unified COLOR™

HDR Expose 3.0

Quick Start Guide

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Please visit www.unifiedcolor.com for expanded tutorials and other information to help you get the most from HDR Expose 3.0.

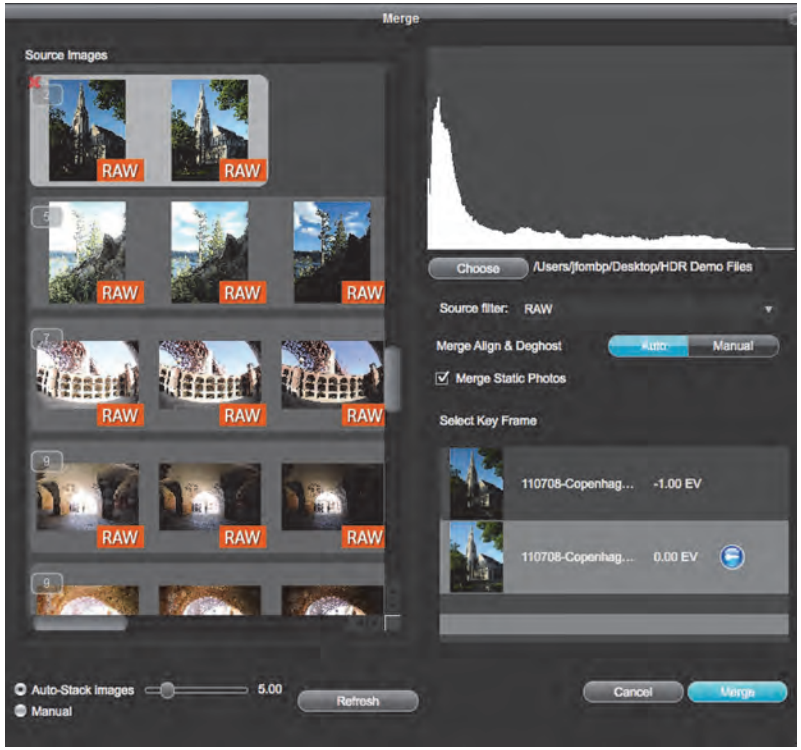
Creating/Merging an HDR Image

You may create or merge multiple exposures into a single HDR image by selecting **Create/Merge a new HDR Image** in the **Startup** dialog or by selecting **File>Merge to HDR**.

Selecting an image folder and filter using the **Choose** and **Source filter** functions. HDR Expose 3.0 automatically displays similar images on a single row in the **Source Images** section to facilitate merging. Each row represents a different potential HDR image. You may either add images manually by clicking each image or automatically by checking the **Auto-Stack Images** radio button and then moving the slider to select the number of images to include in each row. Press [CTRL] or [SHIFT] to select multiple images.

Automatic Merging

After you select the images, HDR Expose 3.0 can automatically merge, align, and de-ghost (reconcile differences among the images, such a waving branch) images if you select the **Auto** option.



To automatically merge images:

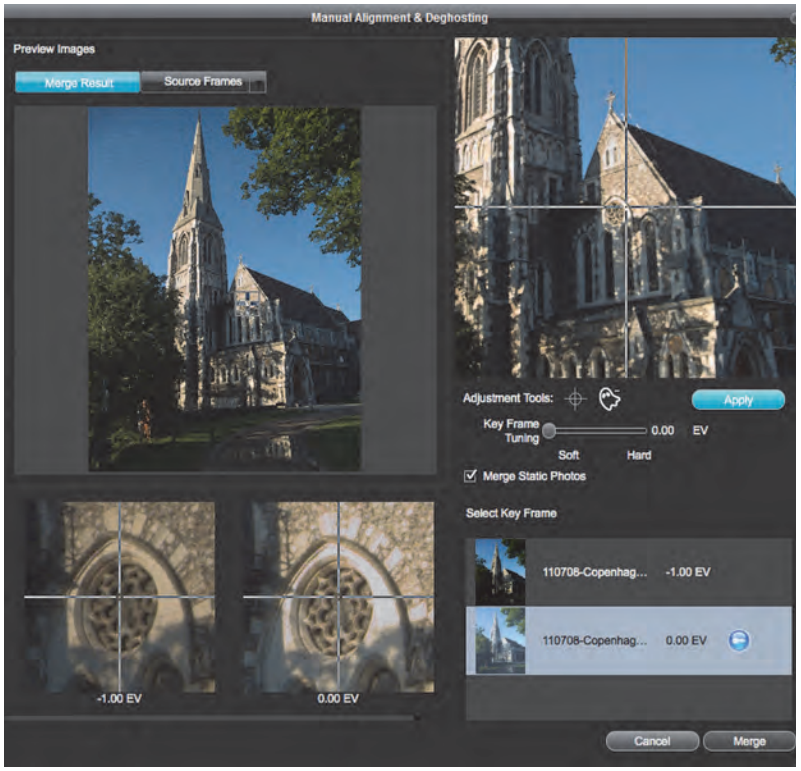
1. Check the **Auto** button.
2. If the images are static (no ghosting), check the **Merge Static Photos** checkbox. Leaving this checkbox blank uses default HDR Expose 3.0 values for the type of image you are merging.
3. Select the key frame (image to base the HDR merge around) by clicking that image in the **Select Key Frame** area.

Easy HDR Creation (continued)

4. Click **Merge**.

Manual Merging

After you select the images, you may manually merge, align, and de-ghost (reconcile differences among the images, such a waving branch) images if you select the **Manual** option.



To manually merge images:

1. Check the **Manual** button.
2. Click **Preview** to open the **Manual Alignment and Deghosting** window.
3. Adjust the level of tuning using the **Key Frame Tuning** slider. Checking the **Merge Static Photos** checkbox sets this value to 0.
4. Moving the cursor around the preview displays a close-up of the merged results on the right side.
5. The **Manual Alignment** tool (crosshair) creates an alignment point and opens a zoomed-in view of the selected area of each source image. You may click and drag one or more of the source images to align it. HDR Expose 3.0 allows you to select up to 8 points. Increasing the number of points allows more precise alignment.
6. The **De-ghost** tool (ghost with a - sign) allows you to select the area(s) from which to remove ghosting. To use this tool, select it and then click the desired location in the image preview. You may adjust the removal radius by dragging the handles.
7. Click **Merge**.

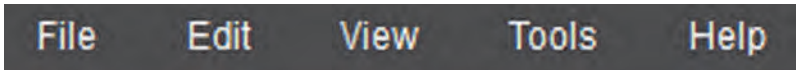
Easy HDR Creation (continued)

Interface Overview

This section provides a quick overview of the HDR Expose 3.0 interface.

Menu Bar

The **Menu Bar** appears at the top edge of the HDR Expose 3.0 interface.



The following menus are available:

- **File**: Work with and manage your image files.
- **Edit:** Perform basic image editing functions and manage presets.
- **View:** Customize the HDR Expose 3.0 interface and zoom in and out of the image you are currently working on.
- **Tools:** Select brushes and control brush behavior.
- **Help:** Access more detailed information about how to get the most from HDR Expose 3.0.

Brightness Histogram

The **Brightness Histogram** displays the 32-bit image brightness channel in EV units (f-stops).

The highlighted range (**Display Zone**) shows you the brightness range of the 32-bit image that is visible on a computer display. The **Display Zone** moves as you adjust the display brightness.

Data to the right of the **Display Zone** indicates "blown out' highlights that are too bright for your monitor to display. Date to the left of the **Display Zone** indicates "lost" shadows that are too dim for your monitor to display.

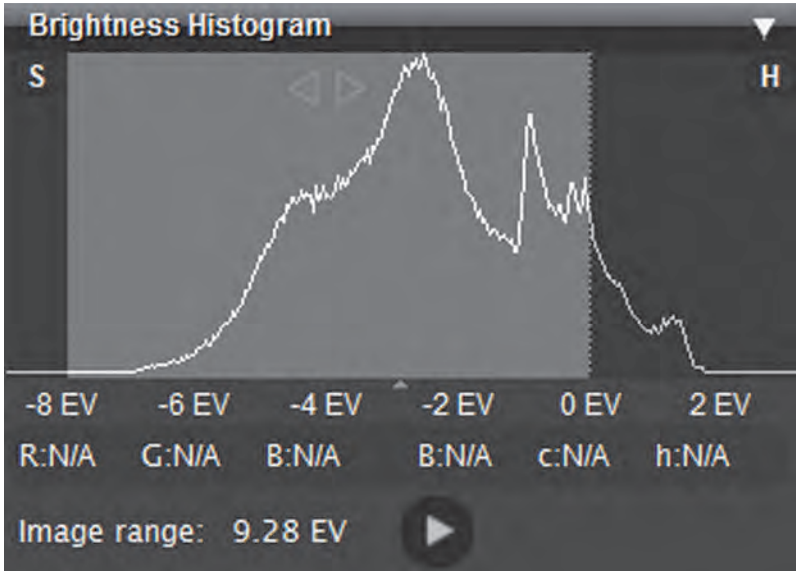
The 0EV point indicates the point of maximum brightness that the monitor can display. When the display brightness is set to 0, values below 0EV indicate the brightness levels in your monitor's range down to -8EV. Values above 0EV indicate values beyond the ability of your monitor to display (overly bright pixels). Values below -8EV are too dark to appear on your monitor.

The **Brightness Histogram** also displays the following information for the current pixel (the pixel under the cursor):

- **R, G, B:** Red, green, and blue channels. This value can be displayed in either 8-bit digital counts (0-255) or in percentage (0-100%).
- **B:** Brightness. This value is displayed in EV and corresponds with the brightness numbers in the HDR Expose 3.0 application.
- **c:** Chroma. This value displays the currently selected pixel's color saturation from 0 to 100%, where 0% is a neutral point and 100% is a fully saturated color.
- **h:** Hue. This value is measured in degrees (0-360°).

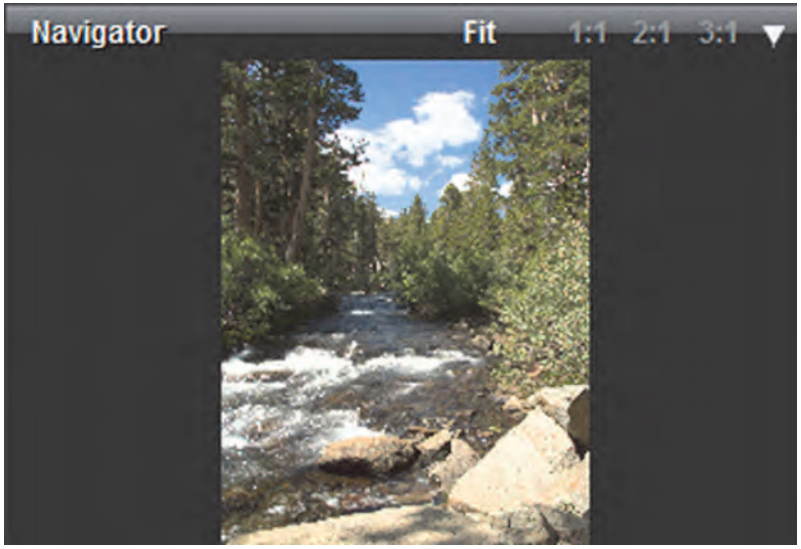
Easy HDR Creation (continued)

- **Warning masks:** Clicking the **Shadow** (**S**) or **Highlight** (**H**) button toggles highlighting areas that are too dim or too bright for your monitor to display.



Navigator

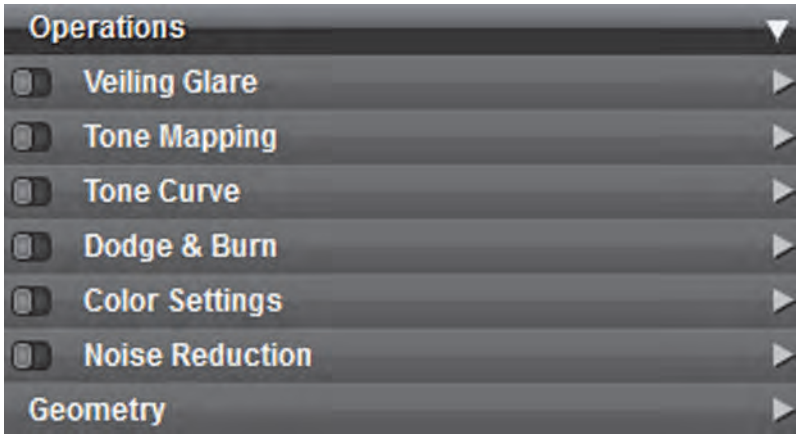
The **Navigator** lets you set a zoom amount and then pan around the image when zoomed.



Easy HDR Creation (continued)

Operations

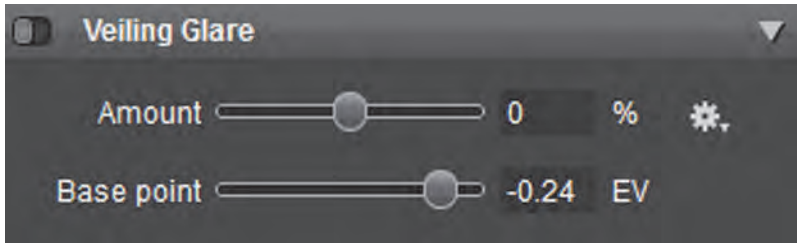
The **Operations** area of the HDR Expose 3.0 interface contains the tools you will use to edit images to get the final results you want. In general, the HDR Expose 3.0 workflow runs from top to bottom; however, you may use any workflow you like to edit your images.



Veiling Glare

The **Veiling Glare** tool can remove lens glare and/or haze. You can also use this tool to obtain very deep blacks, especially for night shots. This tool has the following functions:

- The default base point setting is the point of average brightness.
- Set the amount of glare to remove using the **Amount** slider.



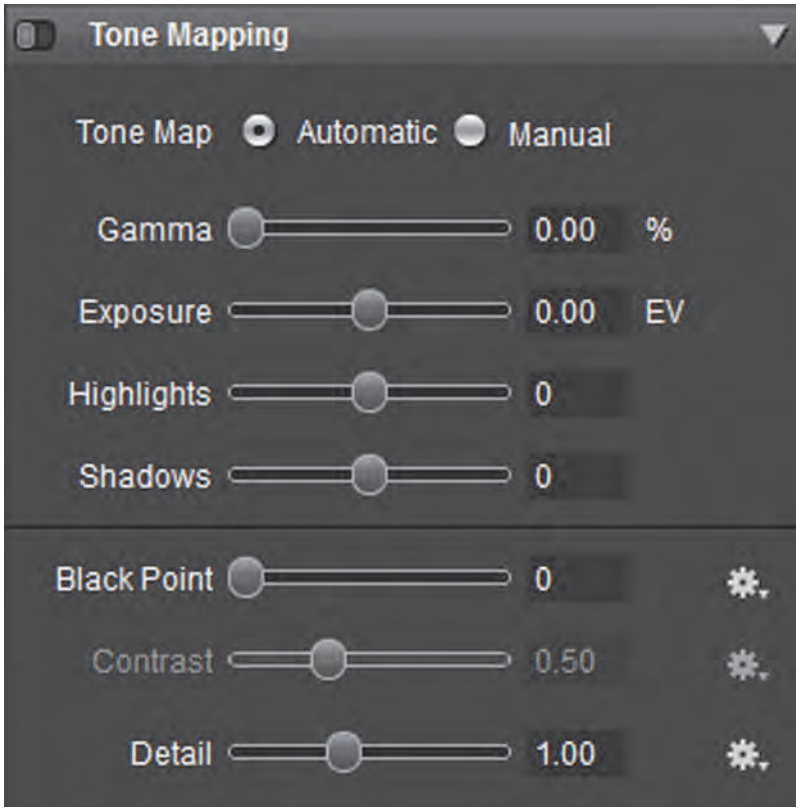
Tone Mapping

The **Tone Mapping** tool adjusts image exposure, brightness, and contrast. This tool has the following functions:

- **Automatic Tone Mapping:** Checking the **Automatic** radio button lets HDR Expose 3.0 analyze the image and automatically set the proper **Exposure**, **Highlights** and **Shadows** values.
- **Gamma:** Adjusts the midtone and shadow brightness.
- **Exposure:** Adjusts the overall image brightness.
- **Highlights:** Lets you recover "blown out" highlight details by adjusting highlights back into display range.
- **Shadows:** Lets you recover "lost" shadow details by adjusting highlights back into display range.
- **Black Point:** Adjusts the neutral black point of the image.
- **Contrast:** Adjusts the global contrast of the image.

Easy HDR Creation (continued)

- **Detail:** Adjusts the local contrast or detail enhancement of the image.

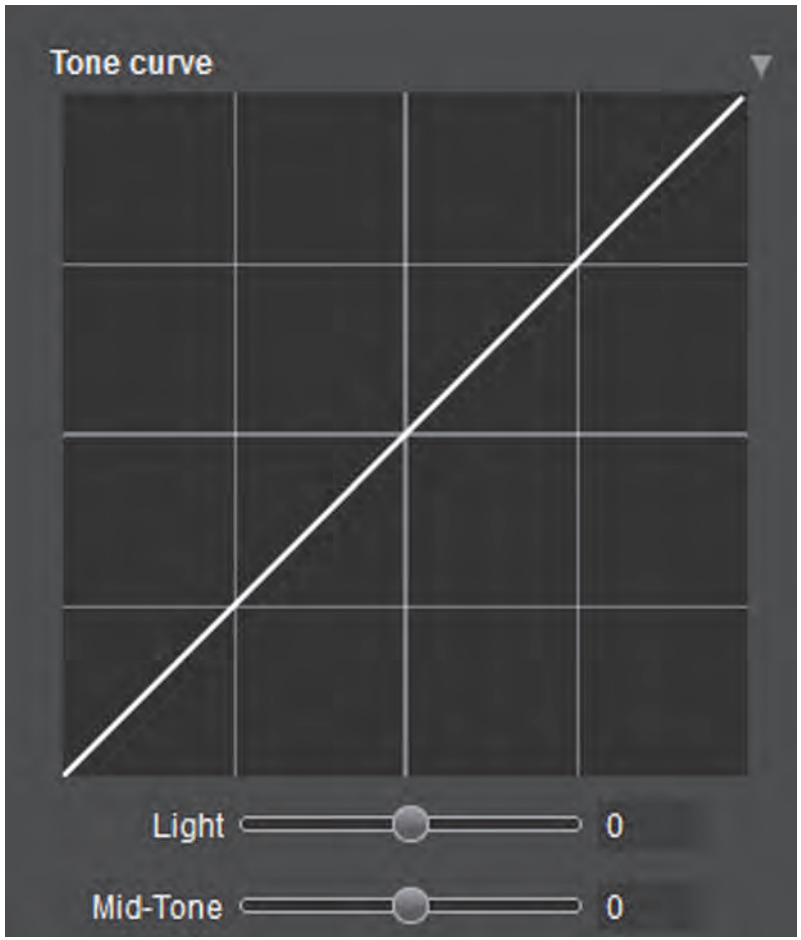


Easy HDR Creation (continued)

Tone Curve

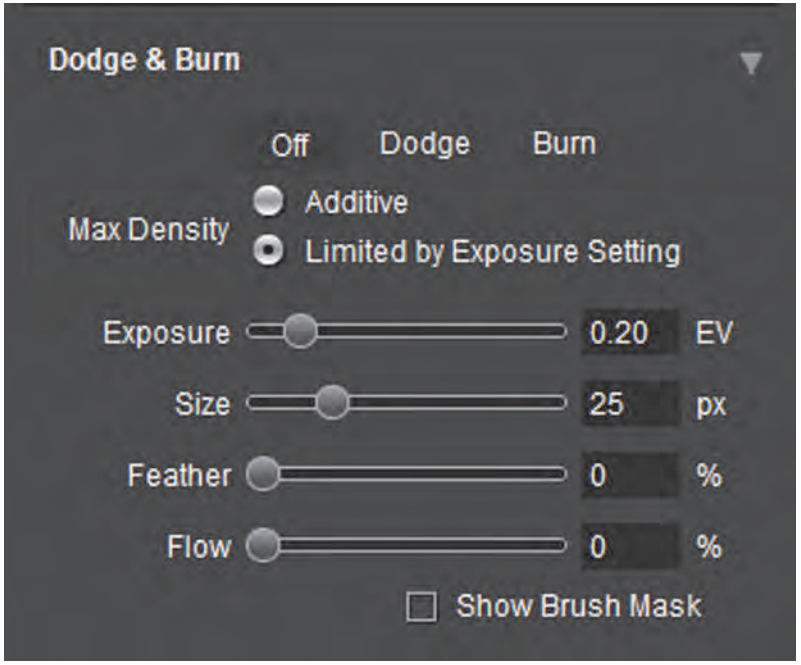
The **Tone Curve** function adjusts the contrast curve for highlight, mid-tone, and shadow tones in your image. This tool has the following functions:

- **Light:** Adjusts the highlight portion of the contrast curve.
- **Mid-Tone:** Adjusts the mid-tone portion of the contrast curve.
- **Dark:** Adjusts the dark portion of the contrast curve.



Dodge & Burn

The **Dodge & Burn** function lets you dodge (lighten) or burn (darken) parts of an image in a color-neutral way by brushing over the desired area of the image.



This function has the following options:

- **Off/Dodge/Burn:** Select **Off**, **Dodge**, or **Burn** as desired.
- **Max Density:** Limits the maximum density you can achieve with multiple brush strokes. Selecting **Additive** means that succeeding strokes over the same area will be added to make the effect increasingly dark or bright with each successive brush stroke. Selecting **Limited by Exposure Setting** means that the **Exposure** setting will determine the maximum amount of change. For example, if the Flow and Feather amount of each stroke adds 0.1EV of density and the **Exposure** setting is 0.5EV, you will be able to make five brush strokes in the same area before reaching the maximum exposure limit. Subsequent brush strokes will have no further effect.
- **Exposure:** Adjust the exposure.
- **Size:** Adjust the brush size, in pixels.
- **Feather:** Adjust the amount of feathering around the brush edges, in pixels.
- **Flow:** Adjust the brush strength, in percent.
- **Show Brush Mask:** Toggles displaying a red mask showing the brush path on and off.

Color Settings

The **Color Settings** tool lets you adjust the colors in the image.

This tool has the following functions:

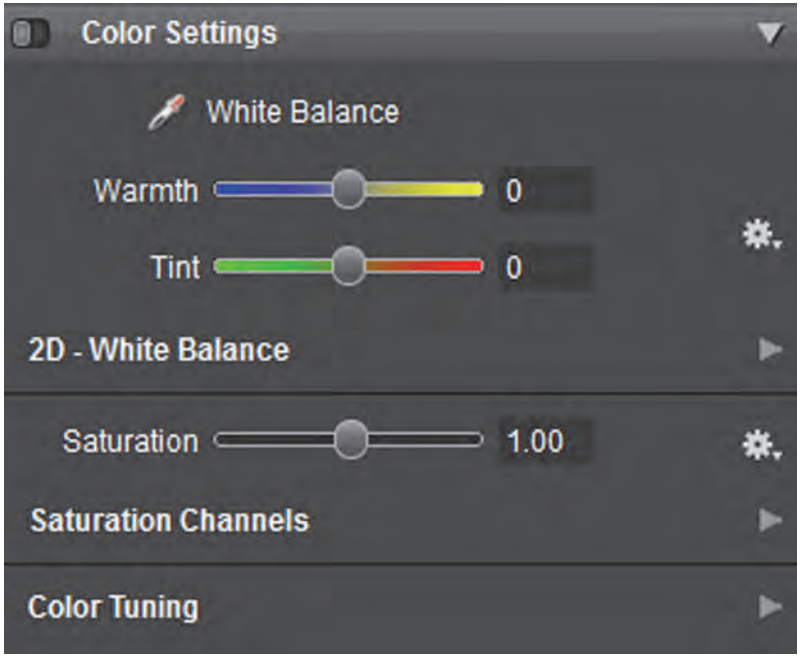
White Balance

The **White Balance** function lets you adjust the white point of your image.

- **Eyedropper:** Select a point in your image.
- **Warmth:** Adjust the warmth (yellow) or coolness (blue) of the white balance.

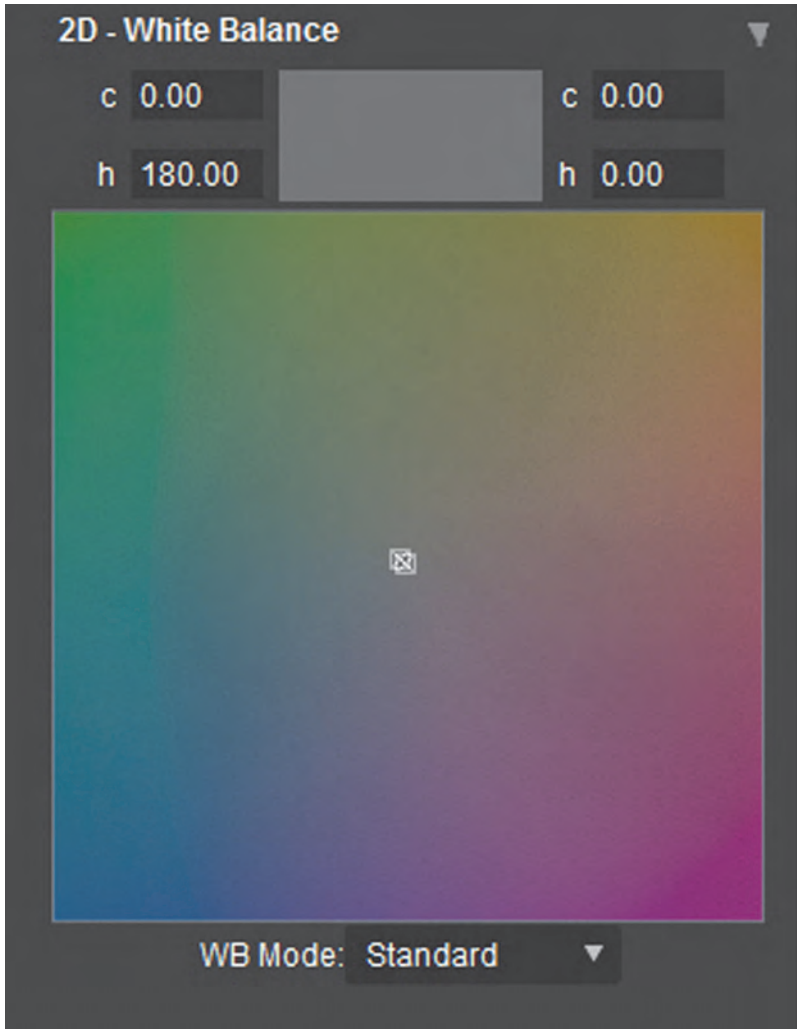
Easy HDR Creation (continued)

- **Tint:** Adjust the red/green tint of the white balance.



2D - White Balance

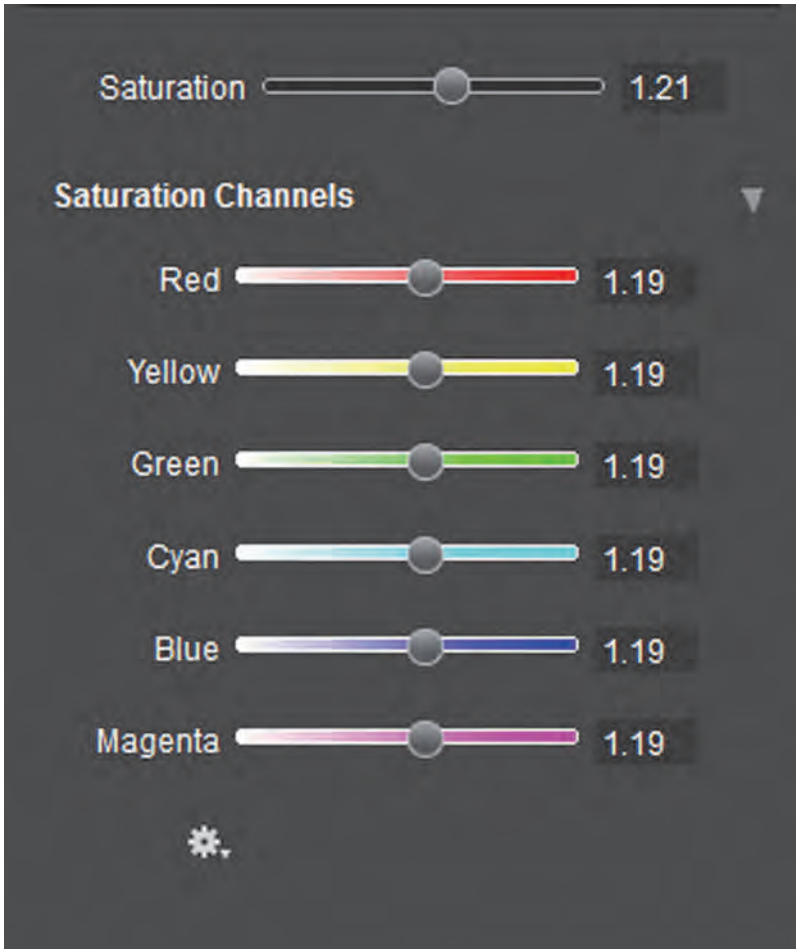
The **2D White Balance** function provides another method for adjusting the white balance of the image. The box indicates the current white balance setting. To change the white balance, click and drag the **X** marker to the new white balance setting.



Easy HDR Creation (continued)

Saturation

The **Saturation** function lets you increase or decrease the saturation of one or more colors.



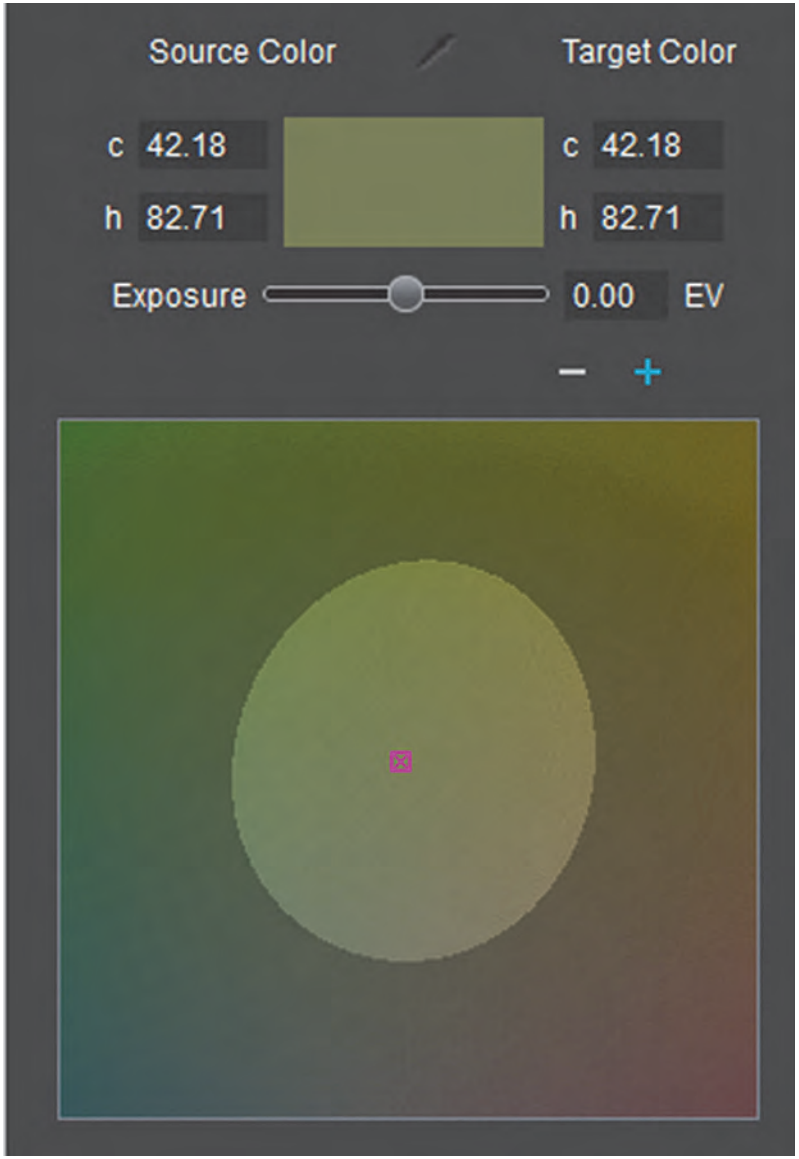
Adjust the saturation using the following controls:

- **Saturation:** Adjust the overall amount of saturation in the image. Values above 1 increase the saturation of all color channels; values below 1 decrease the saturation of all color channels.
- **Channel Saturation:** Adjust the saturation for each of the six color channels.

Easy HDR Creation (continued)

Color Tuning

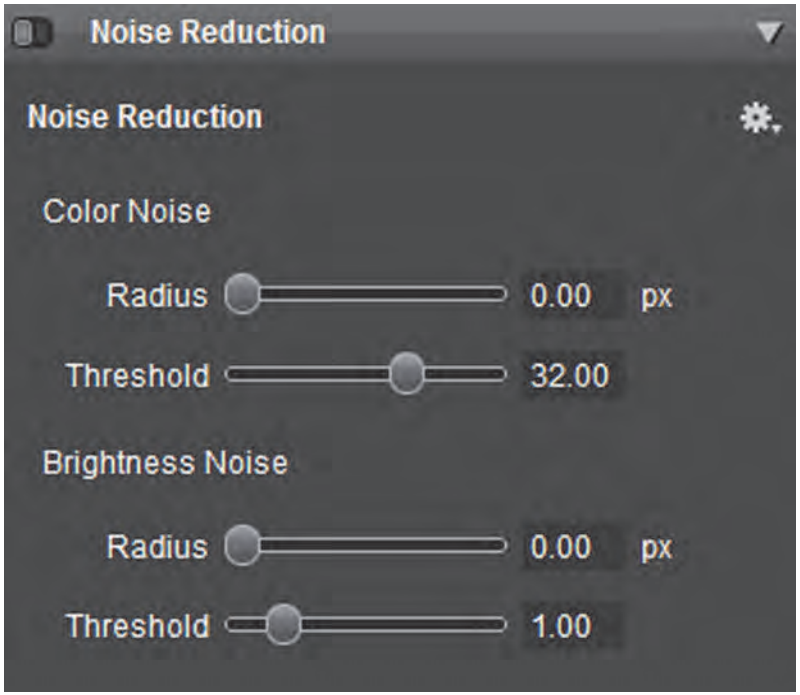
Color tuning lets you fine-tune specific color tones without affecting any of the other colors in your image. The **Color Tuning** function lets you select and tune up to three source colors at once and automatically gives you an available tuning range based on your selected color(s). If desired, add another point by clicking the **Add New** button (**+**) and repeating this procedure for the second and/or third point(s). If necessary, you may delete the most recently added point by clicking the **Remove Last** (**-**) button. The **Exposure** slider lets you change the brightness level of the selected color range when color tuning your image.



Noise Reduction

The **Noise Reduction** tool eliminates brightness and/or color noise from the image. Noise appears as colored dots in dark areas of the image and becomes more evident at higher ISO values.

- To reduce color noise, select the desired radius in pixels using the Color Noise **Radius** slider or field, then adjust the strength of the color noise reduction using the **Threshold** slider or field. Larger values increase the amount of noise reduction but may obscure fine details.
- To reduce brightness noise, select the desired radius in pixels using the Brightness Noise **Radius** slider or field, then adjust the strength of the noise reduction using the **Threshold** slider or field. Larger values increase the threshold EV. Image areas that are below the threshold EV will have noise reduction while levels above this value will retain their original pixel values. High levels of noise reduction may obscure fine details.



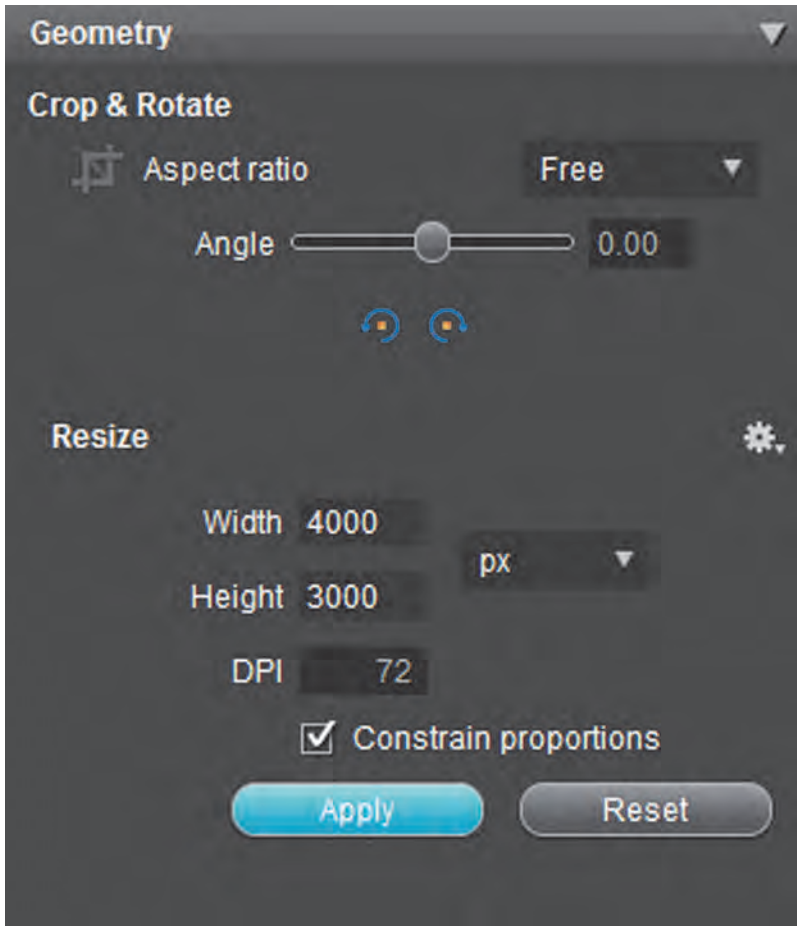
Easy HDR Creation (continued)

Geometry

The **Geometry** tool lets you crop, rotate, and resize images. Cropping an image removes unwanted portions of that image. Click the **Crop** tool and then use the **Aspect ratio** pull-down to select how to crop images.

HDR Expose 3.0 has two crop modes:

- **Free selection:** Choose your desired cropping area.
- **Aspect Ratio:** Crop your image to a predefined aspect ratio (width:height). This is useful if you are planning to insert the image into a video.
- You may resize the image by entering the desired height and width in the **Height** and **Width** fields. Select your desired units using the pull-down menu.
- **Resolution:** Enter your desired resolution in the **DPI** field.
- **Constrain Proportions:** Checking the **Constrain Proportions** checkbox preserves the aspect ratio of the image.

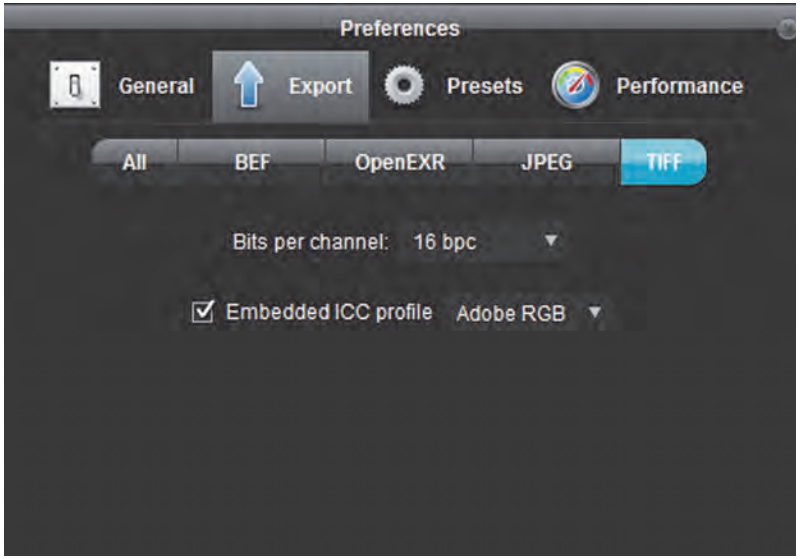


Saving Results

To save your work as a BEF, BMP, OpenEXR, JPG, HDR, or TIFF image:

1. Select **File>Save As.**
2. In the **Save File As** dialog, select the desired file type using the **Save as type** pull-down menu.
3. Select a file name and destination folder for the image.
4. Click **Save**.

*Note: You can adjust save settings such as compression, bit depth, and color profiles for each supported file format using the **Preferences** window in the **Edit** menu.*



Working with Presets

Presets let you save image editing settings to apply later. You may import presets from other computers or export them to other computers to share them with other users using the **Preferences** window. You may also delete presets.

Opening an HDR Image

To open and image, you may either:

- Select **Open Image** from the **Welcome** window.
- Select **File>Open**.

The **Open** dialog appears, allowing you to navigate to the folder containing the image you want to open. The **Source Images** section of the **Open Image** window displays all of the images in the selected folder by file type.

Applying a Preset

HDR Expose 3.0 uses two types of presets to speed up image editing:

- Global presets contain multiple settings for multiple tools. Apply a global preset by opening or merging an image and then clicking the desired preset in the **Presets** area of the HDR Expose 3.0 interface.
- Feature presets contain presets for a single tool. Apply a tool preset by clicking the **Preset** icon (gear) in the desired tool to open the **Feature Preset** menu for that tool and then selecting the preset to apply.

Adding Presets

To add a global preset:

1. Adjust your image as desired.
2. Click the **Add Preset** button in the **Presets** area of the HDR Expose 3.0 interface to open the **Add preset** window.
3. Enter a name for the preset in the **Preset Name** field.
4. Select the tool options you want to include in the new preset by checking and clearing the appropriate checkboxes. You may include tool presets in this global preset by using the pull-down menus to select the desired tool presets.
5. Click **OK**.

To add a new feature preset:

1. Adjust the tool values as desired.
2. Click the **Preset** icon (gear) and then select **Add Preset**.
3. Enter a name for the new preset in the **Add Preset** window and then click **OK**.

Deleting Global Presets

To delete a global preset:

1. Hover your mouse cursor over the preset you want to delete. A red **X** appears in the upper left corner of the selected preset.
2. Click the red **X** to delete the preset.

Batch Operations

Batch Merge

Batch merging creates multiple HDR images from an assortment of exposures. The **Batch & Merge Processing** window is where you add images for batch merging. You can open this window by either clicking the **Batch processing** button in the **Startup** dialog when you first launch the program or by selecting **File>Batch processing**.

In the **Batch & Merge processing** window, click **Batch Merge** to open the batch merge options.

Select the type of images being processed using the **Source Filter** pull-down menu and then click the **Choose** button to open a folder containing images to merge.

Selecting a filename to batch process restricts batch processing to images with that filename. Select the filename to merge by using the **File name** pull-down menu. Selecting **Custom File Name** and then enter a custom filename. For example, you could add a descriptive name such as **Blue_Lake** to the beginning of a filename.

The **Auto-Stack Images** slider adjusts the time interval between exposures that is used to group images from a single sequence. For example, setting this to 5 seconds means that all images taken within 5 seconds of each other will be considered a single scene. You may also manually select images by checking the **Manual** checkbox.

Click **Merge** to merge the selected images into a 32-bit HDR image.

Batch Processing

Batch processing applies one or more presets to multiple 32-bit HDR images at the same time. The **Batch & Merge Processing** window is where you add images for batch processing. You can open this window by either clicking the **Batch processing** button in the **Startup** dialog when you first launch the program or by selecting **File>Batch processing**.

1. In the **Batch & Merge processing** window, click **Batch Processing** to open the batch process options.
2. Select the type of images being processed using the **Source Filter** pull-down menu and then click the **Choose** button to open a folder containing images to process.
3. Use the **Preset** pull-down menu to select the first preset to apply to the selected images. Clicking the **+** icon next to this menu allows you to add multiple presets. You may remove an added preset by clicking the - icon next to that preset.
4. Select the output file type using the **File Type** pull-down menu.
5. Select the desired color profile using the **ICC Color Profile** pull-down menu.
6. Select the output file type using the **File Type** pull-down menu and select the output folder by clicking the **Choose** button.
7. Click **OK** to process the selected images.

Plug-ins

HDR Expose 3.0 includes plug-ins for Adobe® Lightroom® and Apple® Aperture®. The general workflow is:

1. Load images into Lightroom or Aperture.
2. Select the exposures to merge.
3. Load the HDR Expose 3.0 plug-in.
4. Edit your image in HDR Expose 3.0.
5. Save your image and return to Lightroom or Aperture.

Adobe Lightroom

To use the HDR Expose 3.0 plug-in for Lightroom:

1. Open the RAW images in Lightroom. Edit these images as little as possible before merging. If you do any edits (such as lens correction), be sure to synch your edits across all images.
2. Select the images to merge.
3. In the **Library** module, click **Export** and then select **Merge and edit in HDR Expose**.
4. If you made adjustments to the source images, you may select to merge either the original or adjusted images.
5. The **Merge to HDR** window appears. Select your desired merge options and then click **Merge**.
6. Adjust the merged image just as you would in HDR Expose 3.0.
7. Clicking **Save** returns a 16-bit TIF or 8-bit JPG file to Lightroom. You may also save a copy of the merged image in the HDR Expose 3.0 BEF format.

Please see the video tutorials available at www.unified-color.com for more information.

Apple Aperture

To use the HDR Expose 3.0 plug-in for Aperture:

1. Open the RAW images in Aperture and select the exposures to merge. Edit these images as little as possible before merging. If you do any edits (such as lens correction), be sure to synch your edits across all images.
2. Right-click, select **Edit With**, and then select **HDR Expose**.
3. The **Merge to HDR** window appears. Select your desired merge options and then click **Merge**.
4. Adjust the merged image just as you would in HDR Expose 3.0.
5. Clicking **Save** returns a 16-bit TIF or JPG file to Aperture. You may also save a copy of the merged image in the HDR Expose 3.0 BEF format.

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