.2   Selecting the Exposures

To get good results with HDR processing, your bracketed sequence must include photos that correctly expose highlights as well as photos that correctly expose shadows. The latter is especially important to prevent noise in the processed HDR image.

In the lightest photo of the sequence, the darkest shadow areas of the scene should be shifted at least into the mid-tones. To check this, use your camera's histogram preview in playback mode. In your most overexposed photo, the left part of the histogram should be empty until 1/3rd of the histogram's width. If this is not the case, add one or more photos taken with longer exposure times. Another option is to re-shoot the exposure sequence with the normal exposure set one or more EVs higher if your most underexposed image in the exposure sequence was too dark. This is the case when the histogram of your darkest image is completely empty on the right half.

The number of exposures needed depends on the dynamic range of the scene, in addition to the exposure increment. For most outdoor scenes, three exposures taken at +/- 2 exposure increments is sufficient, provided the scene does not include the sun. However, for the interior of a room with a bright view out the window, you will need at least five images taken with an exposure increment of +/- 2, or nine images taken with an exposure increment of +/- 1.

In scenes with extreme differences between light and dark details, you should change the exposures manually to ensure you capture a wide enough range to cover your scene.

1.3   Using Film-Based Cameras

- Follow the camera setup listed at the top of **Section 1.1** and the tips on selecting exposures in **Section 1.2**. Keep in mind that you will not have the option of previewing the live histogram to determine your exposure range.

- Scan film or slides, not prints. Photo labs attempt to make the best print from each of your source images, and you will not achieve good results scanning these for HDR generation.

- Turn off your scanner's auto-exposure options. This allows you to manually control the exposure.

- Make sure you select the **Align images** option in Photomatix Pro when combining your images.

2   Loading and Pre-Processing Images

This section describes how to load and merge bracketed image files of a scene taken under different exposure settings as well as how to load single images into Photomatix Pro.

2.1   Merging Bracketed Images

Photomatix Pro merges bracketed images that are in 8 bit or 16 bits/channel mode, as well as Camera RAW files.

Supported file types include JPEG, TIFF, PSD, DNG, and RAW files from many camera models. Photomatix Pro is updated frequently to add support for RAW files of new camera models.

2.1.1   Loading Bracketed Images

To load bracketed image files, do one of the following:

- Drag and drop the files into Photomatix Pro
- Use the Workflow Shortcuts panel to load the files

Dragging and Dropping Bracketed Image Files

To drag and drop a group of image files to Photomatix Pro:

- **Windows**: Drag the files from Windows Explorer and drop them on the open Photomatix Pro program.
- **Macintosh**: Drag the files from the Finder and drop them on the Photomatix Pro icon on your Dock.

Note

The term "bracketed images" refers to images of the same scene taken under different exposure settings. This manual uses the term "bracketed images" to simplify how these images are defined. It also applies to the case when you have not used the Automatic Exposure Bracketing function of the camera to take the exposures.

Note

Drag the image files for the exposure sequence at the same time, so the files are properly processed by the merge.

Note

Newer camera models may not be supported by older versions of Photomatix Pro. To ensure your camera is supported, upgrade to the latest version.

Note

If you have Lightroom, you can use the Lightroom Export Plug-in to load images into Photomatix Pro.
Refer to **Section 5** for more information.

Using the Workflow Area or the File Menu

To load images using the Workflow Shortcuts panel or the File menu:

1. Click **Load Bracketed Photos** in the **Workflow Shortcuts** panel

   OR

   Select **Load Bracketed Photos** from the **File** menu.

The **Loading bracketed photos** dialog displays.
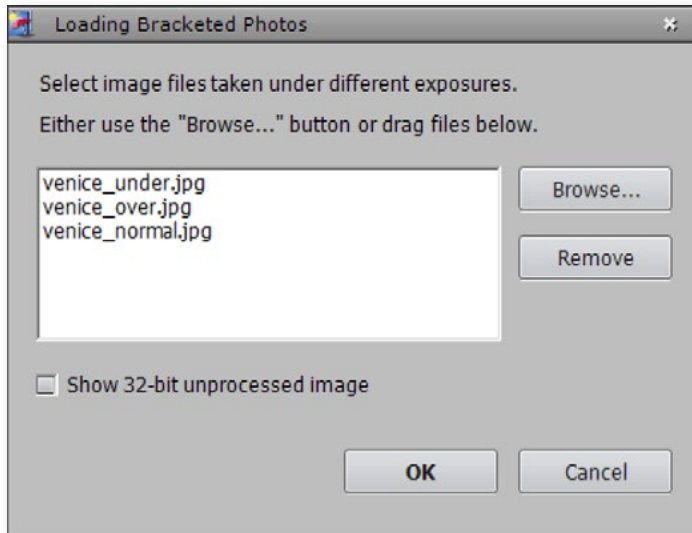
Selecting bracketed photos to load

2. Drag and drop the files into the **Loading bracketed photos** dialog

   OR

   Click **Browse**. A dialog displays prompting for location of the files.

3. Select the files to load, using one of the following methods:

   - Click the first file, then press and hold the Control key (Windows) or Command key (Mac). While holding down the Control or Command key, click each of the other files you wish to select.

   - Click the first file, then press and hold the Shift key. While holding the Shift key down click the last file. This will select all the files in-between the first and last file.

4. Click **Open** (Windows) or **Select** (Mac).

5. Click **OK**.

Entering Exposure Values

If the exposure information cannot be located in the metadata of the image files, Photomatix Pro displays a dialog prompting your input of the relative **Exposure Values** of the images. Photomatix Pro also displays this dialog if two or more source images have the same exposure metadata.

> **Note**
>
> If you check the Show 32-bit unprocessed image box, you will be able to save the unprocessed merged imagein an HDR image file format such as Radiance or OpenEXR. Saving the 32-bit HDR image is useful when you want to be able to process the image with other tone mapping settings later without having to pre-process and merge your bracketed photos again. However, you will still need to pre-process and merge the photos if you want to use exposure fusion.
>
> You will have to click the **Tone Map / Fuse** button, in the Workflow Shortcuts window, to go to the next step if you choose to **Show 32-bit unprocessed image**.

> **Note**
>
> The order of the files in a bracketing sequence does not matter.Photomatix Pro automatically sorts the images based on the exposure information-in the image files' EXIF metadata. If exposure information is not available in the EXIF data, Photomatix Pro directly evaluates the relative brightness of the photos.


2.1.2   General Merge to HDR Options

After the bracketed images are selected, you can customize the steps performed before merging the images, such as aligning the images or removing 'ghosts'. Refer to the following list for a description of the options when merging bracketed images:

Alignment Options

The **Align source images** option is checked by default. It corrects misalignment problems when the camera moves slightly between the bracketed frames. Hand-held photographs have camera movement but even images shot on a tripod may have some slight camera movement as well, such as movement caused by wind, for example.

* **taken on tripod**: Select this alignment method when you used a tripod to take automatic bracketed photos. This method is fast, but corrects only for horizontal and vertical camera movement, and not for rotation or other types of motion.
  (Note: This method was named 'by correcting shifts' in Photomatix Pro version 4 and earlier.)

* **hand-held**: Select this method when you did not use a tripod or when the images are difficult to align. The 'hand-held' method corrects for several types of camera movement, including horizontal and vertical motion, rotation, and forward and backward movement. When the 'include perspective' option is selected, it corrects for every kind of minor camera movement.
  (Note: This method was named 'by matching features' in Photomatix Pro version 4 and earlier.)

* **Include perspective correction**: This option requests that the 'hand-held' alignment method corrects for all types of camera movement, including rotation in all three dimensions, as well as horizontal, vertical, forward, and backward motion.

* **Crop aligned images**: This option removes the unneeded borders resulting from alignment adjustments. Unchecking it disables this, so that the resulting image has exactly the same width and height as the source images, but may have white areas around the edges..

* **Maximum shift**: Sets the maximum mis-registration shift that the alignment attempts to correct for, expressed as a percentage of the image dimensions. This setting does not need adjustment in most cases. A situation when adjusting this setting may be useful is when the camera barely moved between the bracketed shots. In this case, setting a maximum shift lower than 12% will restrict the number of alignment corrections searched, thereby reducing the risk of selecting an improper alignment correction.
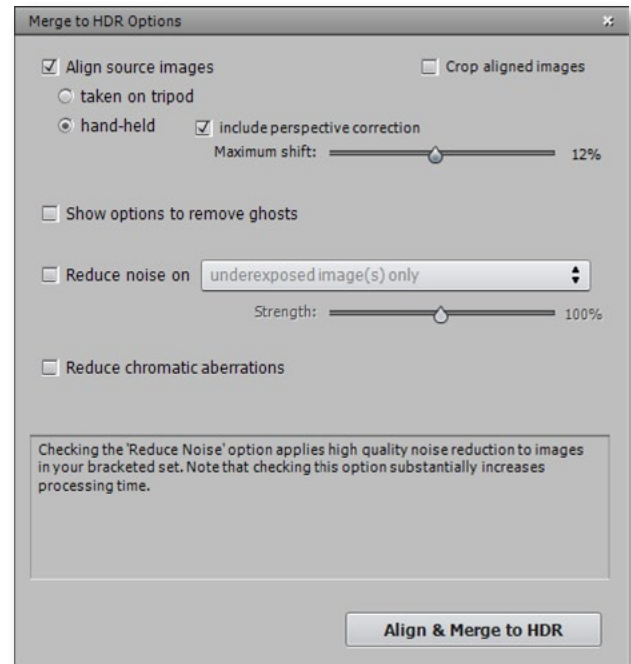
Selecting options to merge to HDR

> **Note**
>
> The Align source images option should not be checked when your source images are stitched panoramas or when they are "fake exposures" derived from a single RAW file.

Deghosting Options

Deghosting addresses the problem of artifacts that appear when combining the bracketed images of a dynamic scene. For example, if the moving subjects are people walking, the people will appear multiple times in the combined image, once for each frame, faded and in a different position as if they were "ghosts". This is why artifacts that arise from movement in a scene are commonly referred to as "ghosting" and the techniques to eliminate them are referred to as "deghosting".

Show options to remove ghosts activates the **Deghosting Options** window, which will open after you select your merge to HDR options and then click the **Align & Show Deghosting** button. The Deghosting Options window provides an adjustable image-wide **Automatic Deghosting** algorithm and, for more control over deghosting, a manually applied **Selective Deghosting Tool**.
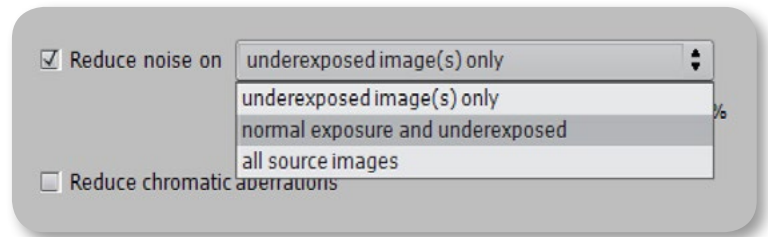
Noise Reduction Options

The **Reduce noise on** option processes source photos with a high-quality noise reduction algorithm, and is recommended when processing RAW files directly in Photomatix. Noise reduction is typically most helpful in dark areas of the source images, and these dark areas are more prevalent in the underexposed and, sometimes, in the normally exposed frames.

Noise reduction options

With this in mind, you can use the **Reduce noise on** menu to specify that noise reduction be applied only to the darkest images in the bracketed set. Or, if you wish, noise reduction can be applied to all images in the set.

Strength: Increases or decreases noise reduction strength relative to the automatically determined default strength value, which is based on the noise level in the image. Values range from 50% to 150%.

Reduce Chromatic Aberrations

The **Reduce Chromatic Aberrations** option automatically corrects color fringing due to chromatic aberrations of the lens. Checking this option is recommended, given that chromatic aberrations tend to show around high contrast edges, and are particularly an issue for HDR images.

2.1.3   The Deghosting Options Window

Select **Show options to remove ghosts** in the Preprocessing Options window, to subsequently access the Deghosting Options window.

The Deghosting Options window

The Deghosting Options window provides two deghosting methods:

- A **Selective Deghosting Tool**

- An adjustable **Automatic Deghosting** algorithm.

The **Selective Deghosting Tool** enables you to lasso-select the specific areas of the image that require processing to remove ghosting caused by image to image movement of elements in the scene. Photomatix Pro uses the single image that it deems-best exposed for the selected area's brightness, as the default deghosting target image. You may change the automatically selected deghosting target image to any other image of your choice, using the tool.

Automatic Deghosting processes the entire image with an automated ghost reduction algorithm. It is useful with scenes with many small changes image to image, which are not practical to manually lasso. This deghosting method has the disadvantage of potentially degrading image quality, depending upon the nature of the scene, the type of ghosting, the number of source frames, and other factors.   When applying Automatic Deghosting, use the lowest setting that successfully deghosts the image.
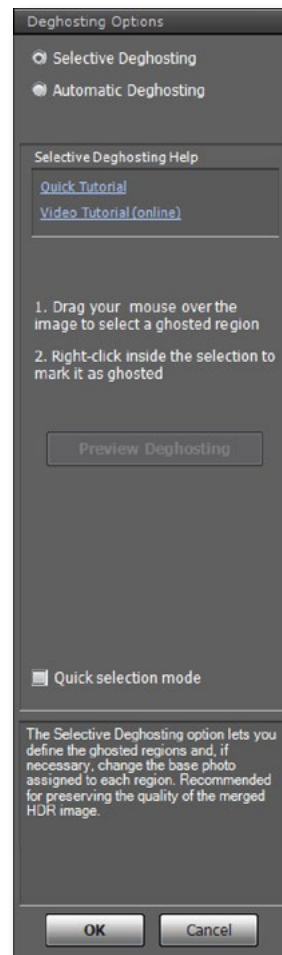
The two alternate Deghosting method panels

2.1.4   Using the Selective Deghosting Tool

To use the Selective Deghosting tool, click and drag the mouse to draw a lasso around a region that requires deghosting. Ensure that the dashed line forms a fully closed loop.

Right-click (Windows) or control-click (Mac) inside the selected region and select **Mark selection as ghosted area** from the pop-up menu. The line around the selected area changes from dashed to solid, to indicate that the area is now selected for deghosting. You may make additional deghosting selections, following these same steps, to mark other image areas for deghosting.

At any time, use the **Brightness** slider to increase or decrease the brightness of the image. Or, use the Zoom slider to zoom in and out.

If necessary, you can remove a region from the deghosting selection. Control click or right click inside an already marked region and click **Remove selection** from the pop-up menu.

You may also change the image used as the deghosting target. Control-click or right-click inside an already marked region and click **Set another photo for selection**

A dotted selection being marked for deghosting

from the pop-up menu. The tool displays a pop-up menu with a list of the available exposures. Select an exposure value from the list.

The photo that the tool automatically sets for the selection is not always the most appropriate exposure choice. It is thus a good idea to check whether changing to another photo produces a better deghosting
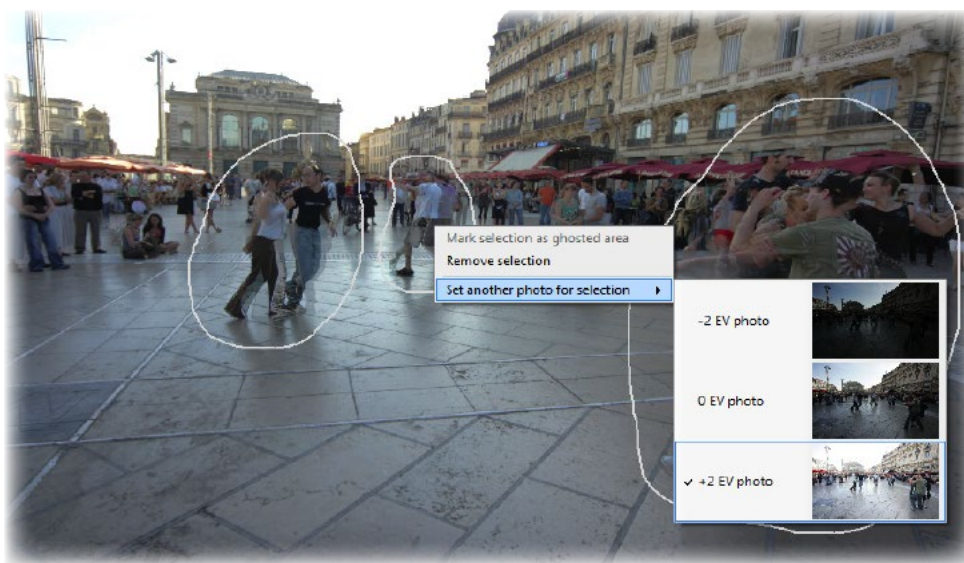
Right-clicking a marked selection, to choose a different replacement photo

result.

To view a preview of the deghosted image, click **Preview deghosting**. To make more selections or modify existing regions selected for deghosting, click **Return to selection mode**. You may continue selecting regions of the image and previewing the results until you are satisfied with the results.

In **Quick Selection Mode,** every completed selection lasso will automatically be converted into a deghosting selection, without the need to individually "**Mark selection as ghosted area**".

2.1.5   Using Automatic Deghosting

The **Automatic Deghosting** option automatically detects ghosted areas in the image. The slider sets the 'aggressiveness' of ghosting detection.

A high Deghosting setting removes more ghosting artifacts, but increases the possibility and severity of unwanted artifacts. Try to use a setting as low as possible, to preserve the quality of the merged HDR image.

If you need high settings to remove ghosts completely, it is recommended that you use the **Selective Deghosting Tool** instead, if possible.

When automatic deghosting is used, one of the source photos is used to create the HDR image in areas detected as ghosted. The **Base Photo** is the one selected to do this. By default this is the median exposure, but you can select one of the other photos instead by clicking on its thumbnail.

After using the Selective Deghosting tool, or applying Automatic Deghosting, click **OK** to apply the deghosting adjustments to the image, or click **Cancel** to stop merging the images.

If you wish to continue working with the current bracketed set, but with no deghosting applied, then set the **Automatic Deghosting** amount to "0", or make no **Selective Deghosting Tool** selections, and simply click **OK** to proceed.


Automatic Deghosting tools

2.1.6 Options for RAW Files

Photomatix Pro offers additional options for RAW files.
These options are automatically available when RAW files are loaded.

The **White Balance** options let you change the white balance, if desired, and preview the effect of changing it. The default value is "As Shot", which reads the white balance setting from the EXIF metadata. To adjust the white balance, select a pre-defined value from the White Balance drop-down list or type a color temperature in Kelvin in the text box.
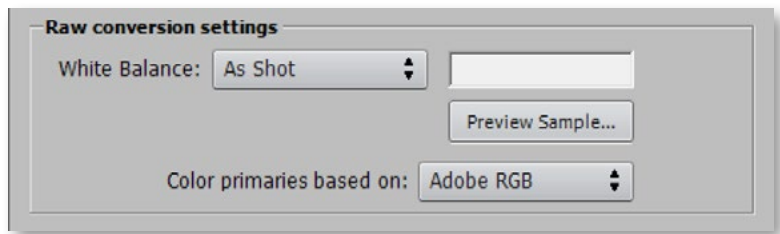
RAW conversion settings, in Merge to HDR Options

Click **Preview sample** to view the effect of the white balance change on the source image.

The **Color primaries based on** drop-down list provides options for converting the RAW data from the camera's native color space to the display profile of the selected value. AdobeRGB is the default value and is appropriate when you want to print the resulting image. If you would like to display the resulting image only on the web and do not intend to print it, then select sRGB to avoid having to convert the image from AdobeRGB to sRGB.
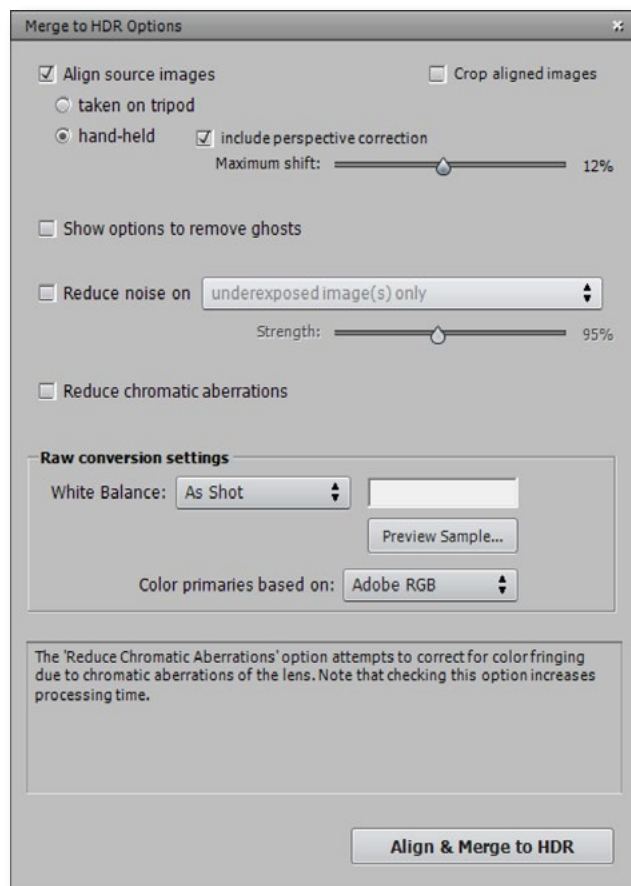
Merge to HDR Options window, for RAW files

2.2   Working with Single Image Files

Photomatix Pro supports Tone Mapping of single image files. To load a single image file:

1. Drag the image file to the Photomatix Pro application (Windows) or icon on your Dock (Mac).

    OR

    Select **Open** from the File menu. A file browser window displays. Navigate to the file and open it.

    OR

    Click **Load Single Photo** in the Workflow Shortcuts window.

2. To process the image using Tone Mapping, click **Tone Mapping** from the Workflow Shortcuts panel.

    If the file is a JPG, a dialog will show to let you decide whether to reduce the noise on your image before tone mapping. If desired, check **Do not ask me again** to skip this dialog and use your **Yes** or **No** selection for all single JPGs that you process with Tone Mapping. If you need to re-enable the dialog later, access the Photomatix Pro Preferences to change the setting. The Preferences are available from the View menu (Windows) or Photomatix Pro menu (Mac).
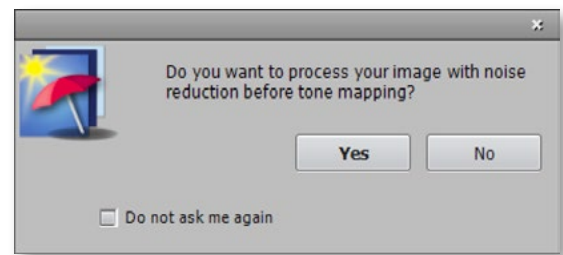
Reducing noise on a single image JPEG file

Note

Tone mapping with the Details Enhancer method makes any noise present in the image much more visible, so it is a good idea to pre-process your image with noise reduction before tone mapping.

2.2.1   Options for Single RAW Image Files

When your single image is a RAW file, Photomatix must first convert the RAW data. The following options are available for pre-processing the RAW data.

The **Reduce noise** option processes the converted RAW file with high-quality noise reduction. It is checked by default as reducing noise is always recommended when processing RAW files. The Strength slider lets you increase or decrease the strength of the noise reduction relative to the automatically determined value based on the noise level in the image. Values range from 50% to 150%.

The **Reduce chromatic aberrations** option automatically corrects color fringing due to chromatic aberrations of the lens.
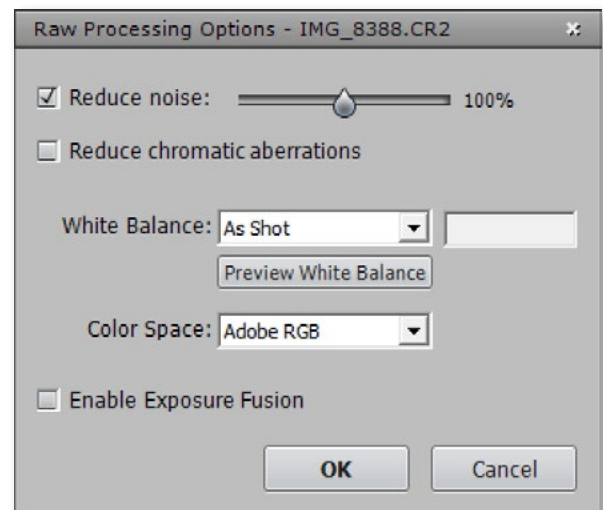

RAW Processing Options dialog box

The **White Balance** options let you change the white balance, if desired, and preview the effect of changing it. The default value is "As Shot", which reads the white balance setting from the EXIF metadata. To adjust the white balance, select a pre-defined value from the White Balance drop-down list or type a color temperature in Kelvin in the text box.

Click **Preview sample** to view the effect of the white balance change on the source image.

The **Color Space** drop-down list provides options for converting the RAW data from the camera's native color space to the display profile of the selected value. AdobeRGB is the default value and is appropriate when you want to print the resulting image. If you do not intend to print the image, select sRGB for web-only images to avoid having to convert the image from AdobeRGB to sRGB.

Enable Exposure Fusion allows the image to be processed using the Fusion methods. Normally, Fusion methods are applicable only to multiple image sets. This option will split the single RAW file into darker and lighter images, which can then be fused. This allows to use presets belonging to Exposure Fusion methods, such as the 'Natural' preset, for instance.

3 Adjusting Images Using Tone Mapping or Exposure Fusion

Photomatix Pro provides access to HDR Tone Mapping and Exposure Fusion methods in one interface, with three main sections: Adjustments panel, Preview and thumbnail Presets.

This section describes the workflow for adjusting, previewing and processing images, and describes each Tone Mapping and Exposure Fusion setting.

> **Note**
>
> Exposure Fusion is normally only available when bracketed photos are loaded. When a single image is loaded, only Tone Mapping is available.

3.1 Image Adjustment Workflow

After you have merged your source images (or opened a single image file), the next steps are:

1. *Adjust the image to your liking*: Choose a style you like from the thumbnails listed on the Presets window. You can then refine the effect by adjusting the controls in the **Settings** window. Refer to **Sections 3.3 through 3.6** for detailed descriptions of the settings. Refer to **Section 3.2.3** for more information about using presets.

2. *Process the image*: When you are satisfied with the adjustments, click on the **Apply** button located at the bottom of the Adjustments panel to apply your settings to the image at its original resolution.

3. *Finishing Touch:* Once you have processed the image and before saving it, you may use the options on the Finishing Touch palette in order to increase the contrast of your image, sharpen it, or adjust the saturation of individual colors.

4. *Save the image*: When you have processed the image, you can save it. Select **File - > Save As**. Navigate to the folder where the file should be stored. Use the default file name or enter a name in the **File** name field. Select a file type:

*   **TIFF – 16-bit**: the best choice for further processing

*   **TIFF – 8-bit**: for use in applications that cannot work with 16 bit, or for avoiding too large a file size on disk

*   **JPEG**: for use on the web without further editing

If you would like to automatically view the file with a photo viewing application after saving, you can click **Open Saved Images with**, in the **Save** dialog. Accept the default program or select a program from the drop-down list. If a desired program is not on the list, click **Add application**, navigate to the folder containing the program, select the program and click **Open**.

All saved images will now automatically open into the selected application. To turn off this option, un-click **Open Saved Images with**, in the **Save** dialog.
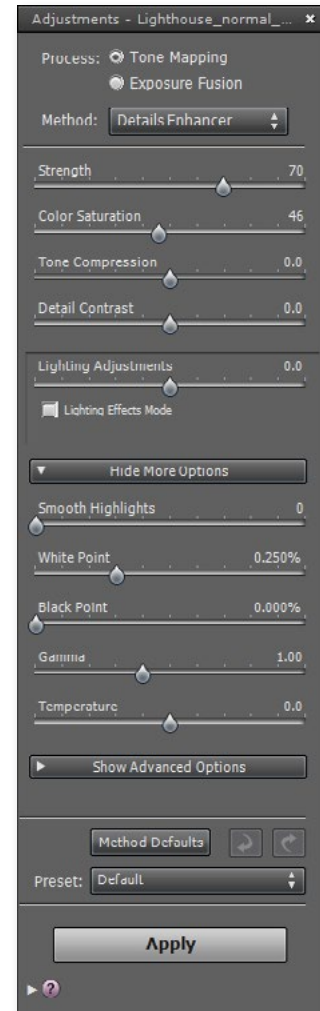

Image adjustment settings panel

> **Note**
>
> The settings are automatically embedded in the saved processed image. To view the settings, click View Settings from the Workflow Shortcuts bar.

> **Note**
>
> To undo changes made during the adjustment process, click the undo arrow at the bottom of the adjustments panel. To redo adjustments, click the redo arrow to reapply changes.

3.1.1   Undoing Adjustments and Reprocessing an Image

After processing an image, you can return to **Tone Mapping** or **Exposure Fusion** to continue working with the same image set. There are two different ways to do this, both accessed from the Workflow Shortcuts panel; **Redo With Other Settings** or **Double Tone Map**.

- **Redo With Other Settings** allows you to start fresh with the current image set, to apply entirely new presets and settings.

- **Double Tone Map** allows you to add additional effects, using your already-processed image as the starting point.

Note that you will still be able to use the "**Redo With Other Settings**" option if you first save the image with the current settings applied.

3.2 Image Adjustment Interface

3.2.1 Image Adjustment Interface Overview

The image adjustment interface consists of three main sections; setting **Adjustments**, image **Preview** and **Preset** thumbnails. The features of these three main interface sections are described in detail below.
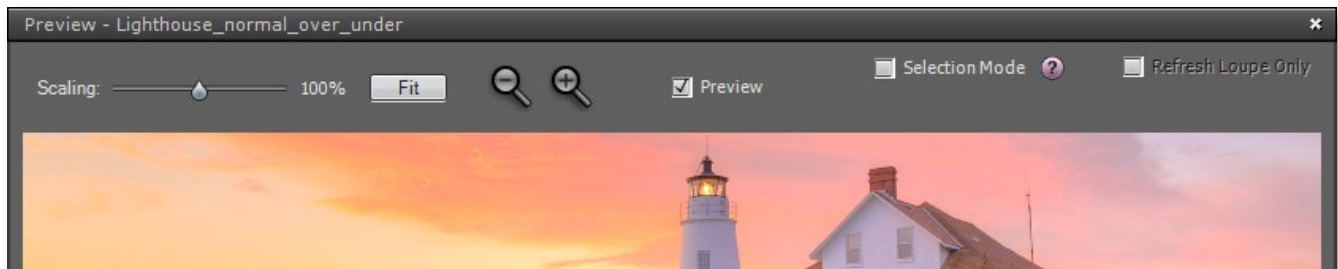

Image adjustment Preview panel controls

3.2.2 Preview

The image **Preview** displays the result of your current settings, for whichever Tone Mapping of Fusion method you are working in.

Preview is updated immediately after a setting has been changed. Preview provides the following controls.

- **Scaling Slider:** Zooms in or out the refreshed preview from 50% to 150%. The preview is not recalculated but quickly scaled. Each time **Fit** or one of the **Magnifier** icons is clicked the preview is recalculated and the **Zoom Slider** resets to 100%.

- **Fit**: Resizes the preview to fill the available space on the program's main window.

- **Magnifier icons +/-:** Increases or decreases the preview image by 20% and recalculates it at the new size.

- **Preview**: The Preview checkbox quickly toggles between a preview of the image and the "normal" exposure (0EV) of the set. This is helpful to compare the effects of the image adjustments.

- **Selection Mode**: Checking the selection mode checkbox enables you to select an area of the preview and replace it with one of the source images. See section 3.7 for details.

- **Histogram**: This floating window contains four selectable tabs to assist in analysis of the image: **Luminance**, **Red**, **Green**, and **Blue**. In addition, move the mouse back and forth across the histogram to display **Level**, **Count**, and **Percentile** information. If the histogram is turned off, enable it by selecting **8-bit Histogram** from the View menu.

> **Note**
>
> When using the Details Enhancer or Contrast Optimizer methods, the Preview is not always an accurate representation of the final tone mapped image.

> **Note**
>
> As an option, selectable in Preferences, the Preview will update continuously as you move a slider. This option may require that you work with your image zoomed out to a small Preview, or that you have a powerful computer that is able to quickly reprocess the Preview. This option is not available if you are running on a 32-bit OS.
> You can access application Preferences from the View menu (PC) or Photomatix Pro menu (Mac).
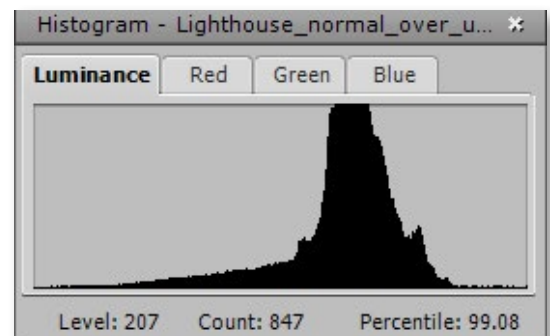
8-bit Histogram

3.2.3   Preset Thumbnails Panel

The **Presets** panel lists the available presets, showing a thumbnail preview of the effect of the preset on your image. When you click on a preset thumbnail, the Preview image is refreshed to show the result of applying the settings of the selected preset.

By default, the panel displays one column of small thumbnails. Click on the "plus" icon on the top of the panel to display the thumbnails at a larger size. Click on the icon on the top right of the panel to display the thumbnails in two columns.

If you prefer that the Presets panel does not show by default, you can set this as an option in Preferences.
You can access the Photomatix Pro Preferences from the View menu (Windows) or Photomatix Pro menu (Mac).

There are two types of presets, built-in and custom.

Built-in Presets

Built-in presets are "factory" presets that are provided with the software. Photomatix Pro offers 36 built-in presets when you are processing bracketed photos, and 27 when you are processing a single file.

The pop-up menu at the top left of the **Presets** panel lets you view subset categories of built-in presets. You can display a selected subset of presets from all categories by selecting the "Short List" item.

There are three categories of built-in presets corresponding to effect styles. They are:
Artistic, **Realistic** and **Black & White**.

There are four categories of built-in presets corresponding to processing methods. They are:
Details Enhancer, **Contrast Optimizer**, **Tone Compressor** and **Fusion**.

Preset panel
Single column, large thumb view

Custom Presets

Custom presets are presets that you saved while adjusting your images, or presets created by other Photomatix users that you have imported.

To access custom presets, click on the **My Presets** tab located at bottom of the Preset Thumbnails panel. To create your own custom presets, refer to the **Saving Custom Presets** paragraph below. You can also import custom presets created by other Photomatix users that you downloaded to your computer as XMP files. To import the presets, select the item "Import Presets…" on the pop-up menu on the top left of the Preset Thumbnails panel, and browse to the location on your computer where you downloaded the XMP preset files.

Saving Custom Presets

There are two ways to save custom presets as an XMP file for future use; during the image adjustment phase or after Tone Mapping or Exposure Fusion is complete.

To save custom presets during image adjustment:

1. In the Adjustments panel, click the **Presets** drop-down list.
2. Select **Save Preset** from the list.
3. Enter a name for the preset in the File name field and click **Save**.

To save the processing selections as a preset after Tone Mapping or Exposure Fusion processing:

1. Click **Save Preset** from the Workflow Shortcuts panel or select **Save Preset** from the File menu.
    A dialog prompts for the file name.
2. Enter the file name and click **OK**.
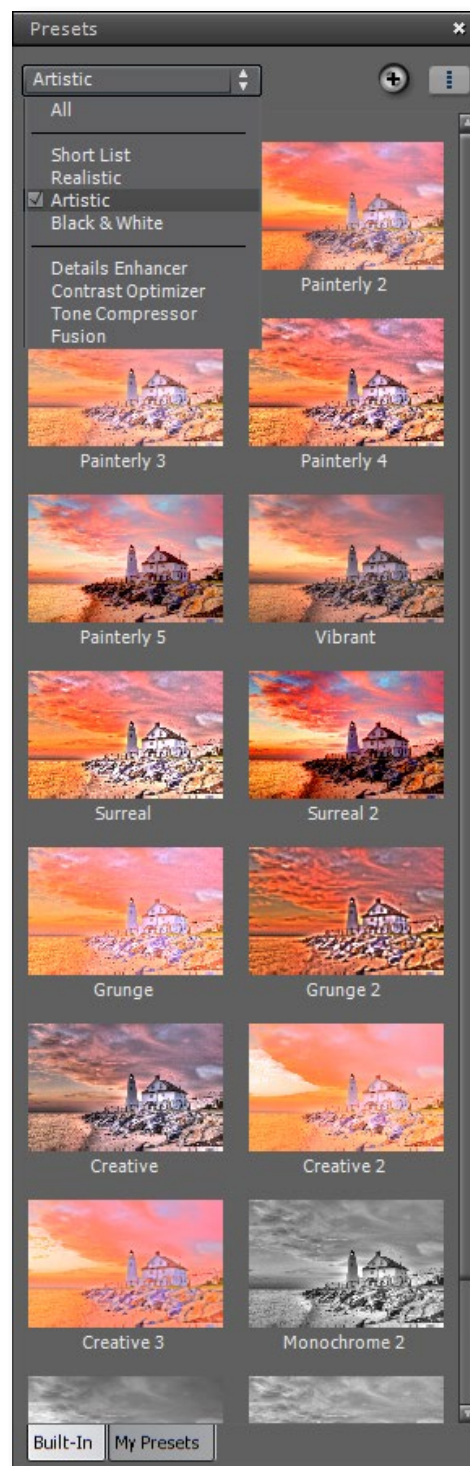
**Artistic built-in Presets
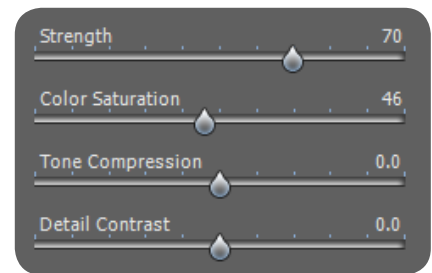Two column, small thumb view**

Note

If you save the preset in the default location (which is the Presets folder of the Photomatix Pro application), the preset is automatically added to the Presets combo-box list, and also shows on the "**My Presets**" tab of the **Preset Thumbnails Panel.**
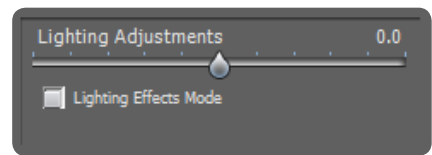
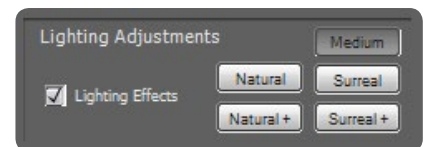## 3.3 Tone Mapping Details Enhancer Settings

General Settings

- **Strength**: Affects the amount of enhancement given to contrast and detail in the image. A value of 100 gives the greatest enhancement. Moving the slider to the left gives a more natural effect. The default value is 70.

- **Saturation**: Adjusts the color saturation of the image. The greater the saturation, the more intense the color. Setting the slider to its lowest value (0) produces a grayscale image. The default value is 46.

Details Enhancer – General settings

- **Tone Compression**: Adjusts the dynamic range of the tone mapped image. Moving the slider to the right decreases the dynamic range, brightening the shadows and darkening the highlights. Moving to the left has the opposite effect, giving a more 'natural' look.
(This setting was named 'Luminosity' in older Photomatix versions.)

- **Detail Contrast**: Controls the amount of contrast applied to detail in the image. Moving the slider to the right increases the contrast of details and gives a sharper look to the image, but also has a darkening effect. Moving to the left decreases the contrast of details and brightens the image.

- **Lighting Adjustments pane:** The two lighting adjustment modes affect the overall 'look', controlling the extent to which the image looks natural or surreal.

- **Lighting Adjustments slider**: Affects the overall 'look', controlling the extent to which the image looks natural or surreal. Moving the slider to the right makes the image look more natural. Moving to the left makes it look more 'painterly' or surreal.

Details Enhancer – Lighting Adjustment settings

- **Lighting Effects Mode checkbox**: Lighting Effects Mode lets you switch between two modes for the Lighting Adjustments setting, where each mode produces slightly different results. Checking the box tends to produce results with a type of 'Magic Light' effect. Note that finer control is not possible in this mode.

- **Lighting Effects Mode**: Affects the overall 'look', controlling the extent to which the image looks natural or surreal.

Details Enhancer – Lighting Effects Mode

More Options

- **Smooth Highlights**: Reduces contrast enhancements in the highlights, preventing white highlights from turning grey, or preserving a uniform blue sky. It is also useful for reducing halos around objects placed against bright backgrounds.

- **White Point:** Sets the maximum value of the tone mapped image. Moving the slider to the right sets a lower maximum value, which brightens the image and increases global contrast. Moving to the left sets a higher maximum value, which decreases global contrast and reduces highlights clipping.
The default value is 0.25%.

- **Black Point:** Sets the minimum value of the tone mapped image. Moving the slider to the right increases global contrast. Moving to the left sets a lower minimum value, which decreases global contrast and reduces shadows clipping.
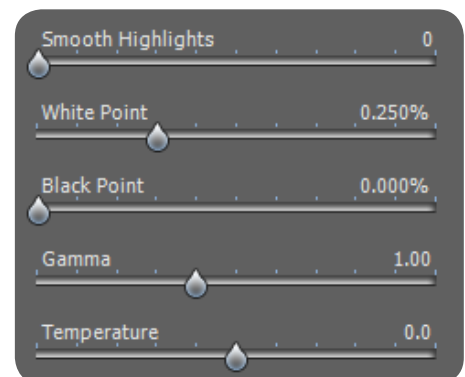
Details Enhancer – More Options

- **Gamma**: Adjusts the brightness of the midtones, which also has an impact on the overall contrast. Moving the slider to the right brightens the midtones and decreases the contrast. Moving to the left darkens the midtones and increases the contrast. The default value is 1.0.

- **Temperature:** Adjusts the color temperature of the tone mapped image relative to the temperature of the HDR source image. Moving the slider to the right gives a 'warmer', more yellow-orange colored look. Moving it to the left gives a 'colder' more bluish look. A value of 0 (default) preserves the original color temperature of the HDR source image.

Advanced Options

- **Micro-smoothing:** Smoothes out the enhancement of small details, which has the effect of reducing noise in the sky for instance, and tends to give a 'cleaner' look to the result

- **Saturation Highlights:** Adjusts the color saturation of the highlights relative to the color saturation set with the Color Saturation slider. Values higher than 0 increase the color saturation in the highlights. Values lower than 0 decrease it. The default value is 0.

- **Saturation Shadows:** Adjusts the color saturation of the shadows relative to the color saturation set with the Color Saturation slider. Values higher than zero increase the color saturation in the shadows. Values lower than zero decrease it. The default value is 0.

- **Shadows Smoothness:** Reduces contrast enhancements in the shadows.

- **Shadows Clipping:** The value of the Shadows Clipping sets how much of the shadows range is clipped. This control may be useful to cut out noise in the dark area of a photo taken in a low-light situation.

- **360º image:** Checking this option eliminates the seam between the left and right sides of a panorama viewed in a 360 degree panoramic viewer. This option is intended for a stitched panorama - it should not be used for individual frames of a panorama that have not yet been stitched.
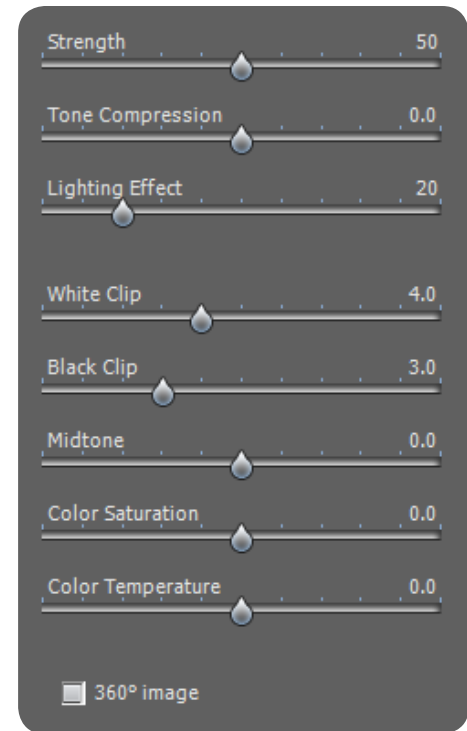
Important Note

The Loupe may not properly show the effect of the **Micro-smoothing** setting when the area magnified is uniform. If you want to see the effect of the Micro-smoothing setting at 100% resolution on a uniform area such as the sky, you will have to select an area that contains an object in the scene in addition to the sky.

Details Enhancer – Advanced Options

## 3.4   Tone Mapping Contrast Optimizer Settings

- **Strength**: Affects the amount of enhancement given to contrast and detail in the image. A value of 100 gives the greatest enhancement. Moving the slider to the left gives a more natural effect. The default value is 50.

- **Tone Compression**: Alters the dynamic range of the tone mapped image. Moving the slider to the right decreases the dynamic range, brightening the shadows and darkening the highlights. Moving to the left has the opposite effect, giving a more 'natural' look to the image.

- **Lighting Effect**: Controls the prominence of the shadows, affecting the overall look of the image. Moving the slider to the right brightens the shadows, giving a more 'vibrant' or surreal look. A value of zero disables the effect, leaving the shadows unaffected. The default value is 20.

- **White Clip:** Adjusts the amount of highlights clipping. Moving the slider to the right brightens the image and increases global contrast. Moving to the left decreases global contrast and reduces highlights clipping.

- **Black Clip**: Adjusts the amount of shadows clipping. Moving the slider to the right darkens the image and increases global contrast. Moving to the left decreases global contrast and reduces shadows clipping.

Contrast Optimizer Settings

- **Midtone**: Adjusts the brightness of the midtones, which also has an impact on the overall contrast. Moving the slider to the right brightens the midtones and decreases contrast. Moving to the left darkens the midtones and increases contrast.

- **Color Saturation**: Adjusts the color saturation of the image. The greater the saturation, the more intense the color. Setting the slider to its lowest value (-10) produces a grayscale image.

- **Color Temperature**: Adjusts the color temperature of the tone mapped image relative to the temperature of the HDR source image. Moving the slider to the right gives a 'warmer', more yellow-orange colored look. Moving it to the left gives a 'colder' more bluish look. A value of 0 (default) preserves the original color temperature of the HDR source image.

- **360º Image**: Checking this option eliminates the seam between the left and right sides of a panorama viewed in a 360 degree panoramic viewer. This option is intended for a stitched panorama - it should not be used for individual frames of a panorama that have not yet been stitched.

3.5 Tone Mapping Tone Compressor Settings

- **Brightness**: Adjusts the overall brightness of the image.

- **Tonal Range Compression**: Controls the compression of the tonal range. Moving the slider to the right has the effect of shifting both shadows and highlights toward the midtones.

- **Contrast Adaptation**: Adjusts the contrast in relation to the average brightness. Moving the slider to the right tends to decrease contrast and give more 'pronounced' colors. Moving to the left tends to increase contrast and give a more 'natural' look.

- **White Clip**: Adjusts the amount of highlights clipping. Moving the slider to the right brightens the image and increases global contrast. Moving to the left decreases global contrast and reduces highlights clipping.

- **Black Clip**: Adjusts the amount of shadows clipping. Moving the slider to the right darkens the image and increases global contrast. Moving to the left decreases global contrast and reduces shadows clipping.

- **Color Saturation**: Adjusts the color saturation of the image. The greater the saturation, the more intense the color. Setting the slider to its lowest value (-10) produces a grayscale image.

- **Color Temperature**: Adjusts the color temperature of the tone mapped image relative to the temperature of the HDR source image. Move the slider to the right for a warmer, more yellow-orange colored look. Move it to the left for a colder, more bluish look. A value of 0 (default) preserves the original color temperature of the HDR source image.
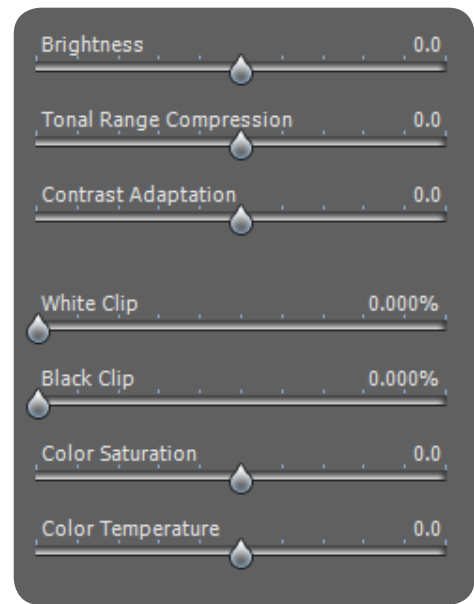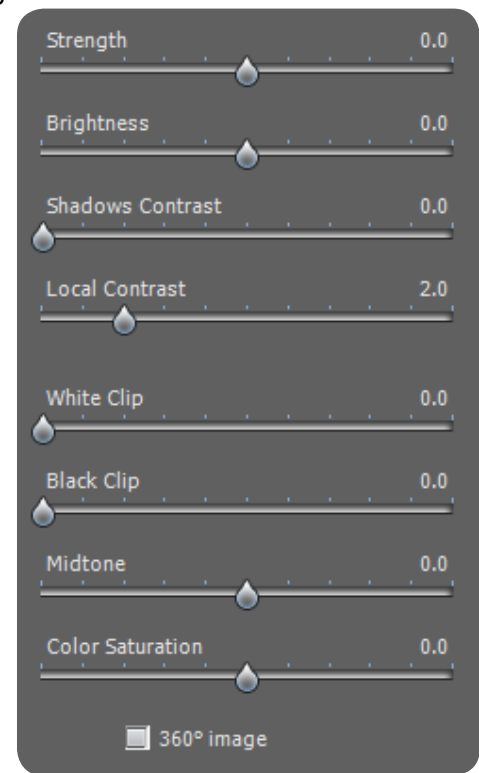

Tone Compressor Settings

3.6   Fusion Settings

3.6.1   Fusion/Natural Settings

* **Strength**: Sets by how much local contrast is accentuated. Moving the slider to the right tends to brighten the shadows and to show more details in the highlights. Moving to the left produces a more 'natural' effect.

* **Brightness**: Controls the brightness of the fused image by adjusting the influence each of the input photos has on the final result. Moving the slider to the right gives the overexposed photos more influence, resulting in a brighter result. Moving to the left darkens the result by giving the underexposed photos more influence.

* **Local Contrast**: Increases the contrast and sharpness of details in the image. Increasing local contrast may have the side effect of making noise more visible and of creating thin halo effects around strong luminosity edges. Values near the maximum tend to give a surreal look to the image. The default value is 2.

* **Shadows Contrast**: Increases the contrast of shadows in the image by darkening the areas of heaviest shadow and brightening the midtones, giving a more realistic effect.

* **White Clip**: Adjusts the amount of highlights clipping. Moving the slider to the right brightens the image and increases global contrast. Moving to the left decreases global contrast and reduces highlights clipping.

* **Black Clip**: Adjusts the amount of shadows clipping. Moving the slider to the right darkens the image and increases global contrast. Moving to the left decreases global contrast and reduces shadows clipping.

* **Midtone**: Adjusts the brightness of the midtones, which also has an impact on the overall contrast. Moving the slider to the right brightens the midtones and decreases contrast. Moving to the left darkens the midtones and increases contrast.

* **Color Saturation**: Adjusts the color saturation of the image. The greater the saturation, the more intense the color. Setting the slider to its lowest value (-10) produces a grayscale image.

* **360º Image**: Checking this option eliminates the seam between the left and right sides of a panorama viewed in a 360 degree panoramic viewer. This option is intended for a stitched panorama - it should not be used for individual frames of a panorama that have not yet been stitched.

Fusion/Natural Settings

3.6.2   Fusion/Real-Estate Settings

- **Highlights**: Adjusts bright areas in the image. Moving the slider to the right brightens the highlights. Moving to the left darkens highlights and recovers more highlight details.

- **Shadows**: Adjusts dark areas in the image. Moving the slider to the right brightens shadows and recovers more shadows details. Moving to the left darkens shadows.

- **Local Contrast**: Increases the contrast and sharpness of details in the image. Increasing local contrast may have the side effect of making noise more visible and of creating thin halo effects around strong luminosity edges. Values near the maximum tend to give a surreal look to the image. The default value is 2.

- **Color Saturation**: Adjusts the color saturation of the image. The greater the saturation, the more intense the color. Setting the slider to its lowest value (-10) produces a grayscale image.

- **Highlights Depth**: Affects the colors of the highlights in the image. Moving the slider to the right adds depth to the highlights, darkening the highlights and increasing their colorfullness

360º Image: Checking this option eliminates the seam between the left and right sides of a panorama viewed in a 360 degree panoramic viewer. This option is intended for a stitched panorama - it should not be used for individual frames of a panorama that have not yet been stitched.
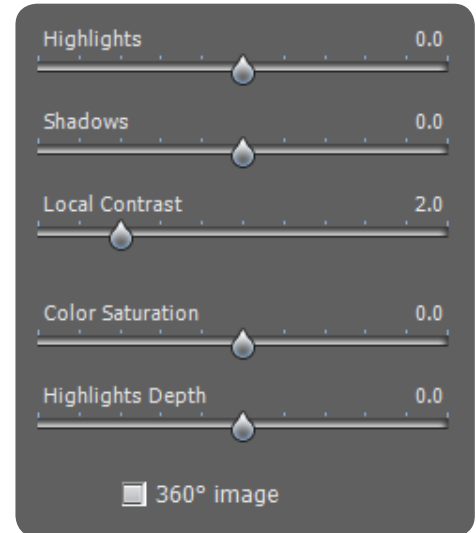

Fusion/Real-Estate Settings

3.6.3 Fusion/Intensive Settings

Strength: Adjusts the strength of local contrast enhancements.

- **Color Saturation**: Adjusts the color saturation of the image. The greater the saturation, the more intense the color. Setting the slider to its lowest value (-10) produces a grayscale image.

- **Radius**: Controls the area used to calculate the weighting of the source images. A higher radius reduces halos, but increases processing times significantly. The default value is 70.
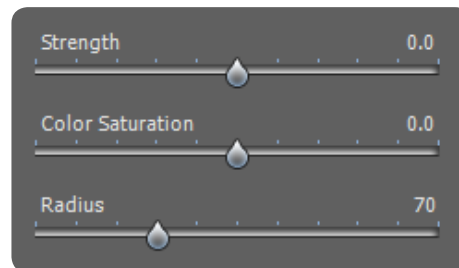
Fusion/Intensive Settings

3.6.4 Fusion/Average, /Auto, /2 Images Settings

There are no setting options for the Fusion/Average or Fusion/Auto methods.

The Fusion/2 Images method allows you to choose to fuse any combination of two images from among the loaded bracketed set.

Fusion/2 Images Settings

3.7   Replace Selection with Source

An HDR-processed image might look exactly the way you want, except for one area. For example, the sky might have more contrast or be darker than desired. The "Replace selection with source" feature lets you replace that area with the same area from any one of the source images, to bring the tonemapped or fused image closer to what you want.

3.7.1   Selecting the Area to be Replaced

To enable this feature, click the Selection Mode checkbox. The Polygonal Lasso is the default tool.

We recommend using the Polygonal tool, but you can use the Normal or Magnetic tool if you prefer. Selection works differently, depending on the tool.

Selection Mode checkbox

- **Polygonal lasso**
  - Click to set the selection line's starting point.
  - Move the mouse and click to create a straight segment, attached to the previous point. Repeat to create additional segments.
  - To close the selection, double-click, or single-click on the starting point.
- **Normal lasso**
  - Click and drag the mouse to draw a freehand selection.
  - Release the mouse button to close the selection.
- **Magnetic lasso**
  - Click and drag the mouse as with the Normal lasso. If an edge is within the Width setting, the selection path snaps to the edge.
  - To close the selection, double-click, or single-click on the starting point.

Choosing a Lasso
- The Polygonal lasso is ideal for areas with straight sides, and good for large areas (because you don't have to hold down the mouse button).
- The Normal lasso is good for areas with curved sides. It's not the best choice for large areas, because you have to hold down the mouse button as you drag.
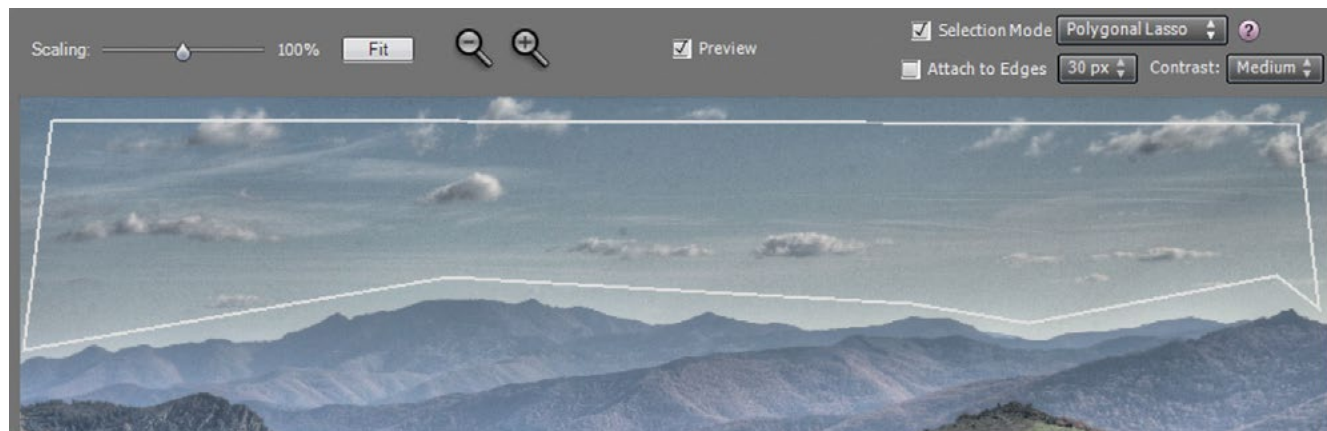
A selection drawn with the polygonal lasso

3.7.2 Fitting the Selection to the Area's Edges

The area to be replaced usually has at least one irregular border (such as the mountains in this sample photograph). It's difficult to draw irregular borders exactly, and you don't have to. You can draw approximate borders, and Photomatix will fit them for you by "finding the edges".

Finding the edges

The borders of the area you want to replace are almost always at edges — large changes in brightness between adjacent pixels. In the sample photo, the transition between the light sky and the darker mountains is an edge.
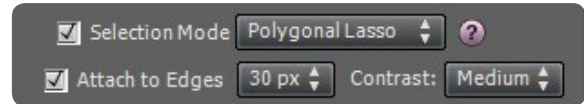
Attach to Edges checkbox

Selecting the Attach to Edges checkbox causes Photomatix to search for an edge near the selection path you drew. The selection path is then redrawn along the edge — in this case, the mountains.
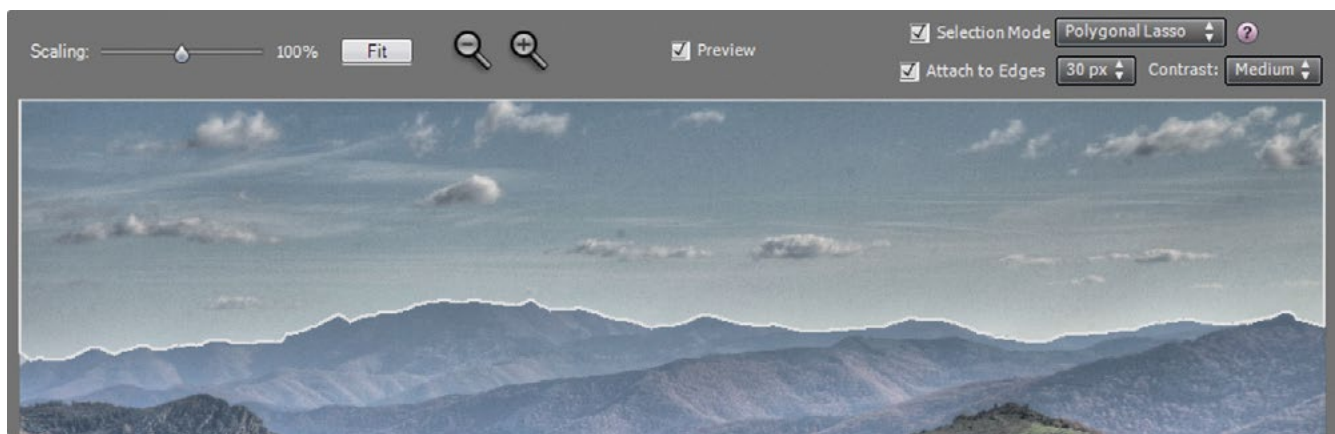
Polygonal selection after clicking "Attach to Edges"

The Contrast setting (Low, Medium, High) determines whether a difference in brightness is large enough to be detected as an edge. The higher the setting, the greater the brightness difference has to be.

The Width box (next to the Attach to Edges box) sets the maximum distance Photomatix searches (in pixels) from the original selection path. If Photomatix finds an edge within the Width setting, the selection is redrawn to fit the edge. If Photomatix finds a border of the image, the selection is redrawn along the border.

Changing the Width or Contrast setting immediately redraws the selection path to reflect the new value.

To undo the edge fit, clear the Attach to Edges checkbox.

3.7.3   Replacing the Selected Area

Right-click (Windows) or control-click (Macintosh) anywhere within the selection. A contextual menu appears.

– If you loaded bracketed photos, the menu identifies them by their exposure difference, relative to the "normal" exposure. Click the photo at the EV you want.
– If you loaded a single image, click "Replace with source".
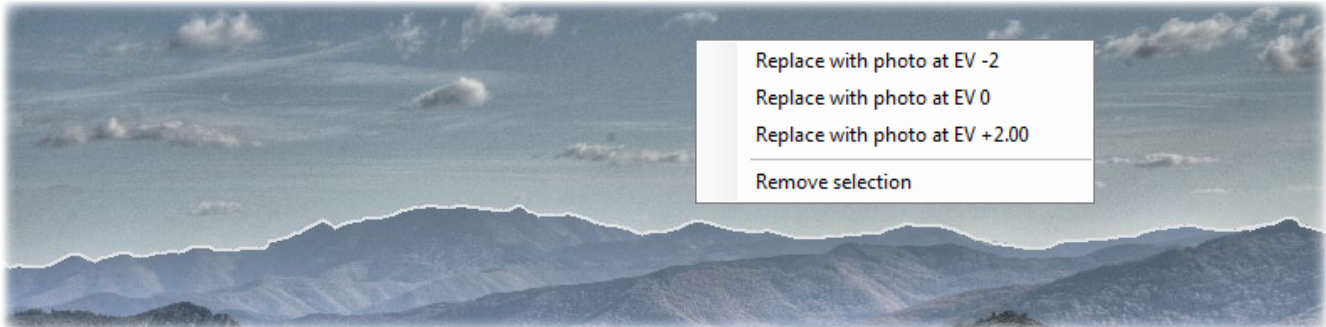
Replacing the selected area

If you prefer not to see the lines marking your selection, uncheck the Selection Mode checkbox.

To discard the replacement and return to the initial preview, right-click within the selection and select the checkmarked item in the contextual menu.
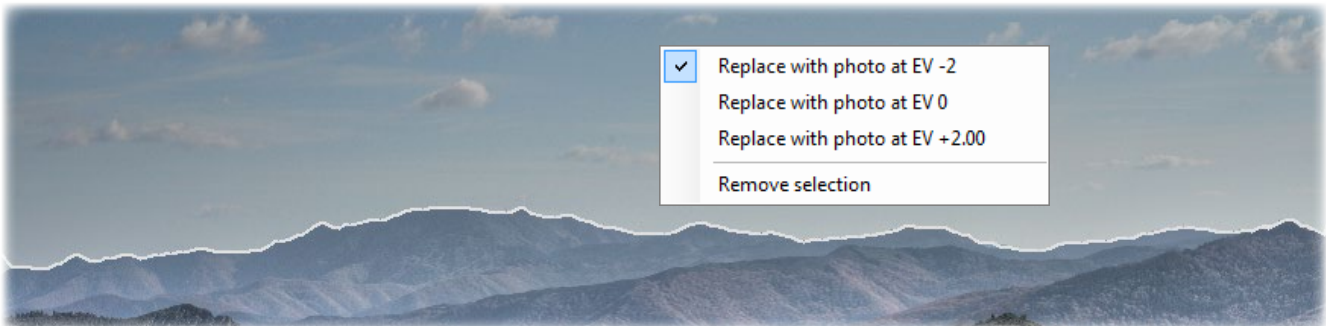
Returning to the initial preview

4   Automating with Batch Processing

Use batch processing to automatically process image files. The batch processing tool saves time processing many images. Photomatix Pro offers two different batch modes:

- **Batch Bracketed Photos**: Processes bracketed sets using HDR Tone Mapping and/or Exposure Fusion all in one step, which can save you a lot of time when you have many bracketed sets to process.

- **Batch Single Photos**: Processes multiple single image files using Tone Mapping.

4.1   Batch Processing Bracketed Photos

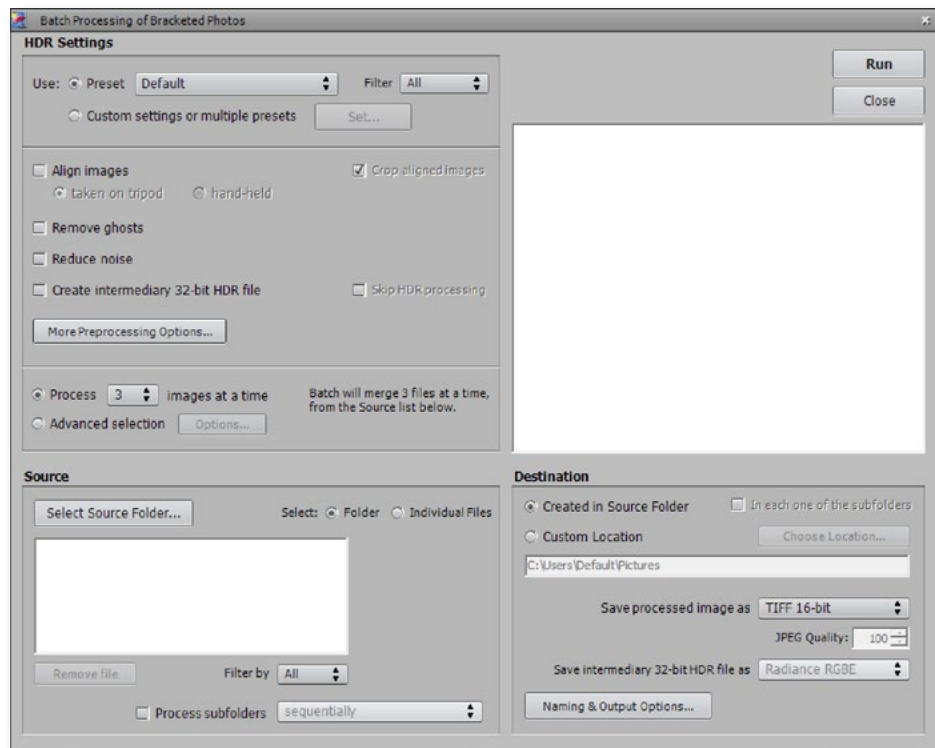This section describes batch processing of bracketed photo sets, taken under multiple exposure settings.

Batch Processing of bracketed photos

4.1.1   Using Batch Processing

To batch process multiple sets of bracketed photos follow these steps.

1. Open the **Batch Processing of Bracketed Photos** window by:

    Clicking the **Batch Bracketed Photos** button in the **Workflow Shortcuts** panel

    OR

    Using the ⌘**B** keyboard shortcut

    OR

    Selecting **Batch Bracketed Photos** from the **Automate** menu.

2. Select a preset from the **Use: Preset** menu.
    This preset will be applied to all the bracketed sets in this batch.

> **Note**
>
> The **Custom settings or multiple presets** window allows you to process multiple bracketed sets with multiple presets.
> This more advanced batch option is explained in section 4.1.3 below

3. Configure basic preprocessing options, to specify alignment, ghost removal, noise reduction, and whether to create and save an unprocessed 32-bit merged file.

Note

The **More Preprocessing Options...** button provides access to deeper preprocessing settings.

4. Select the number of exposures to combine using the pull-down menu below the checkboxes. For example, select "3" if your bracketed sets consist of three exposures each.

5. In the Source area, select the folder where the bracketed photo sets are located. The files are arranged in alphabetical order. "N" files at a time are processed with "N" being the number specified in the previous step.

6. To save the results in a different folder than the folder containing the source photos, select **Custom location** option in the Destination frame at the bottom right of the window, and then click **Choose Location...** to specify where to save the processed images.

   OR

   Accept the default of **Created under source folder** to create a subfolder with the name PhotomatixResults in the source image folder.

7. In the **Destination** pane, select the output file type. When using JPG file output, select the amount of JPEG compression. 100 gives the least compressed JPEG file, with most image quality retained.

8. Click **Naming and Output Options** if you would like to rename, resize, add contrast or sharpen the saved images.

9. Click **Run** to start batch processing.

While the batch is running, the processing status will display in the area below the **Run** button. When processing is complete, a link to the batch results will be displayed
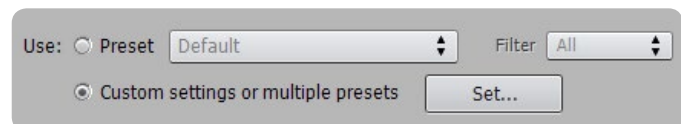
4.1.2 Custom Settings or Multiple Presets window

The **Custom Settings or Multiple Presets** window is accessed by clicking the **Set...** button at the top of the batch processing window.

This window allows you to compile a list of multiple built-in presets and/or custom settings, to be applied to a single bracketed image set or to a batch of bracketed image sets. This feature may be thought of as "Preset batches". The presets batch lists compiled in this window are applied to the image set batches which are specified in the Source frame of the main batch window.

Preset batches applied to bracketed sets provides a wide range of processing options. You may wish in some instances to work with just a single bracketed set, and apply a batch of 20 or 30 different presets to it, allowing you to conveniently test which presets give the most pleasing results for a given image set.

Another strategy is to apply several different favorite presets to multiple image sets. Be aware, while exploring this tool, that the batch results can become very large.

Click "Set..." to set up preset batches
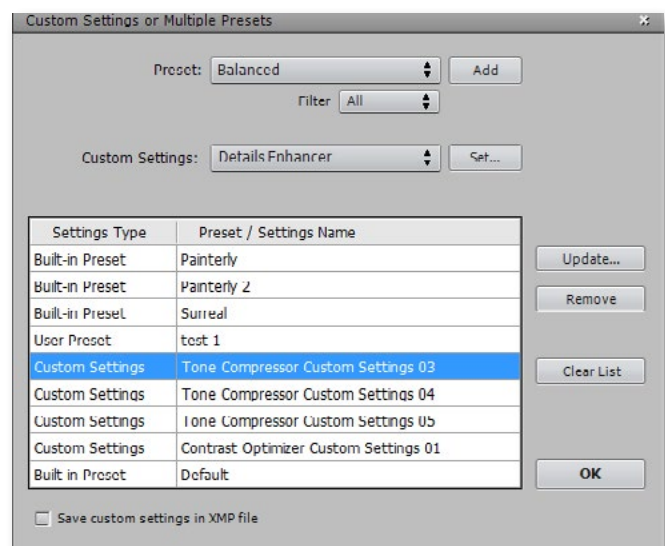
Custom Settings or Multiple Presets window

For example, **30** Presets applied to **30** bracketed sets will output **900** processed images. Plan ahead for the processing time and the disk space required when combining large preset batches with large image set batches.

To set up a batch of existing presets, follow these steps:

1. Select a Built-in preset, or one of your own saved presets, from the **Preset** menu and then click **Add.** This preset will appear in the list frame.

2. Repeat step 1 as many times as you like, to add additional presets to the list.

3. If you wish to remove a preset from the list frame, select it and click **Remove**.

4. You may now click **OK** to close this window. The specified presets will be applied the next time a batch is run.

To set up a batch of modified presets or new custom settings, follow these steps:

1. Select a method from the **Custom Settings** menu, and then click **Set...** The Settings Adjustments window for the selected method will open.

2. Select a method preset from the Presets: menu, and modify as desired. OR Modify the existing settings. The existing settings are the default for that method.

3. Click **OK**. The new custom setting will be added to the list frame.

4. Repeat steps 1, 2 and 3 as many times as you like, to add additional custom settings to the list.

5. If you wish to update a previously added custom setting, select it in the list frame, and click **Update...**

6. If you wish to remove a custom setting from the list frame, select it and click **Remove**.

7. You may now click **OK** to close this window. The specified presets will be applied the next time a batch is run.

4.1.3   More Preprocessing Options

Use the **More Preprocessing Options...** button to access more advanced settings, some of which provide deeper control over the basic preprocessing settings available in the main batch window.

4.1.4   32-bit HDR File Creation Advanced Settings

Force Exposure Values spacing to: Forces the EV spacing to the specified value. This option can be used when the exposure information is not available in the EXIF data, if two or more images have the same exposure information, or to force the EV spacing in all cases. In the latter case, the exposure information in the EXIF data is ignored.

Please refer to sections 2.1.2 and 2.1.6 above for a description of the other preprocessing settings.
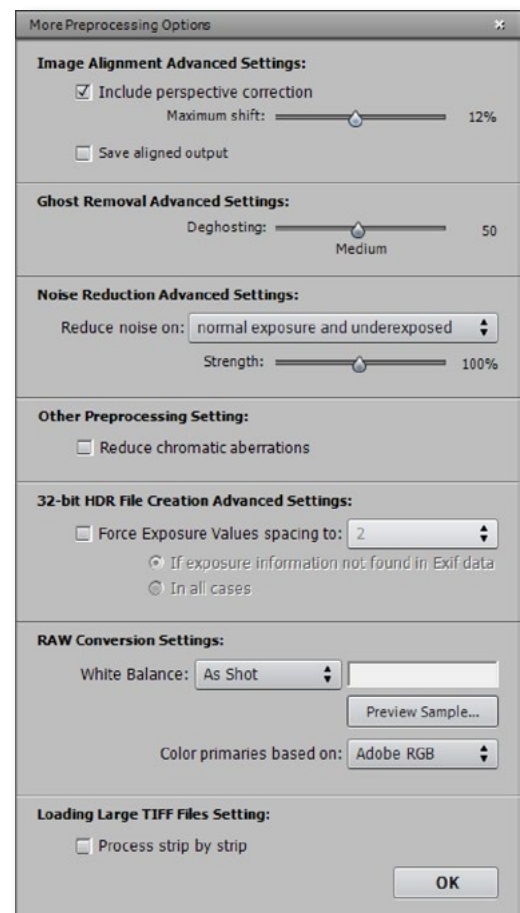
More Preprocessing Options window

4.1.5 Batch Processing Subfolders

When your bracketed series are located in multiple folders, they can all be processed in one run, provided they are in subfolders of the same parent folder. To batch process multiple subfolders, check the **Process subfolders** option at bottom of the **Source** frame on the **Batch Processing** dialog and select **sequentially**.

Note

All of the subfolders must be contained in the main parent folder for this option to work properly.

When "**Process subfolders sequentially**" is selected, the batch will process the bracketed image files in one subfolder and then move on to the next subfolder, all of which are contained in the main parent folder.

Processing Series of Photos with Varying Numbers of Exposures

When your bracketed sets are composed of varying numbers of exposures, you can use "**Process subfolders sequentially**" to combine the exposures in these sets in one batch run. Place each set in a separate subfolder, group the subfolders under a parent folder, select **Process subfolders sequentially** and select **All** from the pull-down menu for the number of images to process at one time.

Grouped by Exposures Option

If you are processing bracketed photos that will be part of a panorama, you may find it useful to be able to organize your photos in such a way that all exposures of the same levels are in the same folder. Let's take as an example a panorama composed of four views that need to be stitched, with each view having been taken under three exposures: -2, 0, +2. You will then have 12 photos, and may need to place them in three separate subfolders composed of four photos each as follows:

- *Subfolder1* contains the four photos for the panorama taken at EV -2
- *Subfolder2* contains the four photos for the panorama taken at EV 0
- *Subfolder3* contains the four photos for the panorama taken at EV +2

If you check "**Process subfolders**" and select "**grouped by exposures**", the batch will combine the first file of *Subfolder1* with the first file of *Subfolder2* and the first file of *Subfolder3*. The batch will then combine the second file of *Subfolder1* with the second file of *Subfolder2* and the second file of *Subfolder3*, and so on for the third and fourth file of each subfolder.

4.1.6 Advanced Selection Options

The following items are accessed from the Process frame when you click **Advanced** and click **Options** to configure automatic selection of bracketed image files.

Click **Automatically detect the number of bracketed frames** when processing a folder that contains files in addition to those in the set of bracketed frames or when the number of frames in the set varies. Photomatix Pro uses the metadata from the image files to perform automatic bracketed set detection.

- Specify a range using the two drop-down lists to automatically detect the number of bracketed frames.
- Move the **Maximum time between two successive frames** slider right or left to allow more or less time (read from the metadata). If your camera is set on continuous shooting and takes 3 frames/second, for example, then the slider could safely be set on 1 second.
- Click **Select only part of the frames in bracketed set** to load only selected frames from a bracketed set.
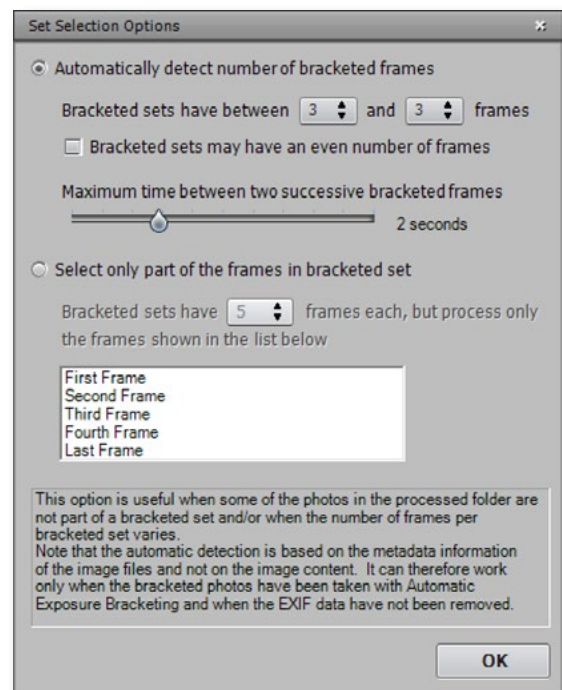
**Advanced batch processing options**

- Specify the total number of frames in each set using the drop-down list.
- Select the specific frames to process from the list. Select more than one file by holding down the Control key (Windows) or Command key (Mac) and clicking on the desired frames.

4.2   Batch Processing Single Images

To process a batch of single image files:

1. Open the **Batch Tone Mapping of Single Photos** window by:
    Click the **Batch Single Photos** button in the **Workflow Shortcuts** panel

    OR

    Select **Batch Single Photos** from the **Automate** menu.

2. To select the source folder that contains the files, click **Select Folder**, and Navigate to the folder that contains the files and click **OK**.
    The folder path and the files in the folder will be displayed.

3. Optionally, you may select a subset of the displayed files to process:
    Hold the Control key (Windows) or Command key (Mac), and click to specify files for processing.

4. To process the selected files using an existing preset, select a preset from the **Use: Preset** menu.

    To Process the selected files using a new

    custom setting, select a method from the **Use: Custom Settings for** menu, then click **Set...**, and then configure the preset as desired.
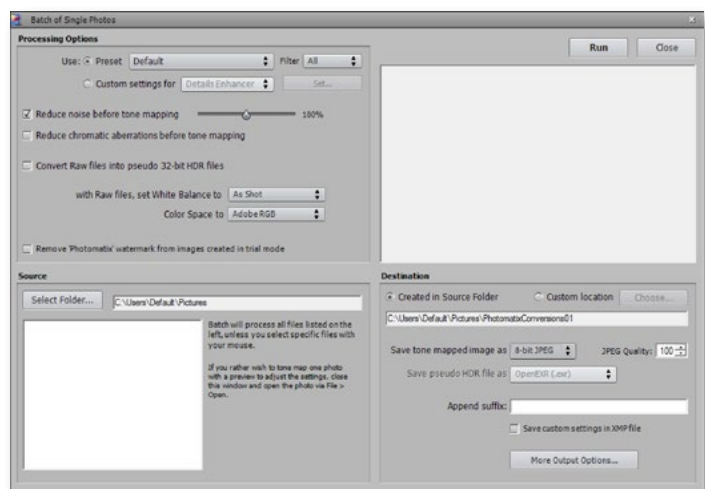
5. Click the checkboxes for noise reduction and CA correction, if needed.

Batch Tone Mapping of Single Photos

6. To select a destination folder, click **Created under Source Folder** to save the images in the same folder as the source files.

    OR

    Click **Customized Location** to save the images in a different folder.
    Click **Choose** to select the destination folder.
    The folder path will be displayed.

7. Select the output file type. When using JPG file output, select the amount of JPEG compression. 100 gives the least compressed JPEG file, with most image quality retained.

8. Click **Run**. The batch processing status displays.

When batch processing is complete, a link to the batch results will be displayed.

> **Note**
> The **Batch Single Photos** feature is intended for automating the processing of a lot of photos. To process a single image file, load the image file using the information in **Section 2.2.**

> **Note**
> To remove the watermark, Photomatix Pro requires that the image was not retouched after the watermark was added to it. If the brightness or contrast of the image was changed, or the image was double tone mapped, or cropped or resized, then Photomatix will not be able to remove the watermark..

5   Tips and Techniques

This section provides tips for working with images in Photomatix Pro. More tips and techniques, and regularly updated information, can be found on the Photomatix Pro FAQ on the HDRsoft website at **http://www.hdrsoft.com/support/faq_photomatix.html**.

5.1   Integrating Lightroom and Photomatix Pro

You can export photos for processing in Photomatix Pro directly from Lightroom and reimport them back into the Lightroom library.

The Lightroom Export to Photomatix plug-in is free and included with the Photomatix Pro package. Please refer to the HDRsoft website at **http://www.hdrsoft.com/download/lrplugin.html** for installation instructions and a short tutorial showing how to use the Lightroom export plug-in for HDR processing in Photomatix Pro.

5.2   Processing RAW files in Third-Party RAW Converters
When using a third-party RAW converter, develop the RAW images with the following settings. As an example, the screenshots show the settings in Lightroom:
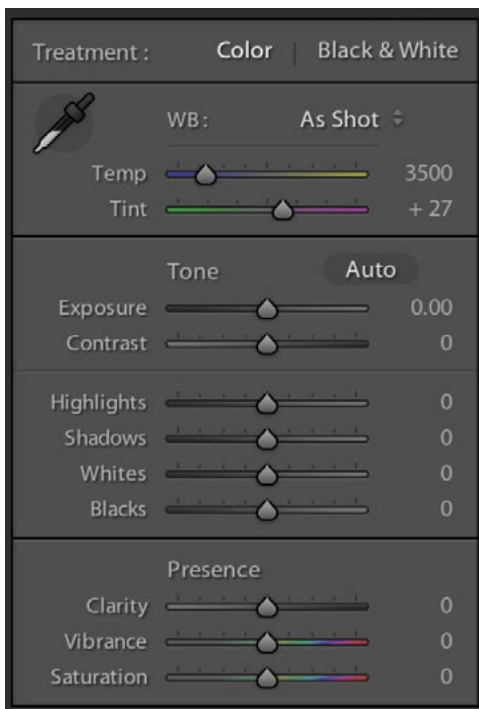
Basic Settings in Lightroom
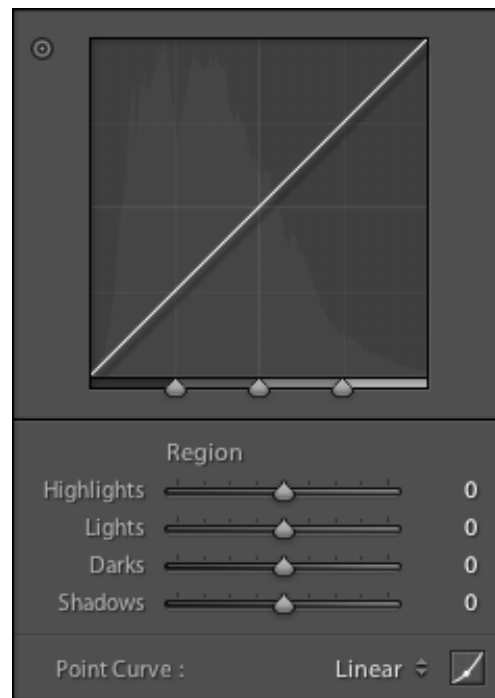
Working with curves in Lightroom

- •   **White Balance**: Use the same white balance for all source photos.
- •   **Basic settings**: Set all to zero. It is particularly important to set the Blacks setting to zero.
- •   **Curves**: Parametric and Point Curves should be linear.
- •   **Details**: Set the Sharpening Amount to zero5.3

Dealing with Noise

When you process your photos using Exposure Fusion, the fused image will tend to show less noise than the source images. This is because Exposure Fusion works by directly combining your bracketed photos, thus averaging out noise. However, when you create a 32-bit HDR image, your bracketed photos are assembled in linear space into an image that spans the full range of luminance values captured by the camera. If the lightest photo of your exposure sequence is not bright enough to expose the shadows of the scene, then the noise in the source photographs will be transferred to the HDR image. Noise in the HDR image will then be made more apparent by tone mapping, especially with Details Enhancer as this tone mapping method increases local details.

Though Photomatix Pro includes options to reduce noise, it is still always better to avoid noise at capture time as much as possible. There are two tips to ensure a low noise level:

- **Tip 1**: Set a low ISO setting (ISO 100 or lower) whenever possible

- **Tip 2**: Overexpose sufficiently, ensuring that the lightest image of your exposure sequence has its shadows in the mid-tones.

5.4   Photomatix Pro and Color Management

Photomatix Pro supports color management even if RAW files are processed. You should use the same working space in Photomatix Pro as you use in other image editors (e.g. Photoshop).

Photomatix supports the three most popular working spaces:

- **sRGB**: Use if the images are created only for the web.

- **Adobe RGB**: Popular working space for printing if extremely saturated colors are not used.

- **ProPhoto RGB**: Wide gamut working space. This should never be used for 8-bit images.

For all JPEG and TIFF files, Photomatix Pro preserves the color spaces of the source files.

Glossary

AEB Mode	(Automatic Exposure Bracketing). DSLR cameras and some compact digital cameras offer this feature. It enables you to automatically take three or more exposures in a row: one at the proper exposure, one or more underexposed, and one or more overexposed.
Aperture Priority	In Aperture Priority mode, you select the aperture and the camera determines the correct shutter speed for the available light. The shutter speed also depends on ISO sensitivity. This is the right mode for shooting bracketed shots for HDR (refer to Section 1 for more information).
Bit	Bits represent digital data in computers. Digital Images are made of bits. A bit depth corresponds to 2^(Bit Depth) levels (e.g. 256 for 8-bit).
Bit Depth	The number of bits a file type uses to represent a pixel's color at a given location in an image.
Bracketed images	A group of photos taken with the Automatic Exposure Bracketing function of a camera, resulting in photos of the same scene taken with different exposures.
Chromatic Aberration	As the lens focuses different wavelengths slightly differently, chromatic aberration occurs. For example, the purple fringing you often find around edges (leaves in front of a bright sky).
Contrast Ratio	Another way to describe the dynamic range of a scene. The ratio between the darkest and brightest areas.
dSLR	Digital Single Lens Reflex camera.
Dynamic Range	In the context of photography, the total range of light intensity in a scene, from the deepest shadows to the brightest highlights.
EXIF	The Exchangeable Image File header contains information about the image, the camera, location, date and time and camera settings.
Exposure	The amount of light that enters a camera for the length of time the shutter is open. Exposure depends on aperture and shutter speed, as well as the camera's sensitivity to light (controlled by the ISO). "Exposure" is also shorthand for a photograph or frame (a frame of film).
Exposure Fusion	Combination of bracketed photos in such a way that highlight details are taken from the underexposed photos and shadow details from the overexposed ones.
EV (Exposure Value)	A measure of exposure which is the equivalent of a stop. In the absolute sense, EV is defined as the exposure from a photo taken at 1 second, f/1, and ISO 100. In the relative sense, the correct exposure is normally 0 EV and any deviation is measured in positive or negative EV from that mark.
HDR	High Dynamic Range.

HDR Image	Strictly speaking, an HDR image is an intermediary image with 32 bits per color channel (96 bits per pixel). An HDR image is the result of merging photos of the same scene taken under different exposure settings and stored in special HDR image format. The 32-bit intermediary HDR image must be processed with tone mapping for proper display on standard monitors and prints. It has become very common to define "HDR image" as the result of processing the 32-bit HDR image with tone mapping, i.e. the tone mapped output, but this is not technically correct.
Histogram	Histograms represent brightness distribution in digital images. They help evaluate correct exposure. The y-axis represents the amount of pixels and the x-axis represents the brightness value.
JPEG	A common image file format with two primary strengths – a relatively small file size and universal compatibility. JPEGs use a lossy compression scheme and should not be edited and re-saved.
Noise	Statistical variations inherent in the sensor system cause noise. Noise is always present, but higher sensitivities and smaller sensors usually generate more noise.
Pixel	Digital pictures consist of pixels, the smallest units. Each pixel has a color that can be represented by 8 or 16 bits or as a floating-point number (32bit HDR).
PPI	Pixels per Inch. Can be used to describe the actual pixels per inch of a print. Often confused with DPI (Dots per Inch), used by color printers to print an image.
RAW File	A file containing the raw data from the camera sensor. RAW files do not have a color profile or other stylistic preferences permanently applied.
TIFF	A comprehensive image format that offers lossless compression schemes for smaller file sizes with higher quality. This format is suitable for editing and printing but not publishing on the Web.
Tone Mapping	Processing a 32-bit HDR image into an image that can be properly viewed on monitors and in prints.

Resources

FAQ

You can find more tips, techniques, and regularly updated information in the Photomatix FAQ on the HDRsoft website at http://www.hdrsoft.com/support/faq_photomatix.html.

Learn More

Additionally, the resources page at http://www.hdrsoft.com/resources/ lists Internet tutorials, books and DVDs on the subject of HDR photography that, along with your own experience, will help deepen your understanding of it.

www.hdrsoft.com