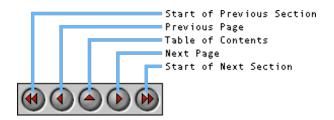


iCorrect® EditLab ProApp 6.0 User Guide

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In addition to providing direct links from the table of contents above, we have also provided a small navigation control to allow you to select pages in the User Guide:



Note: This HTML User Guide is cross-platform. That is, if you view it with a browser running on a Windows computer, the User Guide describes the Windows version of EditLab. Conversely, if you view it with a browser on a Macintosh, the Guide describes the Macintosh version. The differences are primarily related to the user interface appearance, but there are a few differences in the text also.



You are now running a **Macintosh** browser.

Note: All images in this User Guide have been prepared for viewing on an sRGB display, which is close to what is typically found on a PC. If your monitor is not set up to this standard, or if you are viewing on an LCD display, the colors in the images may appear to be a little off. Click here to adjust your monitor closer to the sRGB standard.



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1. Introduction



iCorrect EditLab ProApp is professional color correction and color management software that combines iCorrect® color technology with image processing and automated workflow and batch processing features to make digital photo correction extremely fast and easy.

iCorrect EditLab ProApp makes global color corrections based on:

- an automatic analysis of your image,
- analysis of certain reference or "memory" colors that you identify in your image,
- interactive dialog control settings, and
- EditLab's color management setup.

EditLab works in "SmartColor" mode (a mode that intelligently sets the editing controls based on the color content of the image), in manual mode, or in a combination of the two.

Many of the tools and much of the philosophy behind EditLab are the result of the observation that almost everyone knows what certain colors should look like. When an image is viewed, it is surprising how easily color errors are seen, even by people untrained in this discipline. For example, everyone knows that snow is white (neutral) and what skin, foliage, and sky blue should look like. If an image shows a person's face that is bright red, the observer knows that the color is wrong, even though he may never have seen the actual person in the image. These common reference or "memory" colors form the basis of EditLab's approach to improving the color of an image. EditLab's tools include:

- color balance,
- black/gray/white point selection,
- brightness/contrast/saturation controls, and
- hue selective editing.

In many production environments, color management, using ICC device profiles, is rapidly becoming the preferred method of producing color-accurate digital images. While this may be the best way to control color reproduction in many situations, it isn't always possible. There are large classes of digital images of unknown pedigree. It is not possible to use device profiles to relate the colors in these images to any device-independent reference because the profiles do not exist and cannot be made after the fact. For example, you may not have any information about how images on a stock photography CD-ROM were acquired. EditLab can be used to quickly and easily correct uncalibrated images such as these, transforming them into a calibrated color space.

iCorrect EditLab Pro's automated workflow features include:

- ProcessQ[™] Automatically apply SmartColor or Custom Settings to images as they are loaded into the ProcessQ, where corrected thumbnails are displayed.
- Custom Settings Apply previously saved custom settings to an image. Additional color correction may be applied to the image without affecting the Custom Setting.
- Previous Settings Color correction parameters are applied to an image based on color corrections made to the previous image.
- Sync Current color correction settings from any image in the ProcessQ can be quickly applied to any number of selected images.
- Saving Images Destination folder, file format, and file name suffix or prefix may be defined.
- Working RGB Color Space Corrected images may be profiled into selected reference color space, and that working space may be embedded in corrected images.

ProcessOTM

iCorrect EditLab ProApp has a very powerful tool set for creating a color correction function. Although this is a great way to fix a particular color problem in a particular image, this power can be leveraged even further with the ProcessQ.

EditLab's ProcessQ allows you to load a batch of images and quickly correct them either individually, or in groups that require similar edits, deferring the processing time required to save the corrected image files until you are finished making corrections.

As images are added to the ProcessQ, a default correction can be applied:

- The color edit of the Previous corrected image may be applied.
- Custom Settings may be applied. A color edit can be saved in a Custom Settings file at any time for subsequent use on other images, and any number of Custom Settings may be saved.
- SmartColor settings may be applied. This mode will apply a different correction to each image, based on an analysis of that image. SmartColor can be customized according to your preferences.

The thumbnails that are displayed in the ProcessQ will reflect any correction that has been applied, and then any images that need fine tuning can be previewed and refined before saving the entire batch. This makes it easy to very quickly correct batches of images that have similar color problems, providing the added flexibility of allowing slight modifications that may differ for each image.



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2. Installation



The iCorrect EditLab ProApp product consists of an installer program. Running this program installs the EditLab application, User Guide and other related files onto your computer.

Detailed installation instructions may be found online <u>here</u>.



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3. Getting Started



This section contains miscellaneous overview information that will help you get the very most out of iCorrect EditLab ProApp.

Help • Here you will learn about the various help resources available to you for EditLab.

<u>Color Editing</u> This is an overview of the four main editing tools.

SmartColor You will find an explanation of the very helpful SmartColor Mode.

<u>Preview Image</u>
This page explains how to use the Preview image for viewing, zooming and numeric color display.

ProcessQ™ • Here is a description of EditLab's image queue, which streamlines your workflow.

More Controls • The remainder of EditLab's general controls are discussed here.



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3a. Getting Started: Help



In addition to this **User Guide**, help is available from several other sources:

1. **Built-in Help** may be found by clicking on EditLab's Help buttons.



The upper Help button in the main window (which is located *outside* the tool panel) displays general information about using the application. The lower button (which is located *inside* the tool panel) displays information that is relevant to the currently selected edit tool.

You will find a comparable Help button in most of EditLab's windows, each displaying information relevant to that particular window.

- 2. Our **Frequently Asked Questions** site contains answers to many common problems. You will find this at www.pictocolor.com/fag/.
- 3. **Technical Support** is available via e-mail at <u>pictosupport@pictocolor.com</u>.



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3b. Getting Started: Color Editing Tools



EditLab has four color editing tools, arranged into a particular sequence. Graphically, the tools are shown in the window on tabs at the top of the edit tool panel:



Each of the four editing tools is activated by either clicking on its tab, selecting it from EditLab's Window menu, or by pressing the Command-1, Command-2, Command-3, or Command-4 keys.

From left to right we have:



Color balance, which is used to remove global color casts.



Black, gray and white point selection, which is used to alter the range of the tones.



Global brightness, contrast and saturation controls which are used to redistribute the tone values between black and white, and between neutral and fully saturated colors.



Hue selective edits, which provide brightness, saturation and hue controls which are constrained to user defined hue regions.

The particular order of these tools allows a systematic method of color correction that reduces the amount of interaction among them. For example, if the image has a global color cast, we should fix that problem first before performing hue selective edits. If we did the hue selective edits first, we would find that color balancing would alter the hue that was specified for the hue selective edit. We would end up going back and forth between the two tools.

The logical progression of the editing tools is this:

- 1. Remove any color cast with the color balance tool, even though there may be other problems remaining. Once the balance has been fixed, none of the other three editing tools can ruin it, no matter how they are used
- 2. After balancing, we progress to setting the black and white points. This usually (but not necessarily) pushes the blacks to darker values and stretches the whites to lighter values. The color balance from the previous step is not affected by this tool. When we have set the black and white points, our image is color balanced and covers the desired tone range at black and white. The distribution of tones between black and white may be changed with the gray point, and further modified with the next tool.

- 3. The brightness, contrast and saturation tool is used to redistribute the tones between full black and full white, and increase or decrease the saturation of non-neutral colors. This tool does not affect color balance, nor does it affect the black and white points.
- 4. After using these first three tools, the gray scale is correct in terms of balance, range and tone distribution. With that out of the way, we can zero in on any necessary corrections to the non-neutral colors. The hue selective editing tool is used for this purpose. Again note that this tool cannot alter the color balance, black point, white point or tone distribution, so the work you accomplished with the first three tools is protected.

Although the sequence of editing tools is fixed, you are certainly free to perform the editing operations in whatever order you choose. Because of the observation that each tool cannot affect any tools to its left, it is strongly recommended that you make the first pass through the tools from left to right, reserving the right to go back and make smaller refinements, if needed. If you do go back (moving from right to left), you will probably want to temporarily disable SmartColor Mode. Otherwise, controls that you have already set in tools to the right of the current tool will be changed to automatic settings, as described in the next section.



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3c. Getting Started: SmartColor Mode



A good thing about iCorrect EditLab ProApp is that it has many controls, allowing you to make very sophisticated color edits. The down side of this is that all of these controls must be set to proper values in order to make the correction, and that takes time. In order to give you the benefit of the editing power without the tedium of setting all the controls, we have implemented a "SmartColor" mode which does much of the work for you. It is enabled with the SmartColor Mode **checkbox**:



When SmartColor Mode is enabled, the image is analyzed and most of the controls **for all tools** are intelligently set to values that will be good for that particular image. This leaves you with the much smaller job of making minor adjustments to any of the controls as you see fit (or even *if* you see fit). You will find this feature to be very helpful in getting the best color correction in the shortest time. Although you are allowed to turn SmartColor Mode off, you will probably want to always leave it on. You can customize SmartColor's behavior, defining which controls it sets, as described in the SmartColor Preferences section of this User Guide.

Since SmartColor Mode analyzes each image individually, the settings it finds will be customized to the image itself. This is especially helpful when dealing with many images having different types of color problems.

Also note that SmartColor Mode works in real-time with your manual adjustments. For example, when you manually adjust the Black Point, you affect not just the black point, but also the brightness and saturation of the image. So while you are making the Black Point adjustment, SmartColor Mode is constantly recalculating the proper Brightness and Saturation settings to track right along with you. When operating in this manner, the SmartColor Mode is making adjustments to all editing tools to the right of the tool you are adjusting. It does not change the settings of the current tool or any to its left.

You will also see SmartColor **buttons** located inside each tool panel, as well as a SmartColor button outside the tool panel:



Clicking any of these buttons will cause settings to be recalculated for the image. All settings are recalculated when the master button is clicked, whereas only those for the **currently selected tool** are recalculated when the button inside the tool panel is clicked. This is useful for cases where you decided to make a manual adjustment, but then changed your mind.

Note: The **SmartColor** feature is designed to be a *helper* to augment your own skills. It is *not* intended to provide a complete, automatic color correction.



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3d. Getting Started: Preview Image



The left side of the EditLab window is used to display the preview image. The Preview checkbox is used to control whether the preview image is displayed before or after edits:



Initially, the checkbox is checked, and the preview image displays the effects of the current color corrections. To compare this corrected image with the original image, you may uncheck the **Preview** checkbox to display the uncorrected image. You may find it useful to check and uncheck the **Preview** checkbox, watching the preview image toggle back and forth between the corrected and uncorrected versions.

Note that the preview image cannot display the effects of sharpening and noise removal unless you are zoomed in, because unlike color corrections, these effects depend on the resolution of the image. When you are zoomed in, depending on the size of your window and the processing capabilities of your computer, sharpening and especially noise removal may cause a noticeable delay in updating the preview. If this is objectionable on your system, you can uncheck the **Preview Sharpening** and/or **Preview Noise Removal** checkboxes in the User Interfaces Preferences window. Sharpening and Noise Removal can always be previewed in the **Sharpen / Noise Removal** setup window.

Zooming may be used to magnify the preview image to a 1:1 pixel view. If you hold down the **Option** key, the Zoom In cursor will be displayed in the middle of a Zoom box, representing the area to be enlarged:



To display the new view, drag the center of the Zoom box over the image area you wish to magnify, then click on the mouse. If the Zoom In cursor does not appear, that means one of two things: a) that the image you are editing is small enough to entirely fit in the Preview panel at 1:1, or b) that there is not enough memory available to support the zooming feature. You can zoom back out to the original view by again holding down the **Option** key and clicking anywhere in the image area.

Scrolling a zoomed image is done by holding down the **Control** key while dragging on the Preview image. The "hand" cursor indicates that scrolling will occur:



Numeric pixel values in the preview image may be examined using the mouse. The displays below the edit tool panel show the pixel values for the color under the cursor. This feature is only present if you have enabled the **Show Pixel Values** checkbox in the User Interface Preferences window.

HSB (hue, saturation and brightness) values are initially displayed, but if you prefer to see RGB (red, green and blue) pixel values, you can click anywhere in the pixel value display area to switch to RGB values. Further clicks toggle between the two.

R: 224 / 216 G: 186 / 183 B: 167 / 172

Each color component is shown in two forms, separated by a slash character. The number on the left is the color before edits (corresponding to the image displayed when the Preview checkbox is not checked) and the number on the right of the slash is the color after edits have been applied (corresponding to the image displayed when the Preview checkbox is checked).

The cursor may be set to display average values by clicking the eyedropper icon to the left of the digital displays. As you click on the icon it will alternate among these three icons, which correspond to a single pixel sample, a 3×3 pixel area average, and a 5×5 pixel area average:



The eyedropper sampling size affects *only* the numeric HSB or RGB display. It is *not* used when clicking image colors in the various editing tools (a different technique is used which will be explained later).

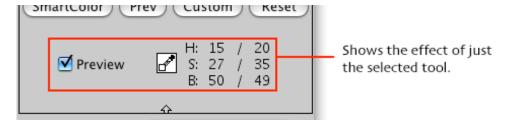
You can also set up to two color samplers to monitor color values from fixed locations. These will be updated as you change slider settings, etc., but only if you have enabled the **Show Pixel Values** checkbox and the **Preview Live Sliders** checkbox in the User Interface Preferences window.

#1 #2 H:196/203357/356 S: 6/ 9 18/ 21 B: 33/ 36 63/ 72

To set a color sampler, hold down the **Shift** key while you click on the image. After setting a sampler, you can move it to a new location by shift-clicking on it and dragging it. To delete a color sample, shift-click on it and drag it off the image.



Normally, you will probably want to view the net result of all of the edit tools together, but there may be times that you want to see only what the current tool is doing. Clicking the down arrow at the bottom of the tool panel will extend the tool panel to include the Preview checkbox and the pixel readouts, indicating that the preview image and readouts reflect only the effects of the current tool.



An up arrow appears that can be clicked to return to the smaller tool panel, where the preview image and pixel readouts reflect the combined effects of all of the editing tools.



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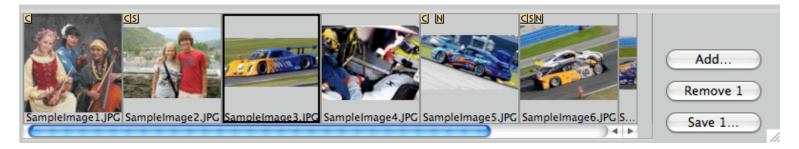


3e. Getting Started: ProcessQ™



EditLab's workflow is built around the concept of an image queue called the **ProcessQ**, which is displayed at the bottom of the main EditLab window.

Images are held in the ProcessQ during an editing session, and although any edits that are applied do not become final until the contents of the ProcessQ are saved, the thumbnails in the ProcessQ do reflect the effects of any color corrections that have been applied.



Edited thumbnails also have "sticky notes" attached to them, making it easy to see which images have been corrected. A C indicates that a color correction has been applied, an S indicates that sharpening has been applied, and an N indicates that noise removal has been applied. The image that is open for editing in the main window is outlined in black. You can drag the bar above the thumbnails up and down to change the size of the thumbnails that are displayed. Note that the size of the main window will limit how large they can be.

Adding Images to the ProcessQ

You will be prompted to add images to the ProcessQ whenever it is empty, and you can place additional images into the ProcessQ at any time by clicking the **Add...** button, or by using the **Add Images to the ProcessQ...** command in the **File** menu. Multiple images may be selected at a time, and you can add as many batches of images as you want. When selecting multiple images from the Open File dialog (using the **Shift** and **Command** keys), EditLab appends that particular batch of images to the end of the ProcessQ. You cannot reorder the images in the ProcessQ. However, you may remove any number of images from the ProcessQ at any time.

Selecting Images in the ProcessQ

To select an image for editing, saving or removal from the ProcessQ, simply click on the corresponding thumbnail.

You can also use the arrow keys to advance from one thumbnail to the next. It is important to note that when you open a thumbnail, any edits that have been made in the currently open image are automatically applied to that image before the new image is opened, as described below. That is, opening a thumbnail is the same as clicking the **Apply** button and then selecting a new thumbnail.

You can select multiple thumbnails by using the **Shift** and **Command** keys, and you can select all of the thumbnails with the **Command-A** keys. Selected thumbnails will be outlined in black, and the image that is open in the main window will also be outlined in yellow. The titles of the **Remove**, **Save** and **Sync** buttons will be updated to indicate the number of images you have selected.

Removing Images from the ProcessQ

Clicking the **Remove** button, or selecting **Remove** from the **File** menu, will remove any selected thumbnails from the ProcessQ. The title of the **Remove** button and the corresponding **File** menu item will reflect the number of images you have selected for removal. Note that removing an image from the ProcessQ *does not* delete the corresponding image file from your hard disk. It simply removes the image from the set of images that is available for editing in EditLab.

Editing Images in the ProcessQ

To open an image for editing, simply click on the corresponding thumbnail. If any edits are already applied to that image (you can use the <u>Add Image Preferences</u> to specify an edit to be automatically applied to images as they are added to the ProcessQ), the controls in the main window will reflect those settings. Proceed to edit your image using the four edit tool tabs as described in Chapters 6-10 of this User Guide. When you are happy with the result, **Apply** and/or **Save** the edit.

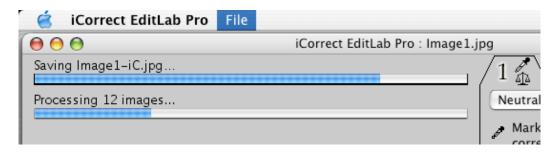
It is important to understand the difference between *Applying* and *Saving* an edit. When you *apply* an edit, the edit parameters become associated with the image in the ProcessQ, the thumbnail in the ProcessQ is updated to reflect those edits, but the corresponding image file is not updated. This allows you to quickly edit many images, deferring the processing time associated with updating image files until you all done editing. This also allows you to re-open an edited image if you decide to make further modifications. Of course, you are also free to <u>save</u> an image at any time, at which point any applied edits are saved in the corresponding image file.

The most obvious way to *apply* an edit is by clicking the **Apply** button, which applies the edit, closes the image, and opens the next image from the ProcessQ. You can also simply select another image from the ProcessQ for editing. Any edits that have been made to the image that is currently open are automatically applied before a new image is opened. If you want to close the current image without applying any new edits, you must click the **Cancel** button. Finally, if multiple images have been selected from the ProcessQ, the **Sync** button can be used to apply the current edit to all selected thumbnails. The title of the **Sync** button will reflect the number of images that have been selected for synchronization, and if the Sync button title ends with '...', the <u>Sync Preferences</u> will be displayed before any settings are applied.

Saving Images from the ProcessQ

When you are ready to finalize your edits by updating the corresponding image files, select the corresponding thumbnails and either click the **Save** button or select **Save** from the **File** menu. The title of the **Save** button will reflect the number of images that have been selected. To save all of the images in the ProcessQ, use the **Command-A** keys to select all of the thumbnails, and then click the **Save all** button. If the title of the **Save** button ends with '...', the <u>Save Image Preferences</u> will be displayed before any images are saved.

Each selected image will be corrected according to any applied edits and then saved according to the current **Save Image Preferences**.



If you need to stop the Save operation, you can press the **Esc** key at any time.

Saving the ProcessQ as a Job File

If you need to interrupt an editing session before you are ready to save the edits, select **Save Job...** from the **File** menu to save the state of the ProcessQ in a job file. You can save a job, quit the application, and then resume that job later by selecting **Resume Job...** from the **File** menu. This is a convenient way to temporarily pause an editing session for a short period of time, but if any image files associated with the job are deleted, moved, or modified, the job file will be obsolete and you will not be able to resume the job. Therefore, after you have resumed a job, you will probably want to delete the corresponding job file.



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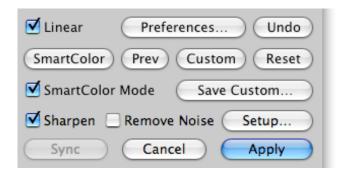
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3f. Getting Started: More Controls



Towards the lower right corner of the window, just above the ProcessQ thumbnail strip, is a cluster of items:



The **Linear** checkbox is a special control that is intended to be used for specific situations only. Most users will not use it at all. This control is displayed only for 16-bit per channel images, and should be used only if you know that the image data is linear (i.e. from a gamma = 1.0 source). Images of this type may be produced by certain high end scanners, digital cameras and scan backs. A linear image, when viewed uncorrected on a monitor, will typically look very dark. If you know that your image is linear, the Linear checkbox will do a better job correcting it than using just the global Brightness control. SmartColor will attempt to determine whether 16-bit per channel images are linear, so if you know that you will not be working with linear images, you may want disable this feature of SmartColor by unchecking the Linear checkbox in the SmartColor Preferences window.

Clicking the **Preferences...** button will open the <u>Preferences</u> window, just as choosing Preferences from the iCorrect EditLab ProApp menu does.

Clicking the **Undo** button will undo the last correction that was made, whether it resulted from changing a slider, clicking SmartColor or Reset, or sampling a neutral pixel for color balance.

When the master **SmartColor Mode** checkbox is checked, automatic color corrections are determined and kept current for all of the edit tools, as described earlier in the <u>SmartColor Mode</u> section of this User Guide. If you uncheck the checkbox, all of the current settings remain unchanged (whether they were set automatically or not). Unchecking the checkbox simply turns off the automatic updating of settings from that point on. If the SmartColor Mode checkbox is rechecked, automatic updating is re-enabled, and automatic settings are immediately updated based on the currently active edit tool. That is, if the Black/White Point tool is currently active, the automatic Brightness/Contrast and Hue Selective settings are recalculated.

If you want to use SmartColor without having the settings kept current for you as you work, you can turn off SmartColor Mode, and click the **SmartColor** button when you want to apply automatic corrections. Note that

there is also a SmartColor button inside the edit tool panel. This button will only calculate settings for the controls in the current edit tool panel, and will affect the settings of the other three tools only if the master SmartColor checkbox is checked.

You can further customize SmartColor's behavior, as described in the <u>SmartColor Preferences</u> section of this User Guide.

Clicking the **Prev** button will uncheck the SmartColor Mode checkbox, and will set all edit parameters to the values that were used on the previous image.

Clicking the **Custom** button will uncheck the SmartColor Mode checkbox, and will set all edit parameters to the values that were loaded with the **Load Custom Settings...** button in the Preferences window. If custom settings have not been loaded, the Custom button will be equivalent to the Reset button.

Shortcut Tip: You can load custom settings and immediately apply them by holding down the **Option** key while clicking the **Custom** button. This is equivalent to opening the Preferences window, clicking the Add Image Preferences button, clicking the Load Custom Settings button, selecting a custom settings file, clicking OK to return to the main Preferences window, clicking OK to return to the main EditLab window, and then clicking the master Custom button.

You can save the current color correction in a parameter file at any time, using the **Save Custom...** button.

Clicking the **Reset** button will also uncheck the SmartColor Mode checkbox, and will set all color correction parameters to values that effectively turn the edit off completely.

Note that there are also SmartColor, Prev, Custom and Reset buttons *inside* the edit tool panel. These buttons will modify the selected edit tool, and will affect the settings of the other three tools only if the master SmartColor Mode checkbox is checked.

Check the **Sharpen** checkbox to apply unsharp masking to the image. Check the **Remove Noise** checkbox to apply an adaptive noise removal filter to the image. Click the **Setup...** button to open the <u>Sharpen / Remove Noise</u> setup window, from which you can set parameters that control the strength of these effects. Although they are not color correction tools, it can be helpful to apply sharpening and noise removal in combination with color correction, such as in a case where noise in an image is exaggerated by a color transformation.

Note that SmartColor and Reset do *not* affect sharpening and noise removal. If you typically sharpen your images, you can turn sharpening on and it will stay on until you explicity turn it off by unchecking the checkbox, or by loading previous or custom settings in which sharpening was disabled.

If you click **Cancel**, you will close the image without change. The next image in the ProcessQ will be opened automatically.

If you click **Apply**, the current correction parameters will be applied to the thumbnail image in the ProcessQ and the next image will be opened automatically. It is important to note that a corrected image file is not saved until you click the **Save** button, as described <u>here</u>.



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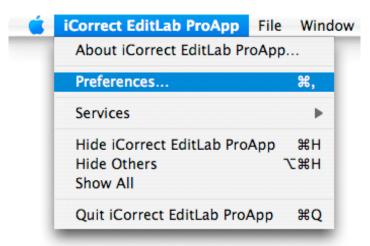
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4. Preferences



EditLab's preferences are viewed by clicking the **Preferences...** button or by selecting **Preferences...** from the **iCorrect EditLab ProApp** menu:



EditLab has many features that may be controlled via its preferences. Some of these can save you a lot of work, so learning about them can be a very worthwhile investment of your time. Because there are so many preference controls, they are grouped into six categories, each in its own window. Some of these *sub-windows* can be accessed not only by clicking the corresponding button in the main Preferences window, but also automatically, as they are applied. Each of these categories will be described further in the pages that follow:

- <u>SmartColor</u> These preferences control how SmartColor and Memory Colors work.

 <u>Preferences</u>
- Add Image Preferences These preferences control the way correction settings are initialized as images are added to the ProcessQ.
- Save Image
 Preferences

 These preferences control the attributes and location of the saved, corrected images.
- Sync Image Preferences ontrol which settings are synchronized by the Sync button.
- <u>User Interface</u>
 <u>Preferences</u>

 These preferences control which optional controls are displayed, how some controls behave and how the Preview image is displayed.
- **Color Management** These preferences control the color space that EditLab's corrections are made in, and

Preferences how embedded ICC profiles in images are handled.



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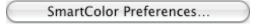
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4a. Preferences: SmartColor Preferences



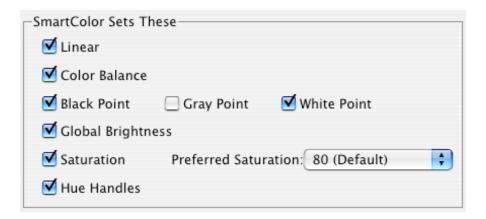
SmartColor can be customized with the SmartColor Preferences which are viewed by clicking the **SmartColor Preferences...** button in the main Preferences window:



The SmartColor Preferences controls are divided into two main categories.

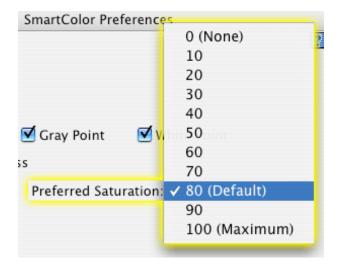
- SmartColor
- Memory Colors

The first set of controls defines how SmartColor works:



Each of these checkboxes determines whether the corresponding edit tool will be affected when SmartColor Mode is enabled or a SmartColor button is clicked. By default, all of the checkboxes are checked, and all of the corresponding tools are set by SmartColor. There may be times that you want to selectively turn off parts of SmartColor. For example, if you know that you never work with Linear images, you can uncheck the Linear SmartColor preference so that SmartColor will never mistakenly identify a dark image as a linear image. Or, if you find that you typically need to adjust the Saturation that SmartColor sets, you may find it easier to simply turn off the Saturation component of SmartColor. However, you can also fine tune SmartColor Saturation without turning it off, as described below.

The **Preferred Saturation** menu influences the Saturation level that is set by the SmartColor Saturation correction.



The settings range from 0 (None; a black and white image) to 100 (Maximum; a very colorful image), with 80 being the default. SmartColor Saturation will analyze your image and set the Saturation control to a value that will either reduce or increase the saturation of your image to match your preferred saturation level.

Note that the visual effect that this control has on your image is influenced by your choice of working space. If you change EditLab's working space, you may also need to adjust this Preferred Saturation preference also.

The second set of controls in this window defines how **Memory Color** buttons work.



Each of these checkboxes determines whether the corresponding control in the Hue Selective edit tool panel will be affected when a Memory Color button is clicked. By default, all of the checkboxes are checked, and all of the corresponding tools are set. These preferences allow you to selectively turn off parts of the Memory Color. For example, if you find that you typically need to adjust the Saturation that the Memory Color sets, you may find it easier to simply turn off the Saturation component of the Memory Color button. Note that this does not change the Memory Color definition, but determines which parts of the definition are actually used. The process used to fine tune a Memory Color definition or create a new one is described here.

The **Restore Defaults** button at the bottom of the window will set all preferences in the window to the factory default values, that is, the values that were present when EditLab was first installed.



The **OK** button must be clicked in order for the settings in the window to take effect.



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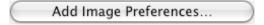
4b. Preferences: Add Image Preferences



Initial edits will be applied automatically to images as you load them into the ProcessQ. You control these initial edits with the Add Image Preferences:

- Color Correction
- Sharpen/Noise
- Load Custom Settings
- Show These Preferences every time images are added to the ProcessQ

These preferences may be viewed by clicking the **Add Image Preferences...** button in the main Preferences window:

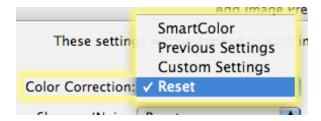


They may also be presented to you automatically whenever you add images to the ProcessQ:

☑ Show these Preferences every time images are added to the ProcessQ

If you find that you frequently change these preference settings, it can be helpful to have them automatically displayed, both as a reminder of the current settings, and as a quick way to modify them. If you rarely change them, you will probably want to uncheck this checkbox.

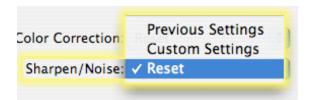
The **Color Correction** menu establishes how the various color correction settings will be initialized as each new image is added to the ProcessQ.



If you choose **SmartColor**, then SmartColor will be used to determine unique initial color correction settings based on an analysis of each image. If you select any of the other three options, the same correction settings will be used for each image. If you start with **Previous Settings**, then the settings for the color correction tools are recalled from the previous image that was corrected. If you start with **Custom Settings**, then the custom settings that have been loaded with **Load Custom Settings** are used. If you start with **Reset**, all color correction tool

controls will be set to values that do not change the image (i.e. "null" values).

Similarly, the **Sharpen/Noise** menu establishes how the sharpening and noise removal settings will be initialized as each new image is added to the ProcessQ.

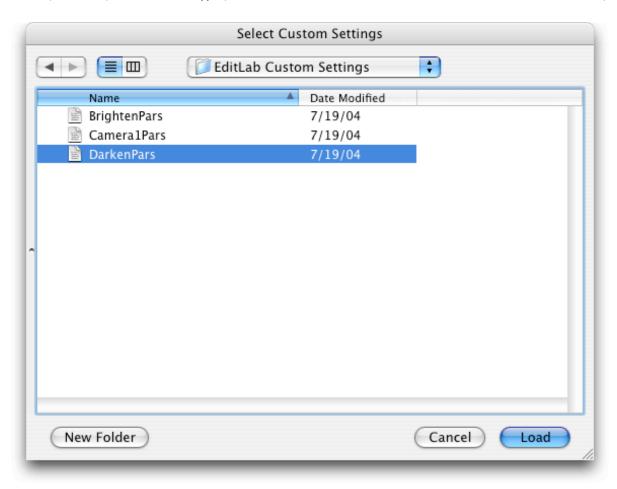


If you start with **Previous Settings**, then the sharpen and noise removal settings are recalled from the previous image that was corrected. If you start with **Custom Settings**, then the custom settings that have been loaded with **Load Custom Settings** are used. If you start with **Reset**, sharpening and noise removal will not be applied.

The **Load Custom Settings...** button is used to load the settings that will be applied when Custom Settings is selected in the Color Correction and/or the Sharpen/Noise menu. These settings are also applie when the Custom buttons in the main EditLab window are clicked.



You will be asked to locate the file that contains the Custom Settings that you want to load.



Custom Settings files are saved using the **Save Custom...** button in the main EditLab window. Any number of custom settings files can be saved.

Shortcut Tip: In EditLab's main window, you can load custom settings and immediately apply them by holding down the **Option** key while clicking the master **Custom** button. This is equivalent to opening the Preferences window, clicking the Add Image Preferences button, clicking the Load Custom Settings button, selecting a custom settings file, clicking OK to return to the main Preferences window, clicking OK to return to the main EditLab window, and then clicking the master Custom button.

The **Restore Defaults** button will set all preferences in the window to the factory default values, that is, the values that were present when EditLab was first installed.



The **OK** button must be clicked in order for the settings in the window to take effect.



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4c. Preferences: Save Image Preferences



The location and attributes of saved image files are controlled by the Save Image Preferences. These preferences provide a convenient way to set up your workflow, for example saving all corrected images into a particular "output" folder.

- File Folder
- File Format
- File Name
- Use File Extensions
- Lower Case Extensions
- Embed Working Space Profile
- Preserve JPEG EXIF data
- JPEG Compression
- Remove Saved Images from the ProcessQ
- Show these Preferences with every Save

These preferences may be viewed by clicking the **Save Image Preferences...** button in the main Preferences window:



They may also be presented to you automatically when you save images from the ProcessQ:



If you find that you frequently change these preference settings, it can be helpful to have them automatically displayed, both as a reminder of the current settings, and as a way to quickly modify them. If you rarely change them, you will probably want to uncheck this checkbox. Note that this control does not affect saving files by selecting "Save Image As..." from the File menu. In that case, a dialog always appears before the file is actually saved, allowing you to intervene and change some things before actually saving the file.

The **File Folder** menu allows you to indicate the folder that the corrected file will be saved to.



If you select **Same as original**, the corrected image will be saved into the same folder that held the original, wherever that may be. If the saved file name is the same as the original file name, then the original file will be overwritten. Note that the **File Name Suffix** preference (below) may be used to automatically modify the saved file name, thereby avoiding overwriting the original file.

If instead you select **Use this folder...**, then all corrected images will be placed into the folder you select, regardless of the location of the original image files.

Note that when you use the **Save Image as...** command, the starting folder for navigating will be the last folder that you saved into using **Save Image as...**. It will not be the folder you select with this preference.

The **File Format** menu sets the file format to be used for saved images.



If you select **Same as original**, then the corrected image will be saved in the same image file format as the original image file. Otherwise, if you want all images to be written in a particular format, you may select it from the menu, which will force the format of the corrected image file, regardless of the format of the original file.

For Saving As, this preference becomes the initial selection in the dialog, allowing you to change it if you wish before actually saving.

Important Information for 16-bit Users:

If you color correct 16-bit per channel images, be aware that TIFF is the only file format that supports this depth. Therefore, if you have selected either **BMP** or **JPEG** as the format for saving, the pixel values will be converted from 16 bits to 8 bits as the file is saved. If you wish to retain the full 16-bit channels, you should set the file format to either **TIFF** or **Same as original**.

The **File Name** menu item allows you to easily modify the original file name.



If you select **Append Suffix**, whatever you type in the adjacent text field will be used to create the output file name, by appending it to the end of the original file name. The appending occurs before the file extension. For example, if the original file was named Pancakes.jpg then the saved corrected file would be given the name Pancakes-ic.jpg if saved as JPEG, or Pancakes-ic.tif if saved as TIFF (assuming a **File Name Suffix** of -ic).

If you select **Prepend Prefix**, whatever you type in the adjacent text field will be used to create the output file name, by prepending it to the beginning of the original file name. For example, if the original file was named Pancakes.jpg then the saved corrected file would be given the name ic-Pancakes.jpg if saved as JPEG (assuming a **File Name Prefix** of ic-).

If you select **Same as original**, then the corrected image will be saved with the same name as the original image file. **Important:** Note that this will **overwrite** your original image file if you have also specified **Same as original** for the file folder and file format.

The **Use File Extensions** checkbox sets whether or not file extensions will be automatically added to the image file names.



The **Lower Case Extensions** checkbox determines whether the file name extension will be in lower case (checked) or upper case (unchecked).



The **Embed Working Space Profile** checkbox controls whether or not the current working space profile is embedded into the saved corrected image file.



It is recommended that the embedding be enabled because it gives specific colorimetric meaning to your image file, which may be useful to other programs that operate on it (for example, a printer driver). The working space profile may be embedded into TIFF or JPEG file formats, but not BMP. It adds a few hundred bytes to the file size, which is not a significant amount.

The **Preserve JPEG EXIF data** checkbox controls whether or not any EXIF data found in original JPEG image files is passed through to the corrected output image files.



Many digital cameras embed this information, which includes a variety of things like camera type, exposure settings and the like. Note that if the original EXIF data includes a thumbnail image, that part of the EXIF data is not preserved, since the original thumbnail will no longer correspond to the corrected image file.

The **JPEG Compression** control is used to trade off compression against image quality.



Since JPEG compression is lossy, the more you compress the file (a smaller file size might seem like a good thing) the more information is lost (poor quality seems like a bad thing). This slider allows you to set the relative balance between compression and quality. You may wish to experiment a bit to find the optimal setting.

For Photoshop Users: At the far right you see in parentheses a PS: followed by a number. This is the approximate equivalent to the JPEG scale used by Adobe Photoshop (whose scale goes from 0 to 12, instead of 0 to 100 like EditLab).

Although you will probably want images to be removed from the ProcessQ once you have corrected and saved them, there may be occasions when you want them to remain in the ProcessQ. For example, you may want to save a set of images in one folder as corrected color images, and save the same set in another folder as black and white images. This checkbox controls whether or not saved images are automatically removed from the ProcessQ:

Remove Saved Images from the ProcessQ

Note that if you leave corrected images in the queue when the original image has been overwritten (that is, your preferences were set to save in the original folder using the original name), the EditLab settings will be "Reset", allowing further corrections starting from the newly corrected image.

The **Restore Defaults** button will set all preferences in the window to the factory default values, that is, the values that were present when EditLab was first installed.



The **OK** button must be clicked in order for the settings in the window to take effect.



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4d. Preferences: Sync Preferences



The Sync Preferences determine which settings are synchronized when the Sync button in the main EditLab window is clicked.

These preferences may be viewed by clicking the **Sync Preferences...** button in the main Preferences window:



They may also be presented to you automatically whenever you click the **Sync** button:

✓ Show these Preferences with Every Sync

If you find that you frequently change these preference settings, it can be helpful to have them automatically displayed, both as a reminder of the current settings, and as a way to quickly modify them. If you rarely change them, you will probably want to uncheck this checkbox.

The **Synchronize Color Settings** checkbox determines whether the current color correction settings will be applied to all selected images (checked) or not (unchecked).

✓ Synchronize Color Settings

The **Synchronize Sharpen / Remove Noise Settings** checkbox determines whether the current sharpening and noise removal settings will be applied to all selected images (checked) or not (unchecked).

Synchronize Sharpen / Remove Noise Settings

The **Restore Defaults** button will set all preferences in the window to the factory default values, that is, the values that were present when EditLab was first installed.

(Restore Defaults

The **OK** button must be clicked in order for the settings in the window to take effect.



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4e. Preferences: User Interface Preferences



The User Interface Preferences are viewed by clicking the **User Interface Preferences...** button in the main Preferences window:

User Interface Preferences...

These preference controls are grouped into three main catagories:

- Show These
- Preview These
- More Controls

The **Show These** checkboxes control whether certain optional features in EditLab are made available or not, giving you some control over the complexity of the user interface. If you prefer a simpler interface, you can selectively disable features that you don't find useful.

The **Start Up Guide** checkbox controls whether or not the Start Up Guide window is displayed when EditLab is launched.



The Start Up Guide is designed to give the first-time user a little extra help getting started. Once you are familiar with EditLab, you will probably want to disable this feature.

When the **Show Sampled Region** checkbox is checked, a brief visual feedback is given of the actual pixels sampled when you click on the image:





This is discussed in more detail in the section describing the <u>Neutral Color Balance</u> tool. This "flashing" gives you some feedback about what is happening during color correction. If you find this distracting, simply turn the option off by unchecking the checkbox.

When the **Show Neutrals/Sliders Pop-up Menu** checkbox is checked, EditLab will place a pop-up menu in the Neutral Balance tool panel that allows color balance to be achieved using sliders, in addition to clicking on neutral colors in the image, as described <u>here</u>.

Neutrals/Sliders

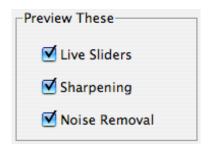
When the **Show Pixel Values** checkbox is checked, EditLab will enable the display of numeric pixel values in its main window, as was described <u>here</u>.

Pixel Values

When the **Show Brightness/Contrast Curve Control** checkbox is checked, EditLab will display a control in the Brightness / Contrast / Saturation tool panel that allows the tone curve to be graphically displayed, as described here.

Brightness/Contrast Curve Control

The three **Preview These** checkboxes influence the responsiveness of the controls throughout EditLab. If you find that the controls are too sluggish, you may want to experiment with these settings that trade off feedback for speed. The responsiveness will depend on many factors, such as the speed of your computer, the amount of memory available to EditLab and the size of the EditLab window.

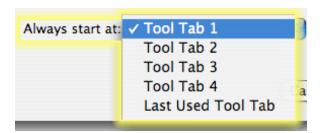


When the **Live Sliders** checkbox is checked, the preview image is updated with every movement of the mouse as you adjust a slider.

If you have a fast enough computer, this makes it easy to find the optimal slider setting, but on a slower computer, you may find it confusing and frustrating if the updating of the display doesn't keep up with your mouse movements. Updating the preview involves a lot of calculations, especially if the master SmartColor checkbox is checked, since new automatic settings are also recalculated for each change in the slider value. When the Preview Sliders checkbox is unchecked, you can freely move a slider, but the image is not updated until you release the mouse button.

When the **Sharpening** checkbox is checked, if sharpening is being applied to the image, it is previewed whenever you are zoomed in. When the **Noise Removal** checkbox is checked, if noise is being removed from the image, it is previewed whenever you are zoomed in. This is described further in the <u>Preview Image section</u>.

The **Always start at** menu determines which edit tool is active when you open a new image from the ProcessQ for editing in the main window:



In most cases, you will want to start with Tool Tab 1, but there may be times you prefer something else. For example, if the only correction that a set of images requires is a brightness adjustment, it will save you time to always start with Tool Tab 3.

The **Restore Defaults** button will set all preferences in the window to the factory default values, that is, the values that were present when EditLab was first installed.



The **OK** button must be clicked in order for the settings in the window to take effect.



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4f. Preferences: Color Management Preferences



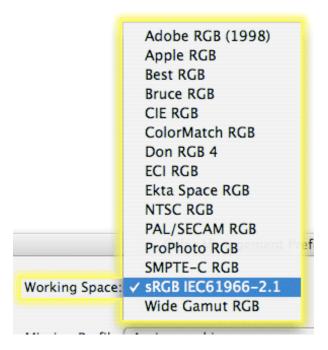
The Color Management Preferences determine how EditLab handles color data when you add images to and save images from the ProcessQ. We recommend that you leave these preferences at their default settings, unless you have a good understanding of color management and a good reason to deviate from these suggestions.

- Working Space
- Missing Profile
- Embedded Profile

To view the Color Managements Preferences, you must click the Color Management Preferences... button in the main Preferences window:

Color Management Preferences...

The **Working Space** menu is used to select the current working space used by EditLab.

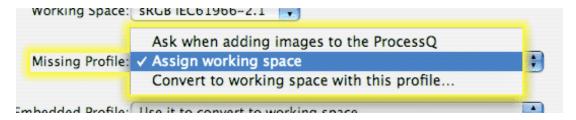


The notion of a working space may be new to you. Think of it as a specially defined RGB color space whereby

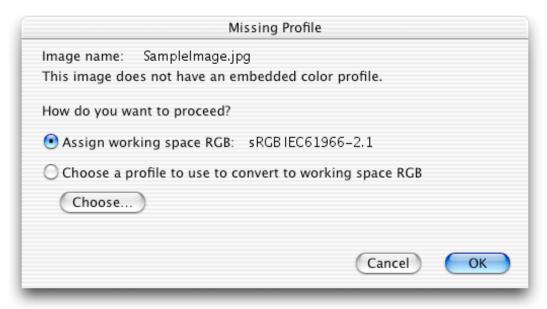
the RGB values have very specific and well defined meanings about how they relate to the way your eye sees color. The use of a working space, combined with the ability to embed a working space definition into each of your corrected images, opens the door for a color managed workflow, whereby the correct colors of your image may be properly displayed or printed by other systems.

The default working space is sRGB IEC61966-2.1 (commonly referred to as simply "sRGB"). This is a working space that represents a typical CRT monitor and is widely used for displaying images on the web. Unless you are knowledgeable in the properties of working spaces, we recommend that you leave this setting at sRGB. If you insist on deviating from this without full knowledge, we would recommend trying Adobe RGB (1998), which is popular among professionals for photography and print applications.

The **Missing Profile** menu establishes the handling of images that have no embedded profile.

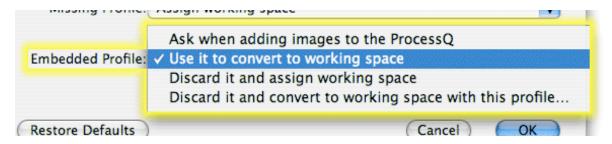


Assign working space simply assigns the current working space to the image data. No pixel conversions are performed. If you select **Convert to working space with this profile...**, you will be allowed to select an ICC device profile which will then be used by EditLab to convert the pixel values into the current working space. If you select **Ask when adding images to the ProcessQ**, then you will be given these same two options whenever a batch of images is loaded that includes at least one image without an embedded profile:

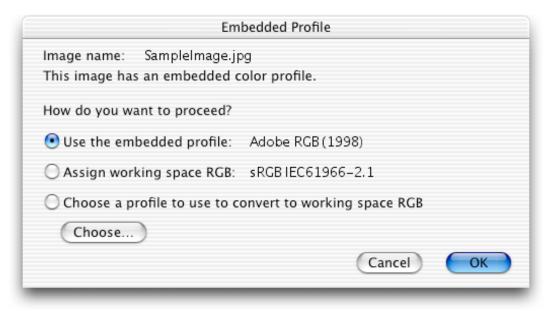


Then, whichever option is selected, it is used on that image as well as on any other such images in the batch that is being added to the ProcessQ.

The **Embedded Profile** menu establishes the handling of images that have an embedded profile.



Use it to convert to working space causes EditLab to convert the pixel values through the embedded profile and into the current working space. Discard it and assign working space causes EditLab to ignore the embedded profile and then assign the current working space to the image data. No pixel conversions are performed. Discard it and convert to working space with this profile causes the embedded profile to be ignored and then allows you to select a different profile to be used to convert into the current working space. If you select Ask when adding images to the ProcessQ, then you will be given these same three options whenever a batch of images is loaded that includes at least one image with an embedded profile:



Then, whichever option is selected, it is used on that image as well as on any other such images in the batch that is being added to the ProcessQ.

The **Restore Defaults** button will set all preferences in the window to the factory default values, that is, the values that were present when EditLab was first installed.



The **OK** button must be clicked in order for the settings in the window to take effect.



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5. Opening Images



EditLab automatically opens an image from the ProcessQ whenever one is needed. When you indicate that you are finished correcting an image by clicking the **Cancel** or **Apply** button, that image is closed and the next one in the ProcessQ is opened. If the ProcessQ is empty, EditLab asks you to select more images to be added to the ProcessQ. You may explicitly add images to the ProcessQ at any time by clicking the **Add...** button, by selecting **Add Images to the ProcessQ...** from the **File** menu, or by pressing the Command-O keys. You may explicitly select an image from the ProcessQ at any time by clicking on the corresponding thumbnail in the ProcessQ. You can also advance from one image to another using the arrow keys.

The ProcessQ was explained in more detail earlier in this guide (here).

Note that EditLab can open only RGB image files. It can open most JPEG, TIFF and Windows BMP format files. It cannot open RAW files or native Photoshop format files (PSD).



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6. Color Balance Tool





The first edit tool is Color Balance.

This tool is used to adjust the color balance of the image. The color balance tool has been implemented with two different user interfaces, each of which will be described shortly. We call the two methods Clicking Neutral Objects and Using Sliders. The one that is best for you will depend on your image and your personal preferences. Note that only one of these methods may be used on an image — they will not work in combination with each other, and when you switch from one method to the other, any existing color balance edits are undone.

Also note that the *Using Sliders* method is only available if you have enabled the **Show Neutrals/Sliders** checkbox in the User Interface Preferences window.

For most users and most images, the *Clicking Neutral Objects* method is far quicker, easier and more accurate.

- Clicking Neutral You color balance with this method by simply clicking on neutral (black/gray/white) **Objects** objects in your image.
 - **Using Sliders** With this method, color balance is achieved by moving sliders.

By default, EditLab will aim for a neutral with equal red, green and blue values, that is, with a saturation of zero. If you prefer a warmer or cooler neutral, click the **Preferences...** button in the color balance tool panel. EditLab's color selection window will be displayed, allowing you select your preferred neutral. EditLab will aim for your customized target neutral definition until you define a different one, or until you load custom or previous settings that define a different one.



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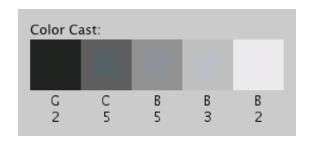


6a. Color Balance Tool: Clicking Neutral Objects



The basic idea of the Neutrals method of color balancing is that you simply point and click on objects in the image that you know should be neutral. If you stop and think about it, most images have built-in grayscales, hidden in the objects in the scene. Here are some examples of common neutral objects: paper, clothing, automobile tires, teeth, eyes (whites and pupils), clouds, white painted objects like houses or cars, black painted objects, asphalt, tree bark, snow and many others. Often, a single neutral object will have many tones, due to illumination variations. For example, the folds in a white shirt will show many different tones of the base white fabric.

The Neutrals method allows a continuous color balance correction across all tones. This means that it can easily handle "cross-overs," for example, an image whose dark colors have a green cast and whose light colors have a red cast. The tool panel shows a simplified, five-step summary of the type of color cast your image has.



Although this display shows only five regions (for the sake of clarity), the underlying color balance correction is continuous across all tones.

Color balancing using Neutrals is very easy. Simply select Neutrals from the pop-up menu at the top of the color balance tool panel, and then click on objects in the preview image that should be neutral. Every time you click on the picture, an entire region of adjacent, similarly colored pixels will be used collectively to determine the color cast. This region is shown momentarily as a brief "flash" of a blue overlay (if you have the "Show Sampled Region" preference enabled):



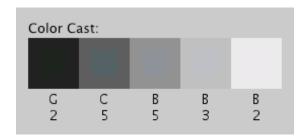
This means you don't need to select very many neutral objects, but you should make an effort to point at different tones, from black to white and some tones in between. If the master SmartColor Mode checkbox has been checked, some color balance correction will have been done for you already. The automatic correction influences the darkest and lightest colors in the image more than the midtones, so you may want to be sure to mark some neutral midtones if you can. (Note that the SmartColor Preferences settings control whether SmartColor will affect the color balance.)

You may also find that by <u>zooming and scrolling</u>, more precise neutral selection is possible, especially on small or thin objects.

In our sample image, the background is assumed to be shades of gray. We will click in a few places, including lighter and darker samples. Two of the musicians have black hair, and the center musician's robe has white birds on it. Since these should also be made neutral, we'll click on these colors as well.

After every click of the mouse, the Color Balance panel and the preview image are updated to show the current color correction. If the master SmartColor Mode checkbox is checked, each click also recomputes the automatic settings for the edit tools that follow (black/white, brightness/contrast, hue selective).

We see here that for our example, we have a slight blue cast in the highlights which passes through cyan on its way to green in the shadow tones.



This displayed grayscale has inset squares to visually show the color cast that exists in the original image. Beneath each square is a general indicator of the color of the cast (R = red, G = green, B = blue, C = cyan, M = magenta, Y = yellow). The strength of the cast is also shown, expressed in saturation units. Zero means dead neutral; larger numbers indicate a more pronounced color cast. This is the color cast that is removed by the color balance tool. Note that these numbers are always with respect to a neutral with equal red, green and blue values. If you have

used the Color Balance Preferences button to define a custom target neutral, it does not affect these values.

If you click something non-neutral by mistake, click the Undo button. To undo all of the color balance edits, click the color balance Reset button, which is found inside the lower right corner of the tool panel. After resetting the color balance tool, you can click the color balance SmartColor button to redo the automatic color balance correction.

You will probably find the Neutrals method of color balancing to be easier, faster and more accurate than the Sliders method. In fact, the Neutrals method can accurately color balance an image literally in seconds, once you get the hang of it.



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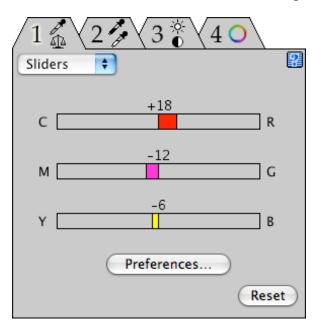
6b. Color Balance Tool: Using Sliders



If you need to edit an image that doesn't contain any colors that should be neutral (a rather unlikely scenario), or if you wish to introduce a certain color cast to your image, you will need to use the Sliders method of color balancing.

Three sliders are used to control the color balance: cyan/red, magenta/green, and yellow/blue. The sliders are initialized to zero, which leaves the original unchanged. Note that the SmartColor color balance can only be applied in Neutrals mode.

Move the first slider to the left to increase cyan, or to the right to increase red. (Since adding red is the same as removing cyan, it is impossible to control red and cyan independently; likewise for magenta/green and yellow/blue.) As you adjust a slider you will see the effect in the Preview image. Based on the appearance, make further adjustments as necessary. Here we have introduced a cast into the image:



If you find that the sliders do not respond quickly enough, you can change their behavior using the Preview Live Sliders checkbox which is described in the <u>User Interface Preferences</u> section of this User Guide.

When you are happy with the slider settings, do not return to the Neutrals method of color balancing. If you do, your color balance slider settings will be undone.



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7. Black Point / White Point Tool





The next color edit tool is used to set the black, white and gray points which define the lightness range of the image:

You will use this tool to indicate the values that you want to be perfect black and perfect white. Usually, but not always, this will involve pushing the dark tones in your image down to darker values and pulling the light tones up to lighter values.

When the black or white point is changed, the gray point will automatically change too, so that the distribution of tones between black and white doesn't change. If you want to change the distribution of tones, you can change the gray point, making midtones either lighter or darker.

The Black / White Point panel shows a histogram of the tones found in the color balanced image. This histogram may be helpful in deciding what the best black, white and gray points might be.

There are three ways of specifying the black, white and gray points. These methods may be used in any combination.

SmartColor Button • This will automatically find good settings in most cases.

- **<u>Dragging the Handles</u>** You may also drag the triangular black, white and gray point handles to specific
 - **Image**
 - Selecting From the You may select your black, white and gray points directly from your image.



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7a. Black Point / White Point Tool: SmartColor Button



If you click the SmartColor button, the histogram handles will automatically be set to values that seem appropriate for the image. This will produce good results in most cases, and is quick and easy to do. If the master SmartColor Mode checkbox is checked, this will already have been done. (Note that the SmartColor Preferences settings control whether SmartColor will set the black, gray and white points.)





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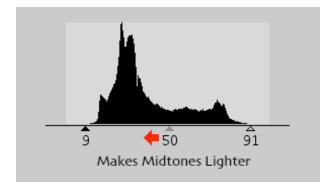
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7b. Black Point / White Point Tool: Dragging the Handles



The histogram handles may be dragged to any value. Setting the black point below 0% will lighten the blacks. Setting it to greater than 0% will darken the blacks.



Similarly, the white point handle may be set to greater than or less than 100% to darken or lighten the whites.

If you hold the **Option** key down while you drag the black or white point handle, the preview will be displayed in a special mode that shows any clipping that will occur in the highlights and shadows.

As you move the black or white point handles, the gray point handle will move as well, remaining at the same position relative to the black and white points. This is because the gray point specifies the brightness of midtones with respect to the black and white points. To leave the range of shadows and highlights unchanged, the gray point handle must remain halfway between the black and white point handles.

If your image needs midtone correction, moving the gray point handle closer to the black point will lighten midtones, expanding the shadow range and compressing the highlight range. Moving the gray point handle closer to the white point will darken midtones, expanding the highlight range and compressing the shadow range.



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7c. Black Point / White Point Tool: Selecting From the Image



You may also select the black, white and/or gray point directly from an image by pointing and clicking.

EditLab will automatically determine if the color you mark is to be the black, white or gray point, by seeing if it is a dark, light or midtone color. The cursor appearance indicates which it is:



Clicking the Reset button within the edit tool panel will set the black point to zero, the gray point to 50 and the white point to 100 (the values that cause the lightness range to remain unchanged).

Note that if the master SmartColor Mode checkbox is enabled, whenever the black, white or gray point is changed, the controls in the Brightness/Contrast/Saturation and Hue Selective tool panels will be automatically recomputed based on an analysis of the newly corrected image.



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8. Brightness / Contrast / Saturation Tool

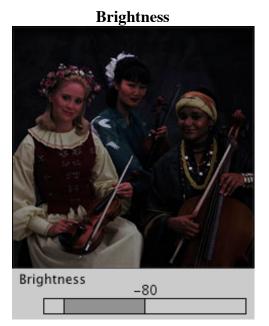


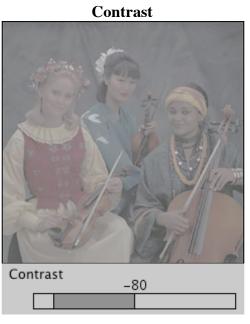


Next in line is the Brightness/Contrast/Saturation tool.

The Global Brightness and Contrast sliders may be used to redistribute the tones between the selected black and white points. The Shadows slider allows you to brighten or darken the shadows without affecting highlights, while the Highlights slider allows you to brighten or darken the highlights without affecting shadows. The Saturation slider may be used to increase or decrease the saturation of all non-neutral colors.

The sliders are simple to use. You just make a judgement call as to whether you want more or less brightness, contrast and/or saturation. Adjust the sliders to the right for more, or to the left for less, as illustrated below:







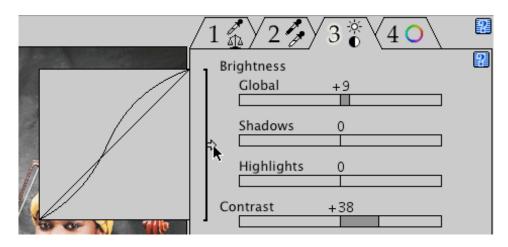




As you adjust a slider you will see the effect in the Preview image. Based on the appearance, make further adjustments as necessary. If you find that the sliders do not respond quickly enough, you can change their behavior using the **Preview Live Slider** checkbox which is described in the <u>User Interface Preferences</u> section of this User Guide.

Clicking the SmartColor button will automatically determine settings for the Global Brightness and Saturation sliders. (There is no automatic shadow, highlight or contrast correction.) If the master SmartColor Mode checkbox is checked, this will already have been done for you, providing a good starting point for further adjustments, if necessary. (Note that the SmartColor Preferences settings control whether SmartColor will affect these settings.) The SmartColor Brightness uses a center-weighted metering system, much like you might find on a good 35mm SLR camera. The SmartColor Saturation aims to achieve the saturation level you have set as the **Preferred** Saturation in the preferences window. See the SmartColor Preferences section of this User Guide if you wish to change this aim value.

If you click the small arrow to the left of the Brightness and Contrast sliders, you will see a small graph indicating the shape of the curve produced by the combined brightness and contrast settings:



This feature will only be available if you have enabled the **Show Brightness/Contrast Curve Control** checkbox in the User Interface Preferences window.

This graph is for viewing purposes only. You cannot use it to manipulate the curve shape. Click the arrow a second time to remove the graph.

Note that if the master SmartColor Mode checkbox is checked, adjusting any slider causes each of the subsequent controls in this panel, as well as those in the Hue Selective tool panel to be automatically recomputed, based on an analysis of the newly corrected image.

Clicking the Reset button will remove all brightness, contrast and saturation edits.



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9. Hue Selective Edit Tool

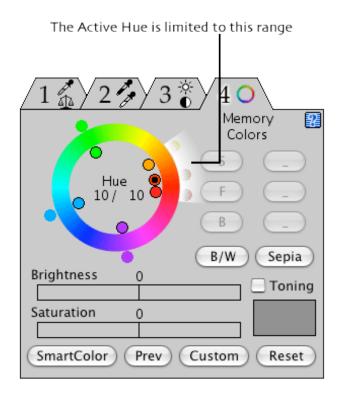




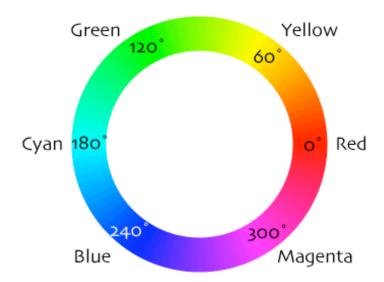
The final editing tool allows color adjustments to be made on a hue selective basis. This means that hue, saturation and brightness changes may be made to certain hues without affecting other hues or the grayscale.

A hue ring is used to select hues and also to specify hue changes. Sliders are used to alter brightness and saturation of the selected hue. Memory color buttons are used to automatically set hue, brightness and saturation values for built-in colors (Skin, Foliage, Blue sky) or user defined colors.

The hue ring has six pairs of handles. We will refer to the handles on the inside of the ring as **Before** handles, and the handles on the outside of the ring as **After** handles. The handles behave like radio button controls, in that only one pair of handles is active at a time. The active pair of handles is designated by a black dot on the active Before handle. The hue values that are displayed at the center of the hue wheel correspond to the active Before and After handles.



Hue values are specified as angles between 0 and 359 degrees, where 0 is red. As the angle increases counter clockwise, the hue changes gradually to yellow, then green, cyan, blue, magenta and back to red:



The location of the hue handles determines the range of hues affected by each hue edit. You may position these handles wherever you wish. Then for each pair of hue handles, you may adjust the hue, brightness and saturation. The adjustment for any given hue handle will have its strongest effect at the hue handle and its effect will fall off to zero by the time it reaches the handles of its immediate neighbors on either side.

Setting the "Before" Hue handles serve two purposes: identifying hues you wish to edit, and becoming "fences" to limit the range of hue edits.

Hue

Editing the Active You may adjust the hue, brightness and saturation of the active hue.

<u>Using the Built-in</u> EditLab has built-in corrections for skin, foliage and sky. You may also customize Memory Colors these special colors, or add some of your own.

Toning Toning applies a global cast for effects like sepia tone. It can be used in combination with hue selective edits for special effects.



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9a. Hue Selective Edit Tool: Setting the "Before" Handles



The first thing you should do is position the Before hue handles. You may want to set handles at specific hues you want to edit. You may also want to set handles as "fences" to limit the range of effect of a neighboring hue edit.

There are three ways of setting Before hue handles.

The **SmartColor** button may be used to quickly set all six handles to the most prominent hues in the image. If there are fewer than six such hues present, any remaining handles will be placed in large gaps, to limit the range of influence of any given handle. This will already have been done if the master **SmartColor Mode** checkbox is checked.



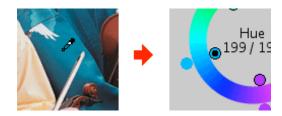
For our sample image, four handles have been positioned to correspond with hues in the image: the yellow blouse and red vest of the first musician, the blue robe of the center musician, and the instruments. The remaining two handles have been positioned midway between handles to serve as fences.

The second way of setting a Before handle is to drag it to the desired location. To position a handle that isn't already active, activate it first by clicking on its Before handle. Then click again to drag it to a new position.



The third way of setting a Before handle is simply to click on something in the image. You may notice that as you move the cursor over the image, a small line is continually drawn on the hue ring showing the hue of the pixel you are pointing at. (This line is not drawn if you are pointing at a color that is near neutral because hue becomes undefined as you approach the neutral colors.)

When you click on the image, the hue of the color you are pointing to is calculated and the Before handle closest to it on the hue wheel is activated and moved to this position.



You may notice that the Before hue that is calculated does not necessarily exactly match the hue of the pixel that you clicked on. This is because every time you click on the picture, an entire region of adjacent similar pixels are used to determine the hue for the handle (similar to the way that adjacent pixels contribute to Neutral clicks, as described in the <u>Color Balance section</u> of this user guide).

Note that setting the Before hue handles does absolutely nothing towards changing any colors (unless an edit has already been applied to this hue handle or either of its immediate neighbors — the topic of the next section). By setting these handles, you are indicating which hues are of interest for hue selective editing — hues that you wish to alter as well as hues you wish to remain fixed.



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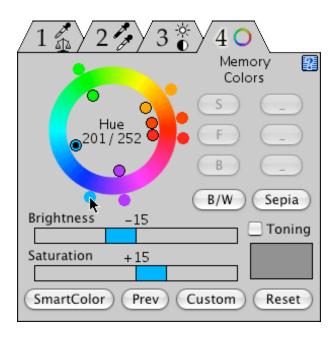
9b. Hue Selective Edit Tool: Editing the Active Hue



To change the hue of colors in the image, activate the pair of handles that is closest to the hue of the colors that you want to change. The easiest way to do this is by clicking on that color in the image, but you can also do this by clicking on the Before or After handle. The hue can then be modified by dragging its After handle on the hue ring.

As you drag the handle, the new hue angle is displayed numerically inside the hue ring, next to the Before hue, and the preview image is updated.

The brightness and saturation of colors within the active hue range may also be altered. This is done by moving the sliders.



As you move the saturation slider to the right of zero, you will increase the saturation. Moving to the left will decrease it. Moving all the way to the left will completely drain all color from the hue range.

Brightness can also be modified in a similar fashion. Moving the brightness slider to the right lightens a color, while moving it to the left darkens it.

These adjustments have their maximum effect at the active hue, and drop off to nothing at the neighboring hue handles as well as at the neutral axis. This means that no matter what you do with the hue selective edit tool, you

will not affect the grayscale.

If you find that the handles are sluggish and do not respond quickly enough, you can change their behavior using the **Preview Live Sliders** checkbox which is described in the <u>User Interface Preferences</u> section of this User Guide. This situation can happen if you are running on an older, slower computer.

Here is our example, showing the effects of making the robe of the center musician a more purple, more saturated and darker:





Notice that other hues in the image are not affected, such as the red vest and the yellow blouse. Of course, if there were other objects in the image that were the same color as the robe, they would change along with the robe. The neutral balance of the background is also preserved.



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9c. Hue Selective Edit Tool: Using the Built-in Memory Colors



EditLab has six user defined memory colors, referenced via the six small buttons at the upper right of the tool panel:



Each memory color has several attributes associated with it:

- A name, for example "Skin".
- A single-character button label, for example S.
- A color definition.

EditLab installs with three predefined memory colors: Skin, Foliage and Blue sky. The remaining three are undefined. You may remove or modify the predefined colors at any time. (Don't worry, you can restore these default definitions if you change your mind later.) By moving the cursor over the buttons (without clicking), you can see the full name of the memory color along with a swatch of its color definition:

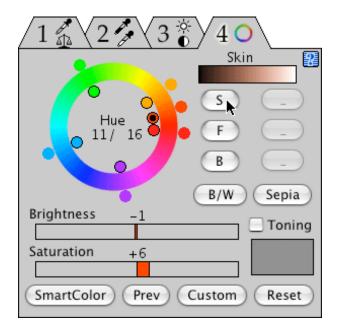


Using the Memory Color Definitions

If your image contains objects whose color corresponds with one of your memory color definitions, EditLab can adjust the color so that it more closely matches the definition. This is done by first clicking on one or more samples of the color in your image, and then clicking on the proper memory color button. EditLab will adjust the hue (the "After" handle), brightness and saturation in such a way that brings the color as close as possible to the definition. Note that you can customize this behavior of the Memory Color buttons, much as you can customize SmartColor operation, using the SmartColor Preferences. For example, it is possible to specify that the memory color buttons will adjust the hue and brightness, leaving the saturation unchanged.

The memory color buttons will not be active unless you have clicked on a color in the image that corresponds to the active hue handle. When you have selected a color from the image, a correction can be determined based on the current color and the built-in correct color definition. As with all of the other automatic settings, if you aren't happy with the result, you can always fine tune the settings with the handles and sliders.

So to use the memory color feature to correct skin tones, simply click on a few skin tones in the image and then click the **S** button. That's it. This will automatically set the After hue handle and the Brightness and Saturation sliders (assuming all three are enabled in the <u>SmartColor Preferences</u>) to values that produce the correct skin tone color.



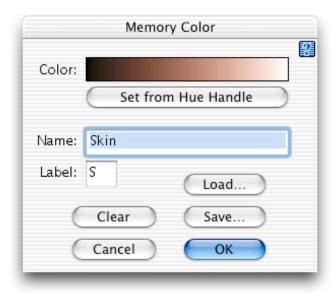
As you click on areas in your image, you should try to mark on relatively large areas of representative color. For example, when marking skin tones it is better to mark on a smooth section of a forehead, neck or chin than on a highly made up cheekbone, a bright highlight resulting from a flash, or a small area between the eyes.

You may also find that by <u>zooming and scrolling</u>, more precise color selection is possible, especially on small or thin objects.

Clicking the **Reset** button within the tool panel will remove all hue selective edits, and evenly distribute the hue handles around the hue ring.

Customizing the Memory Color Definitions

Clicking a memory color button while holding down the **Option** key opens a dialog allowing you to edit the attributes of the color:



This is the means by which memory color definitions are added and modified, as described here.

Modifying a Memory Color Definition

If you find that you consistently need to make the same type of adjustment after using a memory color, you may want to customize EditLab's understanding of what the color should be. For example, if you prefer skin tones to be a bit more saturated than EditLab produces, you may alter the definition so that EditLab will produce more saturated skin tones next time. Here is how you do this.

- 1. Click on one or more skin tones in the image.
- 2. Set the hue (using the "After" handle), brightness and saturation to values that produce the skin tone that you prefer.
- 3. Click the **S** button while holding down the **Option** key.
- 4. Click the **Set from Hue Handle** button to replace the definition with the new one.
- 5. Click OK.

Creating a New Memory Color Definition

A new memory color definition may be made in a similar fashion:

- 1. Click on one or more color samples in the image.
- 2. Set the brightness and saturation sliders, and the hue handle to values that produce the color you want.
- 3. Click an undefined button while holding down the **Option** key.
- 4. Click the **Set from Hue Handle** button to establish the color definition.
- 5. Provide a Name (up to 20-characters) and a single-character button Label.
- 6. Click OK.

Saving and Loading Memory Color Definitions

You may save a memory color definition into an external file by clicking the **Save...** button. This may be useful if you accumulate more than six definitions, which is the limit that may be used in EditLab at any one time.

Similarly, memory color definitions may be loaded from an external file by clicking the **Load...** button. This will replace the current color definition (if any) with the definition found in the file. This is the way that you can restore the factory default memory color definitions for skin, foliage and blue sky (these external files are provided by the EditLab installer).

Removing Memory Color Definitions

Click the **Clear** button to remove the memory color definition.



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9d. Hue Selective Edit Tool: Toning

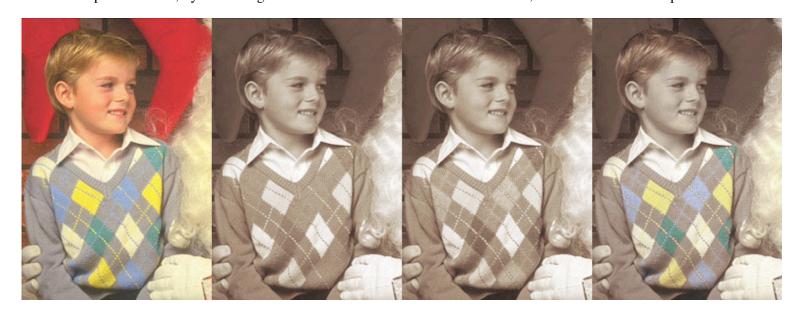


Toning refers to the process of adding color to a black and white photograph. The **Toning** checkbox behaves differently than the other controls in the hue selective tool panel, in that it adds color globally and its effect is most noticeable in neutral colors. Toning is included with the hue selective tools, because these tools can be powerful when used in combination.



To use toning in the customary way, you would first desaturate every hue handle, and then check the **Toning** checkbox and <u>select a toning color</u>. EditLab's color selection window will be displayed, allowing you to choose a color, and the preview image will be updated as you experiment with different selections.

At this point, although the original color has been removed from the image, you can still perform hue selective edits based on the original hues. So, for example, you can adjust the lightness levels of different hue handles to achieve better distinction between similar areas in the image. Depending on the distribution of hues in the image, you may also be able to achieve special effects, by increasing the saturation of some hues and not others, as seen in these examples:



The original image is on the left. The second image is the result of desaturating each hue and adding a sepia tone. In the third image, the blue hue handle was brightened and the green one was darkened, resulting in better discrimination between the tones in the sweater. For the fourth image, the saturation of the blue, green and yellow handles was increased.

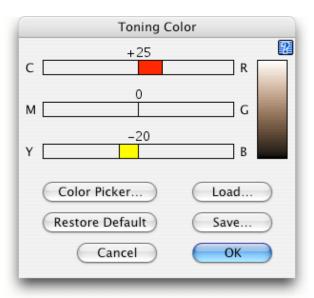
If you click the **B/W** button, it will quickly set every hue to minimum saturation. If you click the **Sepia** button, it will set every hue to minimum saturation, and set the toning color to a standard sepia tone. These buttons are shortcuts that set multiple controls for you. You can then fine tune any of the settings.

You can also customize the meaning of these buttons. If you hold down the **Option** key when you click the B/W button, EditLab's <u>color selection window</u> will be displayed, allowing you to associate a toning color with the B/W button. So, for example, if you prefer a warmer grayscale, you can select a reddish tone, and then the next time you use the B/W button, a reddish tone will be applied after the conversion to grayscale. If you hold down the **Option** key when you click the Sepia button, you can select a different toning color to associate with the Sepia button.

Selecting a Color

The same window is used to select colors for several purposes in EditLab: selecting a tone color, customizing the **Sepia** and **B/W** buttons, and selecting a neutral preference.

In each of these cases, the color is used across the lightness range of the image, so the current color selection is displayed as a gradient.



You can use the three sliders to add or subtract red, green and/or blue from the current color selection.

If you click the Color Picker button, you can use a standard color picker to choose a color.

You may save a color definition into an external file by clicking the **Save...** button. Similarly, color definitions may be loaded from an external file by clicking the **Load...** button. This will replace the current color definition with the definition found in the file.

Clicking the **Restore Defaults** button will restore the factory default value for the current color, that is, the values that were present when EditLab was first installed.

Click the **OK** button to save the new color, or **Cancel** to return to the main EditLab window without change.



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10. Sharpening and Noise Removal



iCorrect EditLab ProApp includes two image processing tools that go beyond color correction: sharpening and noise removal.

With EditLab, you can apply sharpening and noise removal in combination with color correction. This is especially helpful in cases where noise in an image is exaggerated by a color transformation. Noise is commonly introduced into images by digital cameras and scanners during the digitization process. Applying a color correction to remove color distortions typically "stretches" the color space, which tends to make any noise even more noticeable.



Check the **Sharpen** checkbox to apply unsharp masking to the image. Check the **Remove Noise** checkbox to apply an adaptive noise removal filter to the image. Note that the preview image cannot display the effects of sharpening and noise removal unless you are zoomed in because unlike color corrections, these effects depend on the resolution of the image. You must also have checked the **Preview Sharpening** and/or **Preview Noise Removal** checkboxes in the User Interface Preferences window. This kind of image processing may cause a noticeable delay in updating the preview. If you find it objectionable, uncheck those preferences and use the **Sharpen / Noise Removal** setup window to preview these effects.

Click the **Setup...** button to open the **Sharpen / Remove Noise** setup window, from which you can set parameters that control the strength of these effects:



The sharpen controls are displayed only when the **Sharpen** checkbox in the main window has been checked, and the noise removal controls are displayed only when the **Remove Noise** checkbox in the main window has been checked. Since sharpening can also make noise more pronounced, if you will be applying both effects, it is usually beneficial to set them up and preview them together.

The image in the upper right is a thumbnail of your complete image and is used for navigation purposes. The marquee you see on it represents that portion of the image which appears in the view to the left. You may drag the marquee to pan around the image.

The image on the left is a close-up view of a smaller portion of the full image, displayed after noise removal, color correction and sharpening. You may zoom the image by clicking the + and - buttons. You may pan around the image by using the mouse to drag other portions of the image into view.

Note that as you are panning around the image, it is displayed without noise removal and sharpening until you release the mouse button. Similarly, as you adjust the slider controls, the image is not updated until you release the mouse button.

The **Sharpen Strength** slider value can range from 1 (very weak) to 24 (very strong).









Strength = 1

Strenath = 8

Strength = 16

Strength = 24

The noise removal controls are grouped as **Red Chrominance** and **Blue Chrominance**. The effect of the red chrominance controls is seen primarily in the red channel of the image, although it does have some small influence in green and blue. Similarly, the blue chrominance controls affect the blue channel most strongly, but also change red and green by smaller amounts.

Properly set up, these controls can do wonders towards removing unwanted noise without destroying fine image detail. Improperly set up, they can ruin your image. Therefore, it is important that you take the time to carefully set these parameters. Our experience to date has shown that once the proper settings have been found for an image from a given camera or scanner, these settings will work for other images that come from that specific device. In other words, you should not need to adjust these parameters on an image-by-image basis.

With experience, you will develop your own techniques for setting these controls, but here is one method that seems to work well. Start by setting all four sliders to their maximum values. These maximum settings will probably result in problem areas in your image, such as corners being "rounded off", and loss of other color detail. This can be seen in the neckline in the image on the left:



Maximum Slider Values



Explore your image, looking for such problems. Then reduce the parameter values until the problems just disappear. Adjust the blue chrominance values first, followed by red chrominance. As a general rule, you should use the largest threshold and radius that does not change the overall tone of any region. The goal is to remove the

We have found that "typical" values (if there are such things) are radius of 4 to 8 and threshold of around 16.

Clicking the **Restore Defaults** button will set all the controls in the window to the factory default values, that is, the values that were present when EditLab was first installed.

Click the **OK** button to save the new settings, or **Cancel** to return to the main EditLab window without changing

noise without changing the overall tone.

them.



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