Microtek ScanWizard Pro Reference Manual

For Mac OS X

Important

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To obtain optimal results from the Microtek scanning software and user's manual, you should be familiar with such Windows concepts as pointing, clicking, dragging, and selecting from menus and dialog boxed. If these things are new to you, refer to your Microsoft Windows User's Guide.

March 2002

Contents

Introduction

This *Reference* manual covers the various commands and features found in the ScanWizard Pro scanning software for the Mac OS X system. The reference information is divided into four major sections, corresponding to the four major windows of the program:

- Preview
- Settings
- Information
- Scan Job Queue

The *Reference* manual is part of the comprehensive documentation included with your Microtek scanner package.

Another important component of the documentation, the User's Guide, covers basic and advanced scenarios for scanning (e.g., how to scan film, how to scan multiple jobs, etc.).

ScanWizard Pro for Mac OS X: The Interface

ScanWizard Pro consists of four major windows: Preview, Settings, Information, and Scan Job Queue.

All four windows appear automatically after ScanWizard Pro is started up the first time. You may hide or show the Scan Job Queue and Information windows by clicking on the *Hide / Show* toggle commands in the View menu of the Preview window.

Settings window contains scanning parameters for image type and, dimensions. Includes image correction tools
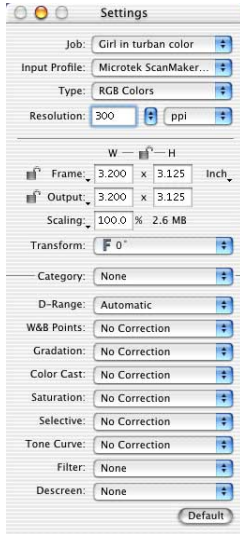
Preview window has commands and tools for controlling the scanner
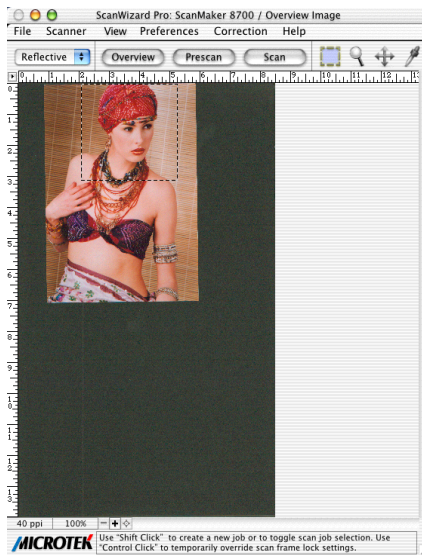
Scan Job window provides functions for managing scan jobs
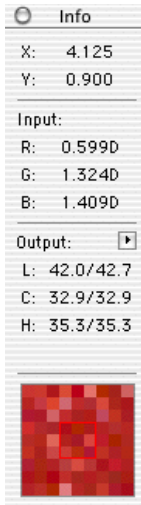
Information window provides color information on a selected area of the image

Launching ScanWizard Pro

Start ScanWizard Pro from the *Applications* folder in your Mac OS X system. The first time you launch ScanWizard Pro, you will be prompted to set up color matching for your scanner. If you are not sure about what to do, simply click the OK button to accept the settings. You can always change the settings at a later time. For more information, see the *Color Matching Setup* section of the manual.

You will also see the *ScanWizard Pro menu* at the top left portion of your desktop. Here, you will see commands for specifying your preferences in ScanWizard Pro, hiding ScanWizard Pro, quitting ScanWizard Pro, etc.
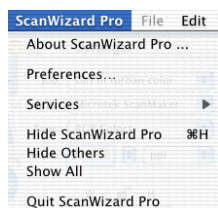
Exiting ScanWizard Pro

To exit ScanWizard Pro, go to the File menu and choose the *Quit* command, or press the *Apple + Q* keys simultaneously.

The Preview Window

The Preview window is the prominent window and includes the various commands and tools for controlling the scanner.

Elements of the Preview window

B. Scan Material pop-up menu

C. Overview button

D. Prescan button

E. Scan button

A. Menu bar

F. Toolbar

G. Unit of measurement

H. Rulers

I. Preview area

J. Auxiliary bar

L. Status bar

K. Handy buttons

ScanWizard Pro: ScanMaker 8700 / Prescan Image

File   Scanner   View   Preferences   Correction   Help

Reflective   Overview   Prescan   Scan

141 ppi   100%

MICROTEK   Use "Shift Click" to create a new job or to toggle scan job selection. Use "Control Click" to temporarily override scan frame lock settings.

A. Menu bar: This area includes the different menus for controlling and operating the scanner.

B. Scan Material pop-up menu: This shows the type of your scan material — *Reflective* (photos and prints), *Positive*, or *Negative*.

C. Overview button: This button previews the specified or entire scan bed.

D. Prescan button: This button previews one or more detailed images of the area(s) selected by the Scan Frame tool.

E. Scan button: This button starts the final scanning process.

F. Toolbar: The buttons in the Toolbar perform specific actions on the Overview or Prescan image. The Toolbar includes the *Scan Frame* tool, *Zoom* tool, *Move* tool, and *Tag Windows* tool.

G. Unit of Measurement: Select the unit of measurement for the rulers and the ruler colors by clicking the arrow at the 0,0 point of the rulers and choosing from the drop-down menu.

H. Rulers: Rulers are located on both sides of the Preview window to help you with measurement and alignment.

I. Preview area: This area in the Preview window shows the Overview or Prescan image.

J. Auxiliary bar: This area shows the scan resolution of the preview image and the Zoom or magnification scale for the image.

K. Handy buttons: These buttons include *Zoom in*, *Zoom out*, and the *Flasher for Low Value and High Value Markers*.

L. Status bar: This area shows you information pertinent to the operation underway or being performed.

The File Menu
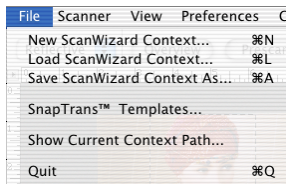
The File Menu lets you do the following:

- Create a new context for scanning
- Load a previously saved context
- Save a context for scanning as an extra copy
- Use the SnapTrans™ Templates feature
- Show the current context for scanning
- Exit ScanWizard Pro

The Context Concept

The "Context" feature in ScanWizard Pro has to do primarily with setting up scan jobs and customizing your scanning environment for increased scanning efficiency. It is a powerful tool to help you get the most productivity out of your scanner, especially if you do many similar scanning jobs.

A "context" is really a Mac OS folder that contains any number of scan job files and a ScanWizard Pro preferences file with information on these scan jobs. Think of a context as a complete scan setup or environment, with each context having its own characteristics, such as scan material (reflective, positive, or negative film), ColorSync profile selections, scan quality control, interpolation method, and others.

A good example in illustrating the concept of the context is through the use of templates. For instance, you may set up four contexts for your most frequent scanned work — reflective scans, a 35mm template, a 4" x 5" template, and a negative filmstrip template. You can then switch easily and freely among these contexts to maximize your productivity. (For more information, see the *SnapTrans Templates* command.)

When you quit or switch to another context, the settings of the current context are automatically saved. You will have exactly the same setup when you run or switch back to this context, so there is no need to start from scratch.

You can set up as many contexts as your hard disk can hold. And because contexts are regular Mac OS folders, you manage them (e.g., copy, duplicate, or delete) easily by using the Finder.

The ScanWizard Pro context can be easily customized to your particular need and used for many applications, such as the following:

• Repeated or frequent use of project/job settings

• Saving different experiments on the same project/job

• Different setups involving scan material selections, CMS settings, scan jobs

• Various templates of a user's work

• Scanner sharing among multiple users

• Archiving of scan projects/jobs

• Proofing on prescans and adjustments before final scans

New ScanWizard Context

This command creates a new context folder with default settings for scanning. Subsequent scan jobs are then stored in the newly created context folder. The newly created context also becomes the current context.

To create a new context:

1. Choose *New ScanWizard Context* from the File menu.

2. When the browser dialog box appears, create a new folder.

Load ScanWizard Context

This command loads a previously saved context folder. The loaded context then becomes the current context.

To load a context:

1. Choose *Load ScanWizard Context* from the File menu.

2. When the browser dialog box appears, select the folder to be loaded, and click the *Select* button at the bottom of the dialog box.

Save ScanWizard Context As

This command lets you save an extra copy of the current context to a new location. The settings of the current context are saved first and then copied and switched to the new location. This is particularly useful when you want to work on a new context based on the current context settings.

To save a context:

1. Choose *Save ScanWizard Context As* from the File menu.

2. When a dialog box appears, choose the folder where the scan jobs will be saved. Subsequent scan jobs are then saved to the specified folder.

SnapTrans Templates

This command lets you choose the particular SnapTrans™ template you wish to use with ScanWizard Pro. The templates are holders designed to secure a variety of films, such as 4"x5" film, 6cm x 9cm film, 35mm filmstrip, and 35mm slide (landscape or portrait orientation).

To use the SnapTrans templates:

1. Choose *SnapTrans™ Templates* from the File menu. The SnapTrans Templates dialog box appears.

2. Choose the correct scan material.

3. Select the template to be loaded by clicking the template icon.

4. Take note of the name and location of the folder to where scan jobs will be saved, or specify your own folder name and location.

5. Click the *Save* button. The selected set of pre-defined scan jobs based on the template you chose is copied to your designated folder; i.e., a new "Context" folder has been created for you. The Scan Job window will also show the pre-defined scan jobs.

6 From hereon, do an overview to see the images in the Preview window, and continue with the process of matching each overview image with each of the predefined scan jobs in the Scan Job window.

7. When you are finished, click the *Scan* button in the Preview window to start scanning with the use of your selected SnapTrans template.

Choose your scan material (step 2)

Template icon (step 3)

Folder where scan jobs will be saved (step 4)
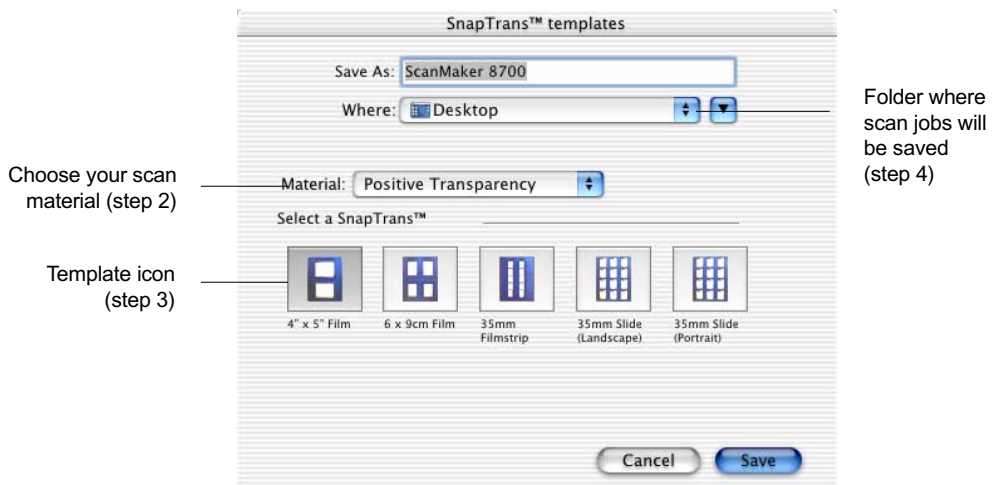
Show Current Context Path

This command shows the current context for scanning. By default, the current context folder has the same name as your scanner model (ex. ScanMaker 8700), and is located in the Plug-ins folder of your image-editing software. When you load or create a new context folder, the loaded or newly created folder then becomes the current context.

To show the current context: Choose *Show Current Context Path* from the File menu.

Quit

This command lets you exit ScanWizard Pro.

The Scanner Menu
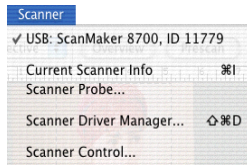
The Scanner Menu lets you:

- Show your scanner model or select a scanner if you have multiple scanners
- Get information about your scanner
- Get scanner information on the SCSI / USB / FireWire chain
- Easily manage the scanners you wish to use with your system
- Perform special scanner controls unique to the scanner

Scanner Model

The scanner model (and its SCSI, USB, or FireWire ID number) is shown at the top of the scanner. If you have multiple scanners on your system, all the scanners are shown with their respective IDs, and the current scanner is indicated by a check.

Only one scanner can be accessed at a time. To switch among various scanners, select the scanner to be used.
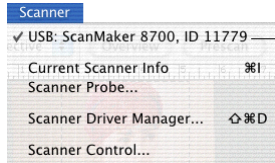
The scanner displayed with its SCSI, USB, or FireWire ID number. The current scanner is marked by a check

Current Scanner Info

This command provides information about your current scanner. When you choose this command, a dialog box appears showing the scanner model, the USB ID number, and the firmware version.

Scanner Probe

This command shows the scanner information on your SCSI, USB, or FireWire chain. If your scanner does not show in the Scanner Probe dialog box, make sure your scanner is properly installed, connected, and turned on, and then click the *Probe* button. For details on connecting your scanner, refer to your scanner hardware installation guide.

SCSI / USB / FireWire devices on your system (including your scanner)

Choose your hardware interface here

Click the Probe button to update scanner information on the SCSI/USB / FireWire chain
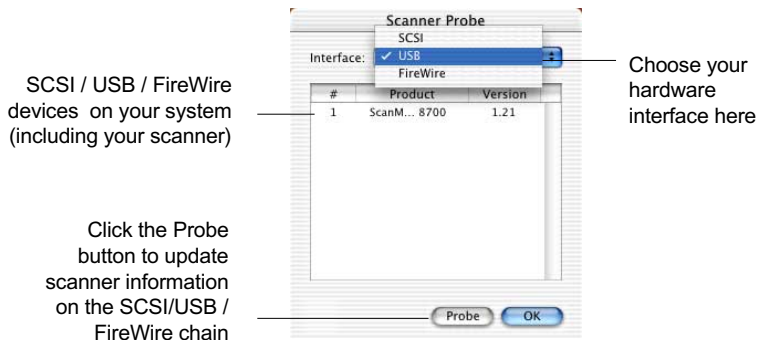
Scanner Driver Manager

The Scanner Driver Manager keeps track of the scanners being used on your system and the bus / ID numbers occupied by the scanners. By keeping a record of this information, the Scanner Driver Manager allows ScanWizard Pro to start up more quickly, as there is no need to look for scanners that are anot available.

When ScanWizard Pro is run the first time, all connected scanners are added to the list.

To add a scanner:

Follow the hardware installation instructions for connecting a scanner to your system. You can then use the Scanner Driver Manager in ScanWizard Pro to add or include the connected scanner to your scanner list.

Note: You will have to follow the steps below if you change hardware configuration such as the SCSI ID or SCSI bus.

1. Go to the *Scanner* menu in the Preview window, and choose *Scanner Driver Manager*. A dialog box will appear showing the current scanner list with the corresponding SCSI, USB, or FireWire bus/ID number.

2. Click the *Find Scanners* button. In case you have added new scanners, the newly found scanners will be appended to the scanner list. If a scanner on the list is not detected (not turned on, not ready, or removed from the system), the model will not be removed from the list but will have a question mark before it. See below for details on how to remove a scanner.

3. Click the *Close* button to close the dialog box.
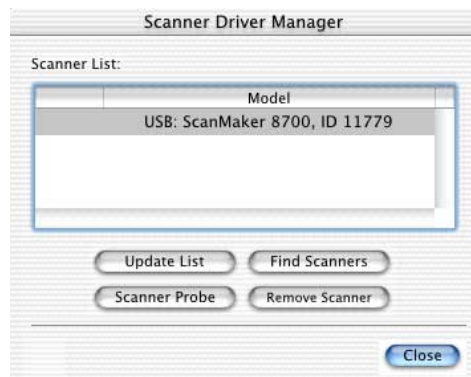
Note: For USB and FireWire scanners, you will have to follow the steps below if you unplug the scanner at any time during the ScanWizard Pro session.

Scanner Driver Manager cont.

To remove a scanner:

1. Choose *Scanner Driver Manager* from the Scanner menu.
2. Choose the scanner you wish to be removed from the list.
3. Click the *Remove* button.
4. Click the *Close* button to close the dialog box.

To update your scanner list:

The *Update List* button is used to refresh your scanner list. For instance, you may have three scanners on your system, with two of them currently turned off. When you choose Scanner Driver Manager, the dialog box may show a question mark in front of the two scanners that have been turned off. In this case, simply click the *Update List* button, and the scanner list will be refreshed and show only the connected one on the list.

Clicking the *Update List* button produces faster results than clicking the "Find Scanners" button. *Update List* simply searches the scanner models already on your list, while *Find Scanners* goes through all available scanner drivers and searches for scanners.

Scanner Controls

This command lets you use some of the special features of your scanner, such as lamp control.

Note: Not all scanner models support these features. If your scanner model is not supported, the Scanner Controls command will be grayed out in the Scanner menu.

Lamp Control

This the power-saving feature of the scanner lamp to save energy and extend the life cycle of the lamp. By default, the lamp turns off automatically if the scanner is idle for 15 minutes. You can change the lamp idle time in your preferences or disable this feature completely by unchecking the *Auto Power Saving Mode* check box.

By default, the lamp warm-up time is 3 minutes. A lamp warm-up dialog box will appear if you try to perform a scan or preview operation without the lamp having fully warmed up. If the lamp is not fully warmed up, the light intensity of the scanner may not be stable and may adversely affect the quality of your scanned image.

The current lamp status is indicated. You may specifically turn the lamp on or off if you wish. Please note that the lamp On / Off state is automatically controlled by the software, and no user intervention is necessary. You may want to do this manually *if and only if* you wish to turn on and warm up the lamp a few minutes before you actually finish your scan job editing.

The View Menu

View	
Overview Image	⌘0
✓ Prescan Image–Girl in turban color	⌘1
Prescan Image–Girl in turban gray	⌘2
Zoom In	⌘=
Zoom Out	⌘–
Resize Window To Fit	⌘R
Bring Settings Window to Front	⇧⌘S
Hide Info Window	⇧⌘I
Show Scan Job Queue Window	⇧⌘J
Hide All Tag Windows	⇧⌘T
Hide High and Low Value Markers	⇧⌘B
About…	
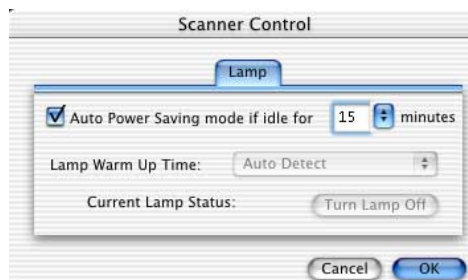
The View menu lets you:

- Select an overview or prescan view of an image
- Magnify or reduce (zoom in / zoom out) the Overview image
- Resize the Preview window to fit
- Bring the Settings window to the front
- Show or hide the Info, Scan Job Queue and Tag windows
- Show or hide the High and Low Value Markers
- Show the ScanWizard Pro splash screen

Overview Image and Prescan Image

These commands allow you to switch between Overview or Prescan viewing modes.

- Overview image: This is an image obtained when you click the Overview button in the Preview window. The image shows you whatever is on your scan bed.

- Prescan image: This is a detailed image obtained from selecting an area in the Overview image and then clicking the Prescan button in the Preview window.

You can also change the size of the Overview or Prescan image. The size of the images is determined by the *Overview Setup* command and the *Prescan Setup* command, respectively. For more details, see these commands under the Preferences menu section.
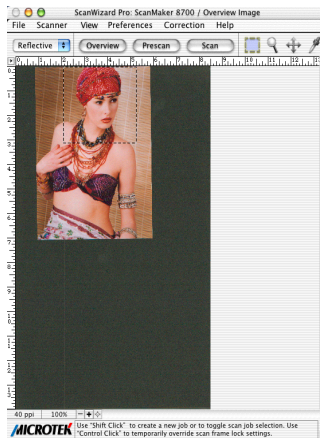
Overview viewing mode

Prescan viewing mode

A. To obtain the Overview image: With the image(s) placed on your scanner, click the *Overview* button.

B. To obtain the Prescan image:

1. Click the *Scan Frame* tool.

2. Select the area to be prescanned by drawing a frame around the area in the Overview image.

3. Click the *Prescan* button. The Prescan image will then be available for viewing in the View menu, and a thumbnail of the image will appear in the Scan Job Queue window.
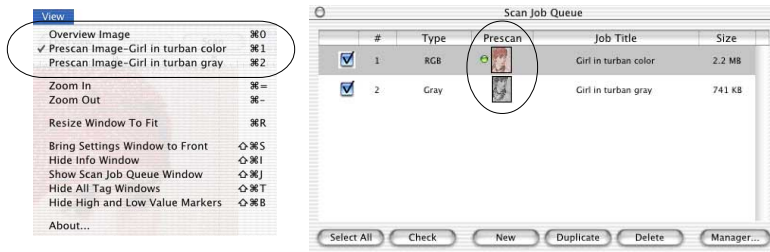
C. To obtain multiple Prescan images:

1. Define your scan jobs in the Scan Job Queue window (see the Scan Job Queue window section of the manual for more details).

2. To select multiple scan jobs, press the *Shift* key and click the jobs to be selected in the Scan Job Queue or Preview window.

3. Click the *Prescan* button. Multiple prescans are created in the process, corresponding to the number of scan jobs defined. You can then switch among the various prescan images for viewing.

Resize Window to Fit

This command resizes the Preview window, which you may find helpful to do for conserving space on your desktop monitor (especially after you have enlarged the Preview window).

To use this feature:

Choose the *Resize Window to Fit* command. You can also do this by pressing the Apple command + R keys simultaneously.
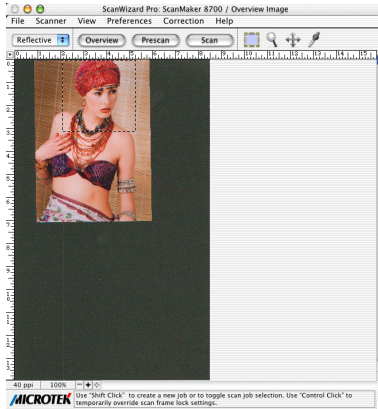
Resize before
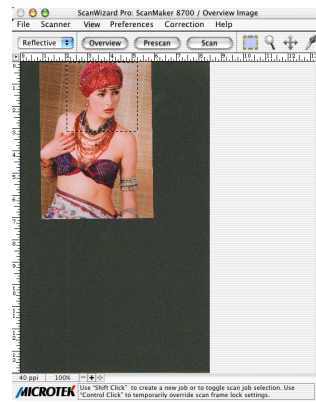
Resize after

Bring Settings Window to Front

This command brings the Settings window to the forefront, which is useful if you have the Settings window hidden behind other windows or if you have a expanded your Preview window such that it covers the Settings window.

Show/Hide... Window commands

These commands allow you to switch between showing or hiding the Scan Job Queue window, Information window, and Tag windows on your screen.

Show/Hide Low & High Value Markers

This command shows or hides the Low & High Value Markers in the Preview window. By default, the Markers are shown in the form of a circular crossbar. A *white circle* in the middle represents the Low Value (black point) Marker, and a *black circle* in the middle represents the High Value (white point) Marker.

About

This command displays the ScanWizard Pro splash screen and shows the program's version number.

The Preferences Menu
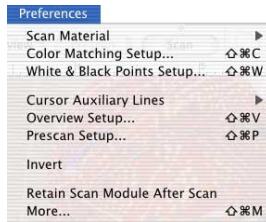
The Preferences menu lets you:

- Choose the correct scan material
- Specify color matching parameters
- Set up White/black points settings
- Show/hide auxiliary cursor lines
- Control Ovevew and Prescan settings
- Create effects like invert
- Activate the smoked glass effect
- Set other options, such as specifying a working directory for files

Scan Material

This command allows you to select the correct scan material. Scan materials can be classified into three types:

- Reflectives, such as photographs or prints.
- Positive transparencies, such as slides.
- Negative film, such as the negative film you use for your camera.

The default scan material depends upon the scanner you are using, and the choices available to you in the Scan Material submenu will also depend on your equipment.

For instance, the *Positive* and *Negative* options appear only if you are using a dual-bed SnapTrans™ scanner such as the ScanMaker 8700 or if you are using a Transparent Media Adapter (TMA) with your flatbed scanner.

If you are scanning negatives or positives, make sure you specify the correct scan material, or you will get inaccurate scanning results.

To choose your scan material:

1. Choose the *Scan Material* command in the Preferences menu. From the submenu that appears, select your scan material; a check will appear next to the selected option.
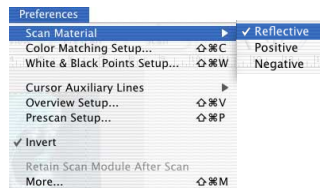
2. Alternatively, you can click the *Scan Material* pop-up menu and then choose the correct scan material from the drop-down menu that appears.

Scan Material pop-up menu
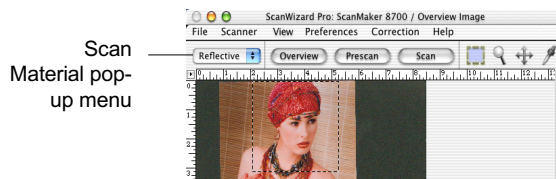
Color Matching Setup

Color Matching is an important feature of ScanWizard Pro that ensures consistent color — from the initial input stage when an image is captured by the scanner, to the final output stage when the image is output to your monitor or printer (through either the Kodak CMS or Apple ColorSync™ technology).

Color matching is a critical component in the imaging process, because the color space of your monitor is different from that of your printer (in terms of output devices), just as the color space for RGB mode is different from the color space for CMYK mode (in terms of image types). For this reason, color matching was developed to allow an equivalent "mapping" of colors from one device or from one color space to another, ensuring that no major color shifts occur in the transferrence process.

To use the ScanWizard Pro color matching function:

1. Set up the Kodak CMS and Apple ColorSync features correctly at the time that ScanWizard Pro is installed. For more information on this procedure, refer to your Kodak or Apple system documentation.

2. The first time you launch ScanWizard Pro, you will be prompted to set up color matching for your scanner. You may also access the color matching parameters for ScanWizard Pro at any time in the future by choosing the *Color Matching Setup* command in the Preferences menu.
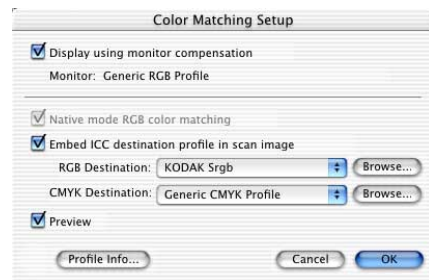
Before you proceed with specifying your Color Matching Setup options, you should know if the image-editing or page-layout application you use to edit or process scanned images is ColorSync-savvy or not (e.g., Adobe Photoshop 5.0 or later is ColorSync-savvy; Adobe Photoshop 4.0 is not).

This is because the settings in the Color Matching Setup dialog box will vary, depending on the image-editing application you are using. A non-ColorSync-savvy application is a program that does not know how to read or handle embedded ICC profile information. In this case, the ICC profile data is ignored.

For more information, see the section titled Using images in third-party applications in the Appendix.

Color Matching Setup

☑ Display using monitor compensation

   Monitor: Generic RGB Profile

☑ Native mode RGB color matching

☑ Embed ICC destination profile in scan image

   RGB Destination: KODAK Srgb   [Browse...]

   CMYK Destination: Generic CMYK Profile   [Browse...]

☑ Preview

[Profile Info...]   [Cancel]   [OK]
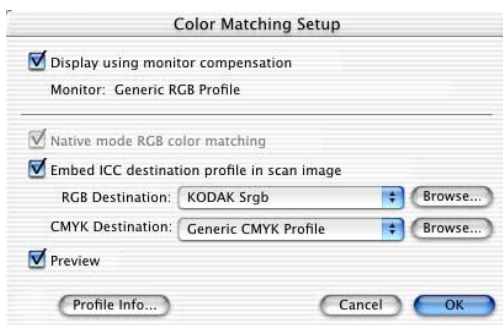
A. Display using monitor compensation

For ColorSync-savvy applications such as Adobe Photoshop 5.0.2 or later, check this box, which pertains to how your monitor displays color, relative to the RGB Destination color space. Checking this box ensures that there are no unexpected color shifts between your selected RGB Destination space and your monitor. Checking or unchecking this box affects only the way the image data is displayed and not the image data itself.

For more information, see the section titled *Using images in third-party applications* in the Appendix.

B. Monitor

The monitor selection shown here is the monitor set in your Monitor Control Panel. To verify this information, go to your *System Preferences*, then *Displays*. Your selected monitor will be shown, which should be the same as the entry in this dialog box. This setting only affects how the image is shown on the screen — not the final scanned image.

C. Native Mode RGB color matching

This option is available only for Native color space mode. This check box should generally be checked unless you want to scan raw color data, in which case you lose the compensatory effects of the Color Matching System. Take note that it is not desirable to scan in raw data and then perform ColorSync data conversion, which will not generate the correct CMS effect.

For more information, see the section titled *Using images in third-party applications* in the Appendix.

D. Embed ICC destination profile in scan image

For ColorSync-savvy applications such as Adobe Photoshop 5.0 or later, check this box. This feature will enable ScanWizard Pro to embed the Destination ICC profile into the image data. The information will then be properly interpreted by Photoshop or any ColorSync-savvy application.

For non-ColorSync-savvy applications such as Adobe Photoshop 4.0, uncheck this box if turning it on causes any kind of problem (computer crashes, weird color effects, etc).

For more information, see the section titled *Using images in third-party applications* in the Appendix.

E. RGB Destination

This feature lets you select the ICC profile in the ColorSync folder for outputting images to the RGB color space. You may select from Scanner RGB, Monitor, RGB printer (e.g., inkjet printers), a special color space, or the Adobe Photoshop 5.0 internal color space profile. For Photoshop 5.0 users, you may export its internal color space to an ICC profile. If you are not sure what to choose, select your current monitor profile.

A large number of RGB profiles is supplied by ScanWizard Pro. If you do not see the ICC profile for your monitor or RGB device, contact your device manufacturer. To load a specific ICC profile from a different folder, click the RGB profile button (beside the drop-down menu), and select the profile you need.

F. CMYK Destination

This feature lets you select the ICC profile in the ColorSync profile folder for outputting images to the CMYK color space. ScanWizard Pro has supplied a large number of CMYK profiles. If you do not see the ICC profile for your printer, contact your printer manufacturer. To load a specific ICC profile from a different folder, click the CMYK profile button and select the profile.

G. Preview check box

This immediately updates the Preview window image when a new color profile is selected, so that the preview image reflects colors consistent with the newly selected color profiles.

H. Profile Info

This lets you review the information on the currently used ICC profiles.

White/Black Points Setup

This command provides you with advanced controls for setting the clipping points for your white and black points, as well as determining the output levels for the white/black points on your printer.

To use this feature:

1. Choose the *White/Black Points Setup* command from the Preferences menu.

2. As an alternative, you can click this command from the Color Correction Menu. This is also the same thing as clicking the White/Black points tool in the Settings window and then clicking the Setup button from the dialog box that comes up. When the dialog box comes up, specify your preferences.

A. Auto Clipping

The *Auto White Point Clipping* and *Auto Black Point Clipping* fields allow you to specify the percentage by which the white and black points, respectively, can be clipped from the histogram. The clipping is done after you click the Auto button in the AIC White/Black Points dialog box.

For example, if you specify 10 percent as your White Point clipping value and then click the Auto button, the white point on the histogram is adjusted so that 10 percent of the color information is "clipped" or ignored. The resulting 90 percent information leftover is then remapped, resulting in an image with less highlight detail.

The same principle above applies to the Auto Black Point Clipping feature, which governs the black point for shadows.

These fields are normally used by more advanced users, and the features are taken care of automatically if you have set up Color Matching correctly early on in ScanWizard Pro.
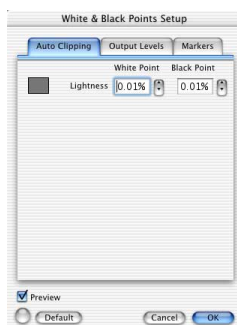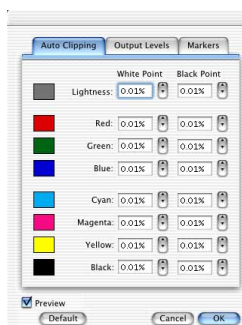
LCH Color Mode   Native Color Mode

B. Output Levels

The *Minimum Output Level* lets you set the minimum output level of the black point. The higher the percentage value, the lower the contrast will be.

The *Maximum Output Level* lets you set the output level of the white point. The lower the percentage value, the lower the contrast will be.
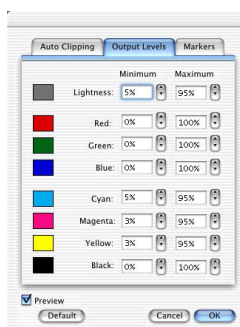
<table>
<tr>
<td>

LCH Color Mode
</td>
<td>

Native Color Mode
</td>
</tr>
</table>

C. High and Low Value Markers

This lets you adjust the settings that define the *High Value Marker* (shown as a black circle) and the *Low Value Marker*. The High Value Marker is shown as a black circle in your preview image, while the Low Value Marker is shown as a white circle. You can specify the range of the markers to either the entire preview (by selecting the "Overview or Preview image" option) or to only within the scan frame (by selecting the "Current Scan Frame").

In the White/Black Points Setup window, clicking the "Preview" button will obtain instant results; clicking the "OK" button lets you exit from the Setup window and applies the High and Low Value Markers setting you have made to the preview image.
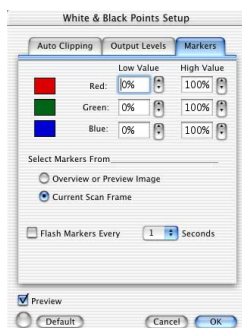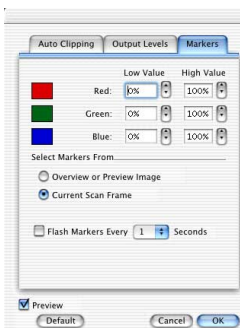
LCH Color Mode   Native Color Mode

Cursor Auxiliary Lines

This command allows you to show or hide cursor auxiliary lines to help you define a scan frame or measurement off the rulers more precisely. The cursor auxiliary lines show only when the Scan Frame tool is selected.

To use this feature:

1. Choose the Cursor Auxiliary Lines command in the Preferences menu. From the submenu that appears, select how the cursor lines will appear.

   • On both the x (horizontal) and y (vertical) axis

   • On the x axis only

   • On the y axis only

   • None (no cursor lines)

2. Click the Scan Frame tool. When you move the pointer to the image, the cursor auxiliary lines will appear.

Cursor Auxiliary Lines
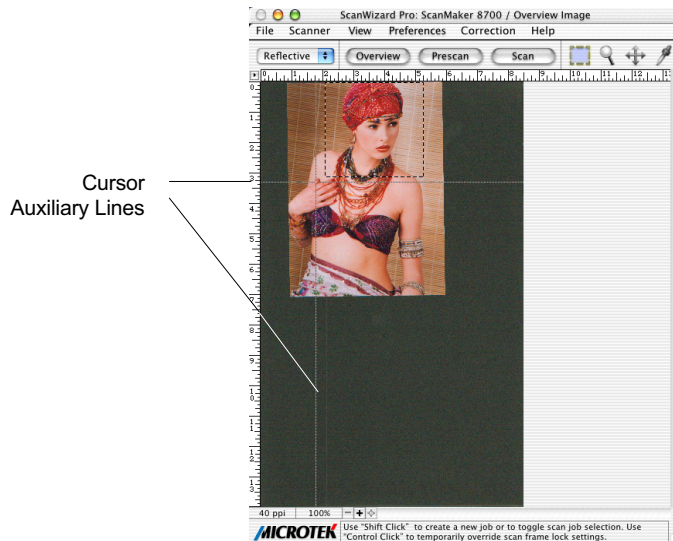
Overview Setup

This command lets you set the area you want to overview off the scanner bed and provides some overview options as well.

By default, ScanWizard Pro overviews the maximum scan area as determined by your scanner model's bed size. You can, however, customize the overview area so that the scanner consistently overviews only the specific dimensions you have in mind. For example, if your maximum scan area is 8.5" x 14", you can customize the overview area so that it consistently overviews, say, 4" x 8" of the bed size.

As a rule of thumb, it is best to use the default maximum settings. You should change the overview area only if your subsequent overview is too large to be shown in entirety, or too small for reliable previewing. A smaller overview area will increase the overview resolution for clearer image viewing. You may also wish to change the size of your overview to improve performance. Generally, a shorter overview time results from the scanner motor travelling a lesser distance.
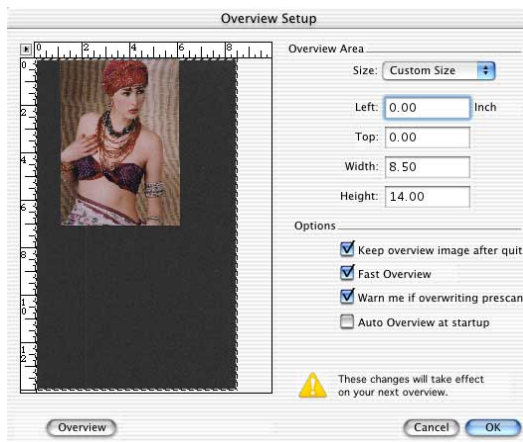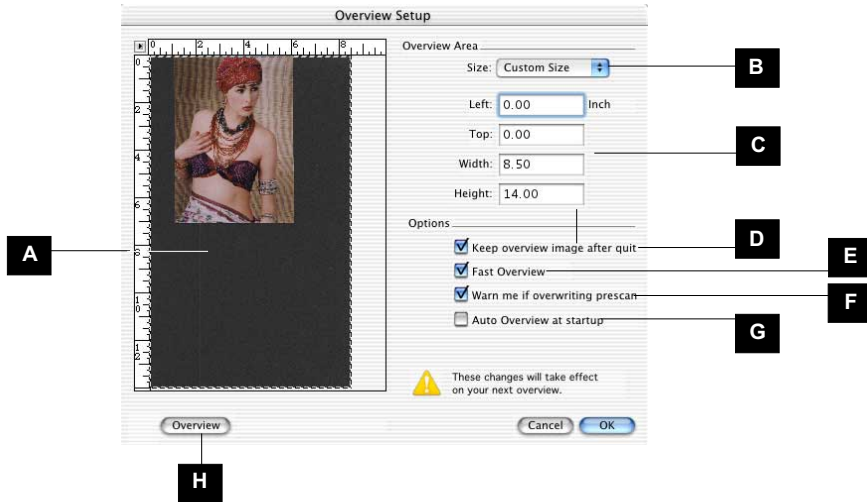
A. Overview Area

This represents the scan bed size. The dimensions of this overview area will depend on the size as stipulated by the *Size* and the *Left/Top/Width/Height* settings in the dialog box.

B. Size

This option lets you choose whether to do an overview of the *Maximum* area or a *Custom* area.

- *Maximum* refers to the maximum area that can be overviewed. The dimensions of the maximum area vary, depending on your scanner model. Take note that transmissive scan areas are smaller.

- *Custom* refers to the area as determined by the dimensions you specify in Section C below.

C. Left, Top, Width, Height

These edit boxes let you specify the dimensions of the overview area.

- *Top* and *Left* refer to the starting points of the overview area on the X and Y coordinates.

- *Width* is the expanse of the overview area. *Height* is the depth of the overview area.

D. Keep Overview Image After Quit

If this box is checked, the overview image will be kept when you quit ScanWizard Pro, and the same overview image will be displayed again when you run ScanWizard Pro the next time.

E. Fast Overview

If this box is checked, the overview process is speeded up. The trade-off to increased speed is a slightly downgraded overview image. If you do not care about the image quality of the overview image, check this box.

F. Warn Me if Overwriting Prescan

If this option is checked, a confirmation message appears, notifying you that a previously prescanned image exists. This confimration is usually useful because doing a new overview will delete all prescan images.

G. Auto Overview when ScanWizard Pro is Run

If this box is checked, an overview is performed automatically when you run ScanWizard Pro.

H. Overview button

This button performs an overview and shows the overview image in the Overview Setup dialog box.

Changing the Size of your Preview Area

1. Go to the *Preferences* menu in the Preview window, and choose *Overview Setup*.

2. When the Overview Setup dialog box appears, click the *Overview* button to preview the entire bed. This will help you determine how you wish to resize the overview area.

3. To change the overview area, you can:

   • Drag a rectangle that approximates the size of the overview that you wish; or

   • Enter the appropriate values for the *Top, Left, Width*, and *Height* edit boxes. The new dimensions will take effect on the next Overview — when you click the Overview button again in the Preview window (not the Overview button in the Overview Setup dialog box).

Prescan Setup

The Prescan Setup command lets you determine the margin surrounding the prescan image and the size of the prescan image.

To change the margin or size of the prescan image:

1. Go to the *Preferences* menu in the Preview window, and choose *Prescan Setup*.

2. When the Prescan Setup dialog box appears, specify your choices.
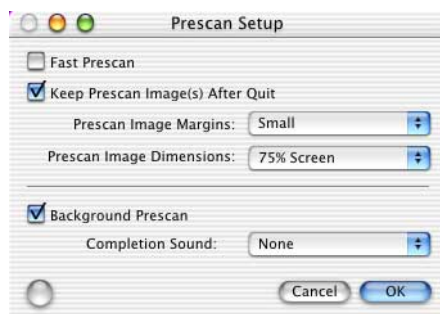
A. Fast Prescan

If this box is checked, the prescan process is speeded up, but the resulting image is grainier. If unchecked, the prescan process is slowed down a bit, but the resulting image is of better quality.

B. Keep All Prescan Image(s) After Quit

If this box is checked, the preview images stay after you exit ScanWizard Pro. Otherwise, all prescan images are deleted after you exit ScanWizard Pro.

C. Prescan Image Margin

This option allows you to specify how wide or narrow the margin around the scan frame is for the prescan image. Options are: Minimal, Small, Medium, and Large. Smaller margins give you more room to capture the preview image, while larger margins will allow you to have more room to expand your scan frame.

This is helpful because selecting the exact scan frame (through the Scan Frame tool) can never be a completely accurate process, and what appears to have been selected by the scan frame when you view the image in the lower-resolution overview may or may not actually include the portion you wish. The margin — depending on how wide or narrow it is — can then provide a berth or allowance for extending the boundaries of the scan frame around the prescan image. Margin options include minimal, small, medium, and large.

D. Prescan Image Dimension

This option lets you specify how large the prescan image will be: Full screen ("screen" meaning your main monitor), 75% screen, 50% screen, and Fit Preview Window. The larger the size, the higher the prescan resolution. The maximum prescan resolution is the scanner's optical resolution.

E. Background Prescan

If checked, the background prescan function is enabled. You can assign a number of scan jobs to execute a prescan while carrying out other jobs in the meantime (e.g., performing color correction to other scan jobs). If unchecked, this function is disabled.

Invert

This command inverts images of all scan jobs. Take note that all scan jobs are inverted at the same time; you cannot invert an individual scan job alone.

When an image is inverted, the brightness value of each pixel is converted to its inverse value. In the case of 24-bit images, for example, a pixel in a positive image with a value of 255 is changed to 0, and a pixel with a value of 5 is changed to 250.
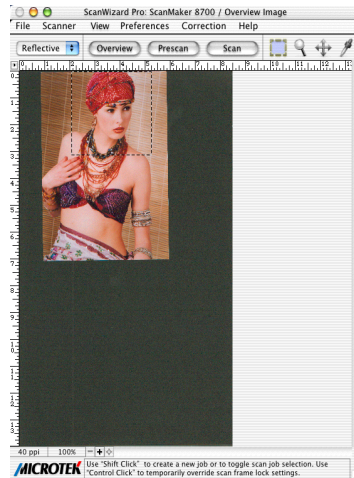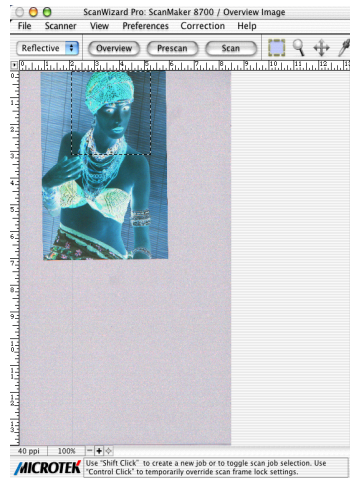
Original   Inverted image

To use this feature:

Choose the Invert command in the Preferences menu. A check appears next to the command when it is enabled.

Retain Scan Module after Scan

This command allows you to keep the ScanWizard Pro interface running after scanning is completed and the image delivered to your image-editing software. This way, you do not have to go back to the File-Acquire process to start ScanWizard Pro all over again.

Note: This command can be used only in applications that allow you to retain the scan module after a scan is completed. Some applications will not retain the scan module even if this option is enabled.

To use this feature:

Choose the command Retain Scan Module after Scan in the Preferences menu. A check appears next to the command when it is enabled. If you wish to see the scanned image in your image-editing software after scanning is completed, you will need to quit ScanWizard Pro to see the image.

More...

The *More...* command shows the More Preferences dialog box, where you can specify other options for ScanWizard Pro.
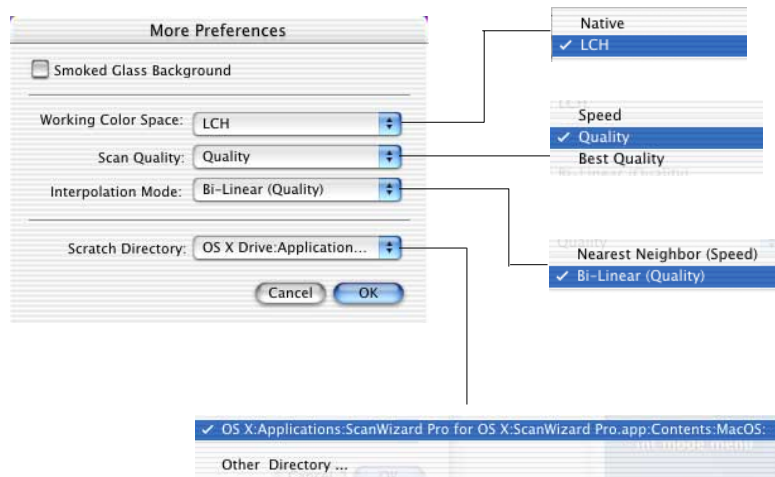
A. Smoked Glass Background

This option lets you apply a smoked glass background that makes your scan jobs stand out more clearly and allows you to focus on the scan jobs. This feature can also be used for multiple scan jobs to show their respective image modes (example: one job in color, another in B&W), as well as their image-editing settings.
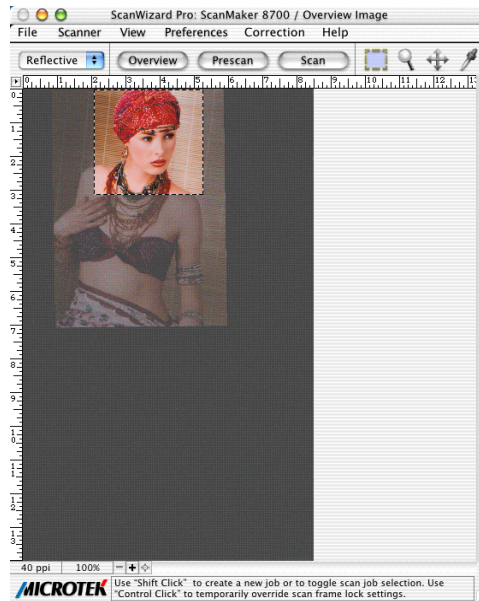
The framed part of the image (inside the marquee) stands out clearly.

Applied to the rest of the image is the smoked glass background (shaded gray area surrounding the selection or framed area).

B. Working Color Space

This option lets you choose between the default LCH color space or the Native color space.

C. Scan Quality

This option allows you to select the image quality by controlling the scanner hardware and the maximum image processing depth.

• Speed: Choose this option if your primary concern during scanning is speed. Image data is delivered faster and the image data is processed in 8 bits per channel.

• Quality: This is the default setting. Scanned data is delivered a little slower but in high quality, and the image data is processed in 8 bits per channel.

• Best Quality: This setting is available only to higher-depth scanners (10-, 12-bit, or higher). Scanned data is delivered a little slower but in high quality, and image data is processed in maximum bits per channel (i.e., 10-, 12-bit, or higher), and then converted to the desired output depth. This special operation results in the best image quality possible.

D. Interpolation Mode

The interpolation mode controls the way ScanWizard Pro interpolates (either expands or shrinks) image data. Interpolation always occurs when the scan resolution you select is different from the scanner's optical resolution. The trade-off is speed vs. quality. If your application requires higher quality, use Bi-linear (Quality) mode, especially if you are scanning higher-resolution line art images.

1. Nearest Neighbor (Speed): When this option is selected, ScanWizard Pro will do the following:

• Expanding (when scan resolution is higher than optical resolution): Linear interpolation is used (i.e., makeup pixels are created by using the average of the neighboring pixels).

• Shrinking (when scan resolution is less than optical resolution): Pixel drop is used to match the resolution.

2. Bi-linear (Quality): When this option is selected, ScanWizard Pro always scans in a high-enough resolution and then applies a bi-linear interpolation algorithm to expand or shrink image data. This is a complicated mathematical formula, and thus, takes longer to process.

E. Scratch Directory

The scratch directory is the folder where ScanWizard Pro creates temporary files, with the temporary files deleted at the end of an operation. You should change to a different folder only if the scratch directory is located in a disk volume that is too small for scanning operations. To specify a new scratch directory, choose *Other Directory...* from the menu.

The Correction Menu
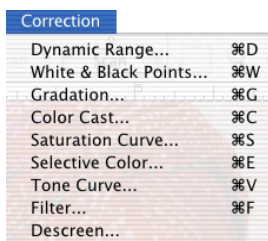
The Correction Menu lets you use the Advanced Image Correction (AIC) features of ScanWizard Pro. The commands in the Correction menu correspond to the AIC buttons in the Settings window.

For more information, see the section of the manual on *Advanced Image Correction.*

The Help Menu

The Help menu lets you access on-line help for ScanWizard Pro and the Microtek web site. The contents of this menu may vary and will depend on your scanner package.

The Toolbar
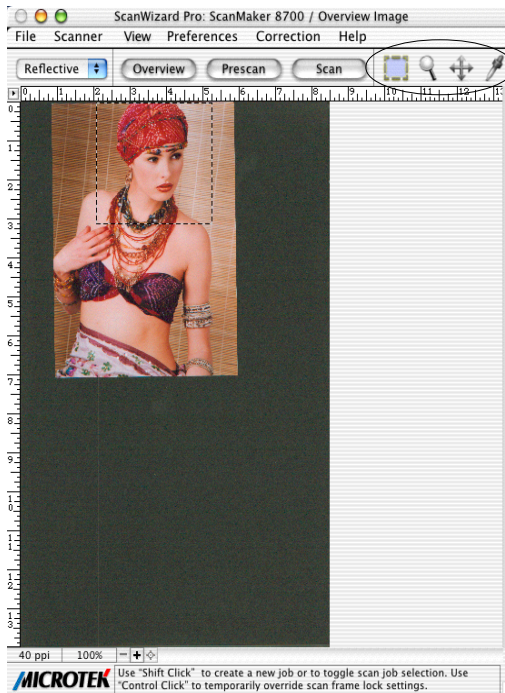
Scan Frame

Zoom

Move

Tag Windows

Scan Frame tool

The Scan Frame tool lets you select the area to be scanned or prescanned. You can have multiple scan frames, but only one scan frame can be current at a time; the current scan frame is indicated by a flashing marquee. Multiple scan frames can be more easily distinguished if you turn on the *Smoked Glass Background* command (in the Preferences menu).

Resize the frame by dragging
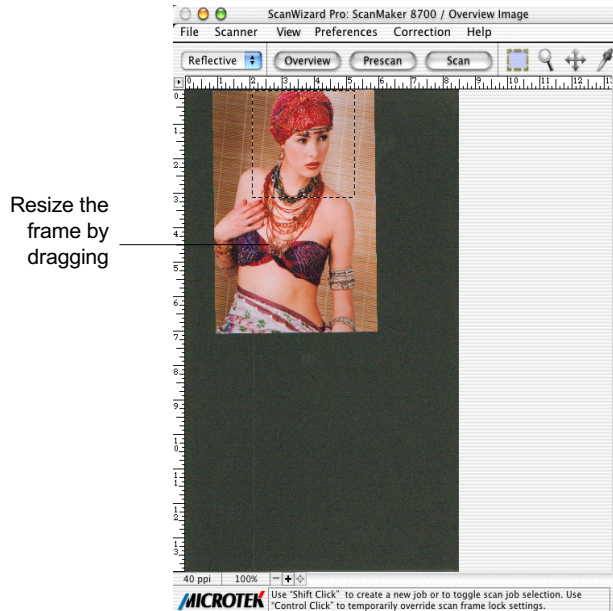
To use the Scan Frame tool:

1. Click the *Scan Frame* tool.

2. Move the pointer (now a crossbar) to the Overview image, and draw a frame enclosing the area to be selected. When you release the mouse, a flashing marquee will indicate the scan frame. To create multiple scan frames, hold down the *Shift* key and drag your next scan frame.

3. To resize the scan frame, drag a corner of the scan frame and resize to the desired area you want.

4. To change the position of the scan frame, drag inside the scan frame and move to a new location

Zoom tool

The Zoom tool lets you zoom in (magnify) and zoom out (reduce) your view of the image. Only your view of the preview image is changed; the actual size of the image remains unaffected.

Each click of the zoom tool magnifies or reduces by a factor of 2. Thus, the magnification levels increase from 100% to 200%, to 400%, to 800%, and to the maximum 1600%. When you reach the maximum magnification factor, the center of the Zoom tool will appear empty.

To zoom out (reduce), hold down the Option key and with the Zoom tool selected, click the image. A minus sign will be in the middle of the lens to indicate the image is being zoomed out.
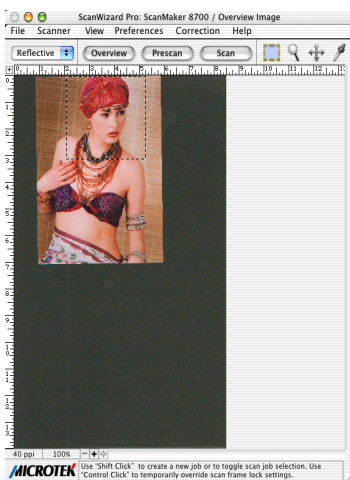
Original image view
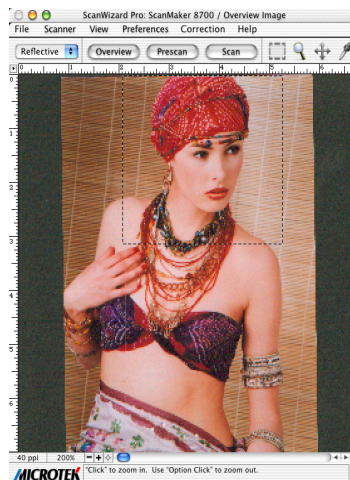
Image view enlarged with Zoom tool

To use the Zoom tool:

1. Click the *Zoom* tool.

2. Place the pointer — now a lens with a plus sign inside it — on the image and click. To reduce the view, hold down the *Option* key (the Zoom tool changing to show a minus sign inside it), and click again.

Move tool

The Move tool lets you scroll through an overview or prescan image, allowing you to move parts of the image into view quickly without using the scroll bars.

You can use the Move tool for scrolling through zoomed-in images that were enlarged through the Zoom tool, or for scrolling through parts of an image not included completely within the frame of the preview window.
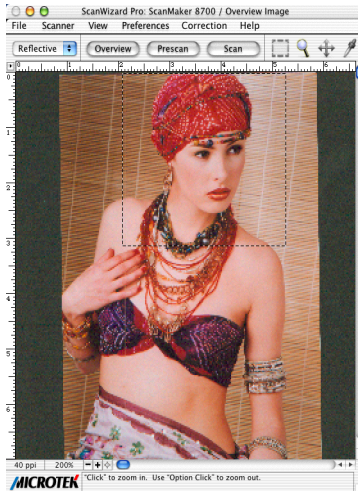
Zoomed-in image
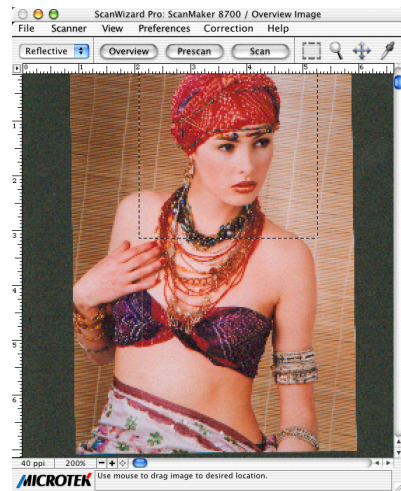
Scrolled image

To use the Move tool:

1. Click the *Move* tool.

2. Move the pointer (now in the form of a hand) to the image. Hold down the mouse and move the Move tool left, right, up, or down, and you will see portions of the image come into view.

Tag Windows tool

The Tag Windows tool lets you set the shadow (black) point and highlight (white) point of an image.

It also creates tag windows, which are used to isolate and identify precise colors in a given image, providing a visible and retrievable record of color values. This way, ScanWizard Pro lets you pinpoint and "tag" the color on the image, showing you the original or "Before" values, as well as the corrected or "After" values following the application of image adjustment controls.

The Tag Windows tool is useful especially if you are making color adjustments based on known mathematical values, as the displayed color information provides a basis for knowing how close or accurate are the color changes that have been made.

Also in the tag window are the Magic Diamonds for adding or removing a color cast, as well as for setting the shadow / highlight point.

Tag Windows tool

Tag Windows

Magic Diamonds (L-R black, RGB, white diamonds
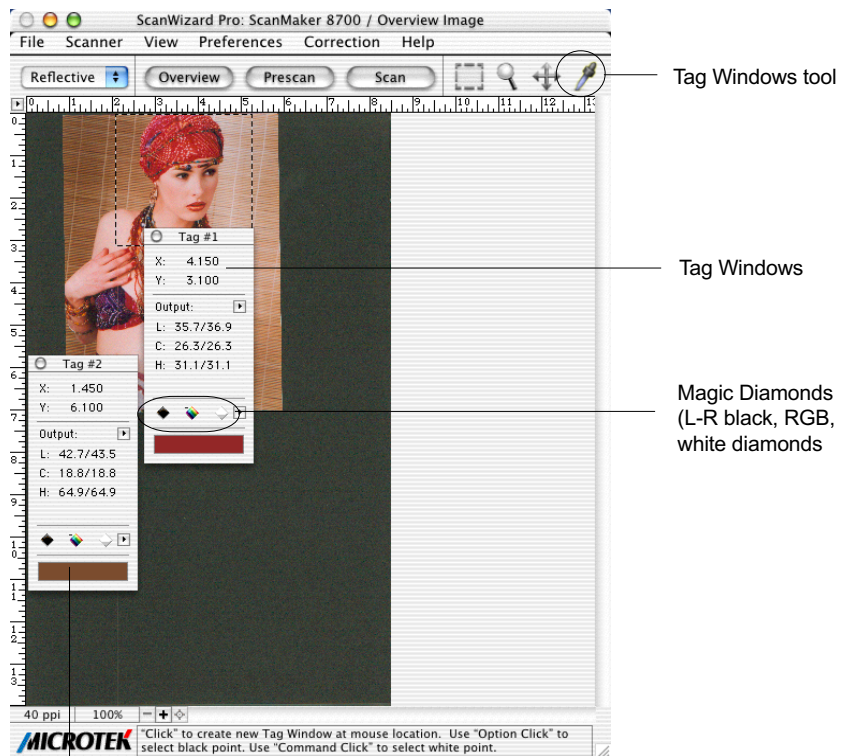
Color Strip shows selected or adjusted color for a particular area in the image

To create a tag window

Click the Tag Windows tool, then move to any part of the preview image and click. The tag window displays the x/y coordinates of the selected pixel and the color value of that pixel (RGB, CMYK, Lab, etc.), depending on the image mode selected.

To close a tag window

Click the Close box on the upper left corner of the Tag window. To close all Tag windows, hold down the *Option* key, then click the Close box of any tag window.
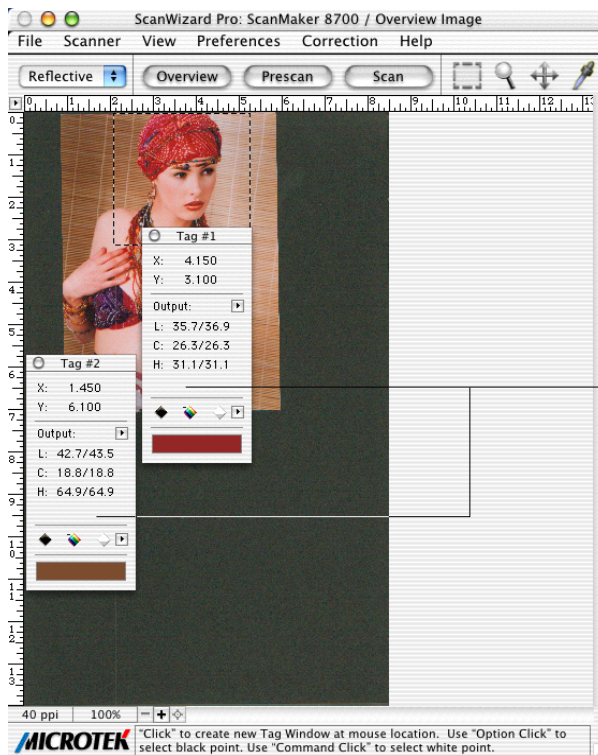
Tag Windows at these points show the x, y coordinates and the color values of the selected pixels (maroon and brown in this example)

Choosing the White & Black Points of an image

There are two ways to choose the white and black points of an image:

A.   By using the Tag Windows tool in the Toolbar.

    1)   To choose the highlight (white) point in an image, click the Tag Windows tool, press the Apple *Command* key, and click on a white point in the image.

    2)   To choose the shadow (black) point in an image, click the Tag Windows tool, press the *Option* key, and click on a black point in the image.

B.   By using the Magic Diamonds. See the next section for details.

Tag Windows tool
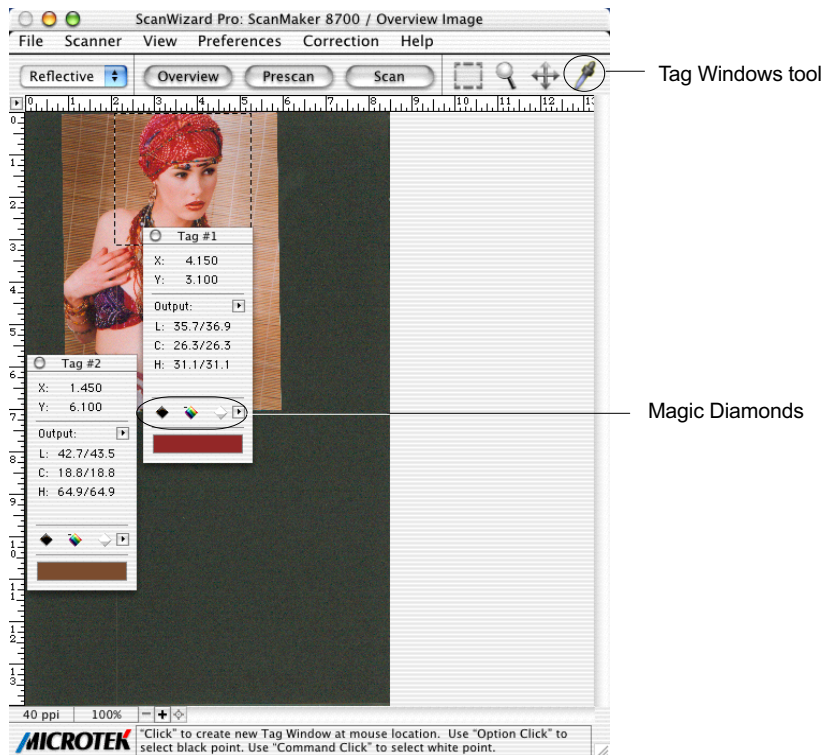
Magic Diamonds

Using the Magic Diamonds

The Magic Diamonds is another way of setting the white (highlight) and black (shadow) point in an image. The Magic Diamonds can also be used to add or remove a color cast.

• To set the shadow (black) point on the image: Click the Tag Windows tool, then click a black point in the image. When the tag window appears, click the *Black Magic Diamond*.

• To set the highlight (white) point on the image: Click the Tag Windows tool, then click a white point in the image. When the tag window appears, click the *White Magic Diamond*.

• To remove a color cast: Click the Tag Windows tool, then click a color in the image that corresponds to the color cast to be removed. In the tag window, click the *RGB Magic Diamond* in the middle

• To add a color cast: Click the Tag Windows tool, then click a color in the image that corresponds to the color cast to be added. Hold down the *Option* key, and click the RGB Magic Diamond (the diamond will have a + sign next to it.)
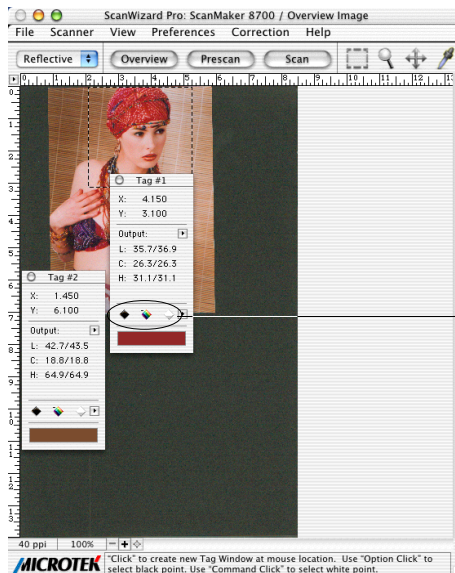
Black, RGB, and White Magic Diamonds

To restore original settings

Do either of the following:

1. Select *No Correction* from the White/Black points menu in the Settings window.

2. Click the *Default* button in the Settings window.

To display color information for a pixel or an averaged area

1. Click the Tag Windows tool.

2. As you pass over a point in the image, see the Information window — the values will be displayed in the Input and Output area of the Information window. These values are based on the sample size you selected.

To change the sample size of the Tag Windows tool

1. Open the Information window by choosing the *Show Info Window* command in the View menu.

2. Click the *Color Meter Options* button.

3. Choose your options.

   • Select *Value* or *Percent* to determine how the pixel information will be displayed.

   • Select the sample size. For instance, the 1 by 1 option will display the value of one pixel — the one in the middle of the sample size area. The 3 by 3 option reads the average value of an area that is 3x3 pixels

4. To choose display mode, select *Native* or *LCH*. Take note that the Value and Percent options are grayed out if you are working in the default *LCH* color mode and become active only in *Native* color mode.
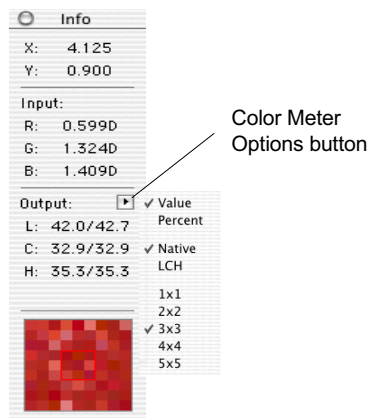
Overview, Prescan, Scan

Overview

The Overview button previews the image on the scan bed. By default, the entire scan bed is previewed when you click the Overview button. To change the area to be previewed, specify the dimensions in the *Overview Setup* command (in the Preferences menu).

Prescan

The Prescan button previews in high resolution the area selected by the scan frame tool. Multiple prescans can be done if you have several selected scan jobs, and the prescans are done one after another in the order that they are listed in the Scan Job Queue window. Options governing the prescan function can be found in the *Prescan Setup* command in the Preferences menu.

To obtain multiple prescan images:

1. Define your scan jobs in the Scan Job Queue window (see the Scan Job Queue window section for more details).

2. To select multiple scan jobs, press the *Shift* key and click on the jobs to be selected in the Scan Job Queue or Preview window.

3. Click the *Prescan* button in the Preview window. Multiple prescans are created in the process, corresponding to the number of scan jobs defined, and you can then switch among the various prescan images.

Scan

The Scan button scans the images on your scanner and delivers the images to your image-editing software. The images that are scanned are the scan jobs that have been checked in the Scan Job Queue window.

Note: If the Retain Scan Module After Scan option (in the Preferences menu) is checked, you will need to exit ScanWizard Pro to see the scanned image in your image-editing software.

Rulers, Unit of Measurement

The rulers on the top and left sides of the Preview window help you with measurement and alignment, marking off measurement according to the selected unit (inch, pica, pixel, etc.).

The rulers change when dimensions are altered in the preview area of the *Overview Setup* command (in the Preferences menu). For example, if you change the preview area size from 5" x 8" to 6" x 9", the rulers will change accordingly.

The unit of measurement can be selected in two ways:

*   Through the *Unit* box in the Settings window.
*   Through the *arrow at the corner* where the rulers meet in the Preview window. The drop-down menu through this method also lets you format the text color and background color of your rulers.

The options for unit of measurement include *inch*, *centimeter*, *millimeter*, *point*, *pica*, and *pixel*. The *pixel* option is dimmed if the selected resolution unit is *lpi.*
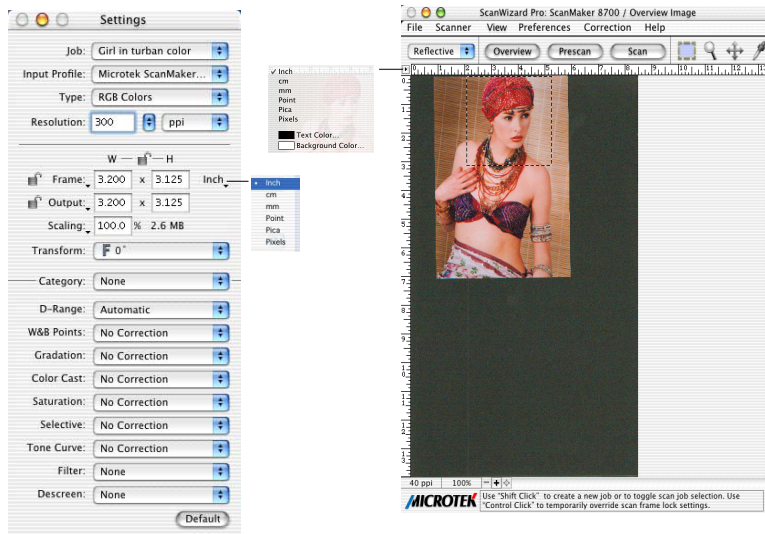
Select the unit of measurement for the rulers in either
the Settings window or the Preview window.

Preview Area

The preview area is where the overview or prescan image appears. You can increase the size of the preview area to see more detail in your image.

Take note of the following:

- When you perform an overview, the overview image size is determined by the current preview area dimension. The bigger the preview area, the higher the preview resolution.

- When you perform a prescan, the prescan image deteail is determined by the settings in the Prescan Setup dialog box.

For details on how to change the actual preview area of the scan bed, refer to the *Overview Setup* command in the Preferences menu section.
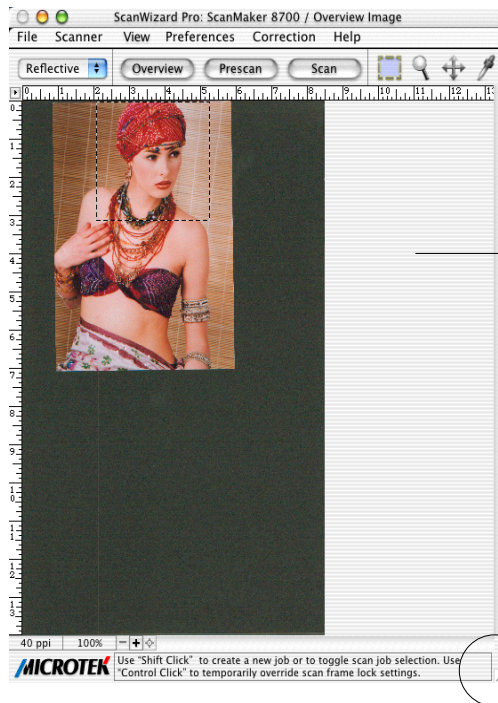
Preview area

To increase or decrease the preview window, drag the window to resize

Auxiliary information and Handy buttons

Resolution for Overview or Prescan image

Zoom scale

Zoom out

Flasher for High and Low Value Markers

Zoom in
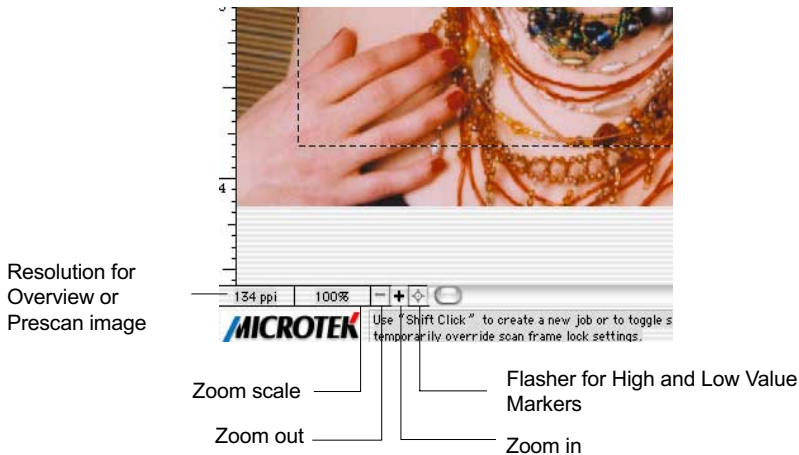
Preview image resolution

This shows the image resolution for the Overview or Prescan image. The preview image resolution will change, according to the size of the preview window and the amount of available memory. To resize preview window, drag any side or corner of the window.

Zoom scale

This shows the zoom factor, or how many times the image has been magnified using the Zoom tool or the Zoom in / Zoom out icons to the right of the Zoom scale. You may select the exact Zoom scale from here.

Zoom-out

This lets you reduce a zoomed-in or magnified image one level down with each click, up to the minimum 100% view.

Zoom-in

This lets you magnify or enlarge the image one level up with each clickEach time you click, up to the maximum 1600% view.

Flasher for High and Low Value Markers

When the overview or prescan image is displayed, the High Value and Low Value Markers are shown. If the two markers cannot be visually detected with ease (depending on how your image may obscure the markers), clicking the flasher activates the markers to flash a few times for easier detection, allowing their locations on the oveview or prescan image to be seen.

The Settings Window

The Settings window contains the parameters for outputting your scanned image for the current scan job and includes the advanced image correction tools of the program.

Elements of the Settings window

A. Scan Job
B. Scanner ICC Profile
C. Type
D. Resolution settings

E. Scan Frame options

J. Advanced Image Correction (AIC) tools

F. Unit of measurement

G. Image Size
H. Transform
I. Image Category

K. Custom options

L. Default button

A. Scan Job: This shows the current scan job as indicated by the Scan Job Queue window and by the selected image in the Preview window.

B. Scanner ICC Input Profile: This lets you select from different ICC scanner profiles for your scan job.

C. Type: This shows the image type of the current scan job.

D. Resolution settings: This area includes the following: the *Resolution box* for specifying your output resolution; the *Resolution list box* (with the up/down arrows) that provides predefined resolution values for easier selection of the resolution setting; and the *Resolution unit*, which lets you choose from ppi and several lpi options. Your most recent scan resolution settings will be recorded as well.

E. Scan Frame options: This area includes the *Scan Frame settings* which represent the dimensions of the image that you wish to scan; the *Scaling* factor for creating larger or smaller images from the original source image; and the *Output settings*, which represent the dimensions of the image when it is output. Pressing the small arrows underneath the Scan Frame, Scaling, and Output fields will reveal a set of predefined values for those fields. The *Locks* provide you with additional functions for setting the scan frame.

F. Unit of measurement: This lets you choose your desired unit of measurement, which will then be reflected in the rulers alongside the Preview window. Choose from *inch*, *cm*, *mm*, *point*, *pica*, or *pixel*.

G. Image size: This shows the size of the file when the image is scanned.

H. Transform: This lets you flip the image horizontally or rotate the image in increments of 90 degrees.

I. Image Category: This lets you select the image characteristics that most closely resemble your original.

J. Advanced Image Correction : The Advanced Image Correction (AIC) tools let you adjust and enhance the image, and image corrections are displayed in real time. The AIC tools available for use will vary, depending on the color space (LCH or Native mode) chosen in the "More" command under the Preferences menu (found in the Preview window).

K. Custom options: These allow you to add or remove custom settings through a pull-down menu for each Advanced Image Correction control.

L. Default button: This changes settings in the Advanced Image Correction controls to their default values.

Scan Job

The Scan Job box shows the currently selected scan job, which is also shown in the Scan Job Queue window and the Preview window.

There is always at least one scan job in existence (by default). If you have multiple scan jobs, not only are these reflected as multiple entries in the Scan Job Queue window and as multiple images in the Preview window, they will also be shown as multiple entries in the Job box of the Settings window.

To select from multiple scan jobs, choose the scan job you wish in the Job box; this will automatically select the corresponding scan job in the Preview and Scan Job Queue windows as well. Conversely, selecting a scan job in either the Preview or Scan Job Queue window will automatically show that selection in the Job box.

This means that a quick look at the Job box, the Preview Window, or the Scan Job Queue window can show you which is your currently selected scan job.

Correspondence between the Job box in the Settings window and the current scan job in the Preview and Scan Job Queue windows
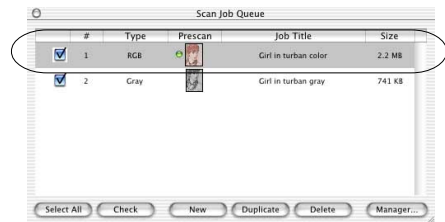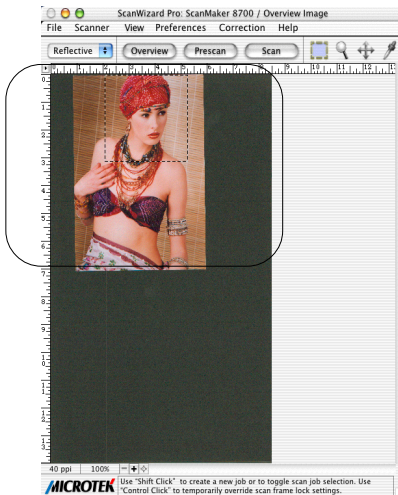
Scanner ICC Input Profile

The Scanner ICC Input Profile is a feature that lets you select different ICC scanner profiles for your scan job. In ScanWizard Pro, a default scanner profile is always selected (provided with your scanner model). In the example below, the *Microtek ScanMaker 8700/Reflective* profile is the default scanner profile selection for the ScanMaker 8700.

Default scanner profile selection
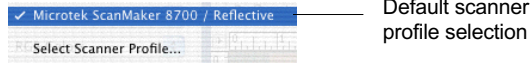
To select a scanner profile:

1. Click the *Input Profile* button in the Settings window; or go to the pop-up menu located to the right of the Scanner Profile button, and choose the *Select Scanner Profile...* option. You may also select other profiles available in the pop-up menu. To create a scanner profile, use the Microtek Scanner ICC Profiler (MSP) program for Mac OS X. Details on how to use the program can be found in the MSP documentation.

Click either of these optkons to select your scanner profile

2. The Scanner Profile dialog box below will appear. This dialog box allows you to select your scanner profile and also lets you view the profile information of the selected scanner profile before you make your final decision.

Menu contains the scanner profiles that match your current scanner model and are found in the ColorSync™ Profiles folder in your */Library/ColorSync/Profiles* folder (default)

Browse button lets you select a scanner profile in another folder in your system

Profile Info section shows the profile of the currently selected scanner (in this case, the ScanMaker 8700)
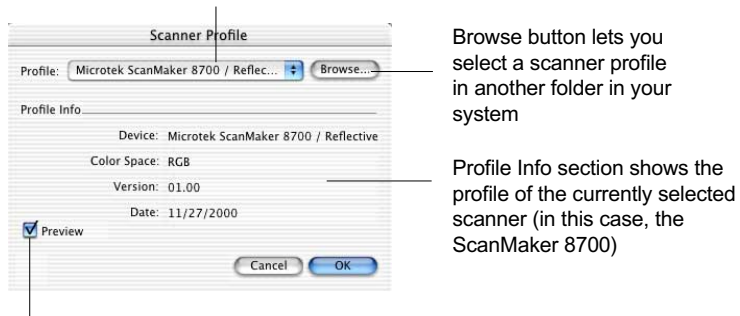
Checking this option lets you immediately see changes applied by the selected scanner profile to the preview image

Type

The Type box shows you the image type of the current scan job. ScanWizard Pro allows direct scanning in the following color spaces described below.

A. RGB: RGB (Red, Green, and Blue) images use three colors to reproduce up to 68.7 billion colors. Because scanners and monitors are RGB devices, the RGB color space is the most commonly used space for capturing and displaying images. ScanWizard Pro offers standard RGB and 48-bit RGB color selection, with the 48-bit option available for the ScanMaker 5, ScanMaker 2000, the Artix line of scanners, and other Microtek professional pre-press scanners.

B. Grayscale: Grayscale images use shades of gray to simulate gradations of color or tonal values, and contain 8 bits per pixel. The Grayscale 16-bit option is provided in ScanWizard Pro for professional pre-press scanners.

C. CMYK: CMYK images are made up of the standard four colors (cyan, magenta, yellow and black or K) for separated film or digital files used for sheetfed or web offset printing. CMYK mode instantly converts the scanner's RGB input to the CMYK color space. CMYK images are four-channel images, containing 32 bits per pixel.

D. Lab Color: Lab images are three-channel images containing 24 bits per pixel. Lab mode is useful for editing a pixel's luminance but not its color values. Lab mode produces device-independent color and is recommended for moving images between systems or printing to a PostScript Level 2 printer.

E. Web / Internet Colors: This mode is useful for displaying images on the Web or Internet. Output for the Web / Internet color mode in ScanWizard Pro is 8-bit, 256 indexed color images in the sRGB color space.

F. 256 Colors (Default) / 256 Colors (Custom): These are single-channel images (8 bits per pixel) that use a color lookup table containing up to 256 colors. The file size is smaller for images in this mode. As an initial setting, selecting 256 Colors (Default) uses an *Adaptive* palette with *Diffusion*. If the 256 Colors (Custom) option is selected, the dialog box below appears.

- Palette: The Palette option lets you choose the method for creating the color palette table. *Uniform* uses a 6-6-6 fixed color palette table. *Adaptive* (default) creates a color palette table from the more commonly used areas of the color spectrum that appears in the image.

- Dither: The Dither option can improve the color quality of the 256-indexed color image for photographs or continuous-tone images, using a technique of mixing available colors to simulate missing colors. *None* provides no dithering. *Pattern* uses a structured pattern to simulate missing colors. *Diffusion* (default) uses the error diffusion technique to dither colors and produces the best quality for 256 colors.

G. Line art: Line Art images are made up of one bit of color (black or white) per pixel. Few editing options are available in this mode, but this mode is useful for images consisting purely of black and white or even single colors, such as mechanical drawings, blueprints, or fine-line illustrations.

H. Black-and-White Diffusion: This is a single-bit black-and-white image dithered with error diffusion. The black and white pixels are arranged in a way as to "fool" the eye into seeing gray.

Resolution settings

The settings related to resolution include the resolution box, the resolution list box, and the resolution unit.

Resolution is the sampling of image pixels per measurement unit or the amount of pixel information stored in an image. Together, the image resolution and dimensions determine the file size of the image, which is measured in kilobytes (KB) or megabytes (MB).

The resolution of an image is important in determining the quality of the output image. Resolution is also directly related to file size, and the higher the resolution, the larger the resulting file size will be.

When dealing with resolution, remember to distinguish between optical resolution and interpolated resolution.

Optical resolution is the "real" resolution as measured by the scanner's optics. Interpolated resolution is software-enhanced resolution and can be useful for enlarging very small images or for printing line art to obtain superior results.

A. Resolution box

This shows the resolution setting. To set your resolution:

Enter a resolution setting in the Resolution edit box, then press Enter. If the value you enter is too high or too low, the maximum or minimum resolution value is entered for you instead.

Depending on the type of image you have selected (grayscale, color, line art, etc.), a default resolution is displayed in the resolution box. After you enter your own resolution value, this value is then recorded for subsequent use, until a new value is entered and takes over.

B. Resolution list box

This provides predefined resolution values for easier selection of the resolution setting.

To select your setting, press the up/down arrows next to the Resolution box, and choose your setting from the list box.

Resolution: 300

- 72 dpi (Screen)
- 100 ppi
- 150 ppi
- ✓ 300 ppi
- 600 ppi
- 1000 ppi
- 1200 ppi
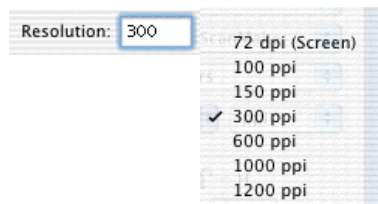
C. Resolution unit

The unit of measurement for resolution is in *ppi* (pixels per inch) or *lpi* (lines per inch). Take note that *lpi* settings are dimmed if the ruler unit is in pixels.

To select your resolution unit:

- Choose *ppi* if your scanned images are intended for on-screen display. In this case, you need not go higher than the target resolution of your monitor (usually 72 dpi for Macintosh and 96 dpi for Windows). A higher resolution value will simply increase the file size of your image without any perceptive improvement in image quality.

- Choose *lpi* if your scanned images are to be printed. If you choose 1x, for instance, your scanned image will be printed at 133 lines per inch, resulting in a 133-dpi image. At 1.5x, the image will be printed at 199.5 dpi; and at 2x, the image will be printed at 266 dpi. The Custom option allows you to set an lpi value of your own specification.

  In choosing an appropriate lpi value, keep in mind that if the resolution is too low, the image becomes pixelized, resulting in a deterioration of image quality. (Pixelization is the process in which the Postcript language uses a single pixel's color values to create more than one halftone dot.) Conversely, if the resolution is too high, the file size becomes unwieldy, and your file ends up containing more information than the printer needs,

Scan Frame and related settings

These settings allow you to adjust the various factors that affect your image, including the width and height of your image when it is first scanned (Scan Frame settings), the Scaling factor (how big or how small the resulting scanned image will be), and the dimensions of the image when it is output (Output settings).
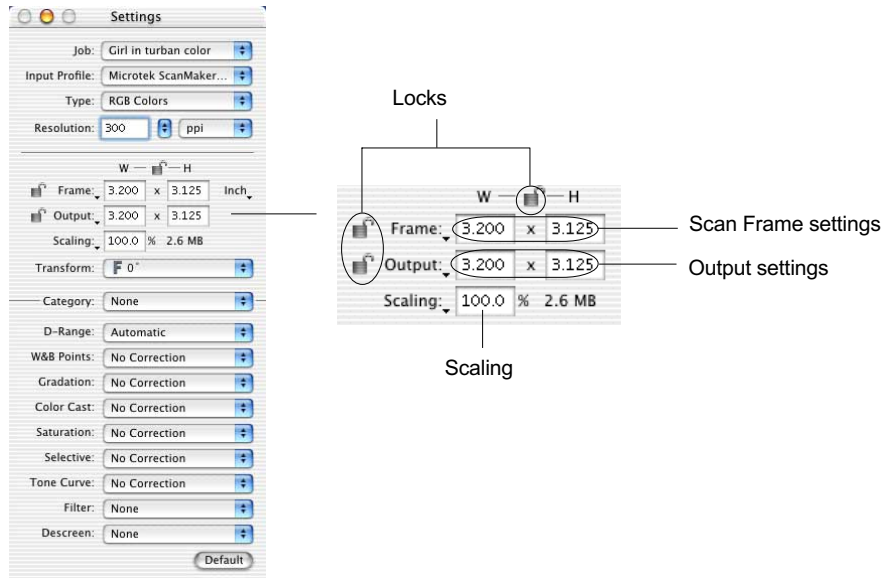
The Scan Frame settings, Scaling, and Output Settings work closely with the Locks beside them.

In the default settings of ScanWizard Pro, where none of the locks are in place, take note of the following:

Note: When an illegal value is entered (e.g., the input width exceeds the scan frame size), the value will appear in red as a flag or warning indicating an out-of-range value.

- Changing the Scan Frame settings (width or height) will change the Output settings (width or height).

- Changing the Scaling will change the Output settings (width AND height).

- Changing the Output settings (width or height) will change the Scan Frame settings (width or height).

A. Scan Frame settings

The Scan Frame settings (width and height) represent the area on the scan bed that you wish to scan.

To specify your settings, enter the dimensions manually in the width and height edit boxes; or use the Scan Frame tool to define or resize your scan frame. Changes made in the Preview window are automatically displayed in the Scan Frame setting edit boxes.

If you wish, you can also choose from a menu of predefined Scan Frame settings. To do this, point your mouse to the words "Scan Frame" in the Settings window, and choose the setting you wish from the drop-down menu that appears.
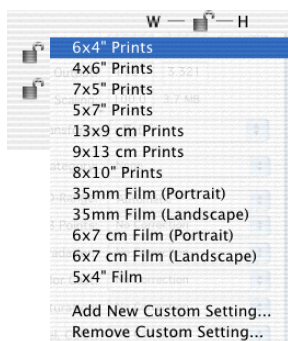
B. Output settings

The Output settings (width and height) represent the dimensions of the image when it is output to either the monitor or the printer. If the size of the image to be output is different from the size of the original source image, adjust the scaling percentage, or manually increase / decrease the output values accordingly.

If you wish, you can also choose from a menu of predefined Output settings. To do this, point your mouse to the words "Output" in the Settings window, and choose the setting you wish from the drop-down menu that appears.
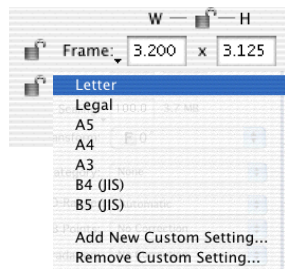
- Add / Remove Custom Setting: These options let you customize and create your own output settings for use in subsequent scans.

C. Scaling

Scaling lets you create larger or smaller images from the original source image. Take note of the following:

- Keep the scaling at 100% if you are outputting at the same size (e.g., a 4" x 5" original to be output at the same size).

- Reduce the scaling if you are outputting your image at a smaller size (e.g., a 4" x 5" original to be output to 2" x 2.5"). Increase the scaling if outputting at a larger size.

To choose the scaling percentage, click the up/down arrow next to the scaling box, or enter a value in the scaling edit box.
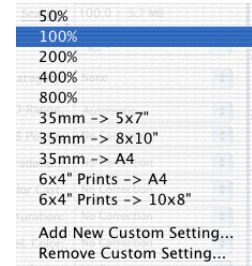
If you wish, you can also choose from a menu of predefined Scaling settings. To do this, point your mouse to the words "Scaling" in the Settings window, and choose the setting you wish from the drop-down menu that appears.

- Film scale mapping: Choose your image material and the output dimension. For example, "35mm to 5" x 7"" means your image source is 35mm film, and output size is 5" x 7".

- Add / Remove Custom Setting: These options let you customize and create your own image-mapping scale for use in subsequent scans.

Scaling is also affected by your resolution setting. When you change resolution and specify a value that has no exact equivalent for scaling, the scaling may be affected and adjusts itself to the nearest allowed value. For instance, if your resolution is 100, your scaling becomes 99 (instead of a full 100), because that is the closest scaling equivalent, given the resolution value.

D. Image Size

The Image Size field indicates how big the file will be when you accept the dimensions shown in the edit boxes, together with the resolution setting that you have selected. Size is calculated automatically. The resulting file size depends on the image type (color, grayscale, etc); resolution; and dimensions of the image.

E. Unit of Measurement

The Unit of Measurement lets you select the desired unit (inch, cm, mm, point, pica, pixel) for your image dimensions.

Important: Make sure you select the correct unit of measurement before entering any of the values for width or height in the Scan Frame Settings or Output Settings.

Locks

The Locks control the behavior of the Scan Frame settings and the Output settings. A third Lock lets you keep the proportion for image width and height.

A. Scan Frame lock

B. Output lock

C. Keep Proportion lock
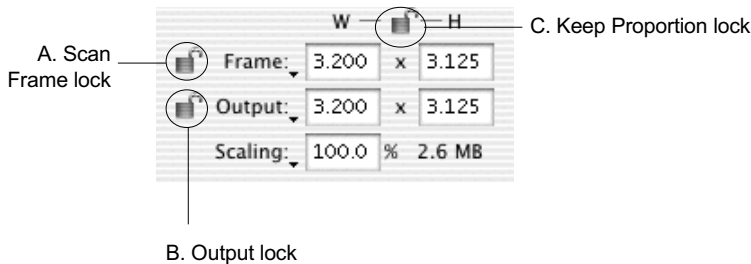
A. Scan Frame lock

This lets you lock in the settings of your scan frame, so that the width and height dimensions of the frame are always preserved no matter where you move the frame in your preview image.

If you know the exact input size for your image, or if you wish to "lock" the settings of your scan frame to a particular size, enter the Scan Frame width and height values first, then click the *Scan Frame lock*. Your scan frame will be "fixed" at those values, so even if you move the scan frame around the preview image, the dimensions of the frame itself will remain unchanged.

Note: The *Scan Frame Lock* and *Output Lock* are each mutually exclusive. This means that only one lock can be used at a time.

B. Output lock

This lets you lockin the values specified for the width and height of the image when it is output. For example, if you know the exact output size for your image, enter the output width and height values first, then click the *Output lock*. The image will then be scanned and output at the values you specify.

Note: If any of the input values are changed after the lock is on, the scaling will be adjusted automatically to preserve the output dimensions correctly.

C. Keep Proportion lock

This lets you keep the proportion of the image width and height despite changes made to either setting, and thus preserves the aspect ratio of the image correctly. The *Keep Proportion lock* is automatically turned on when you enter values in either the Scan Frame settings or the Output settings.

Transform

The Transform command allows you to rotate and / or flip the image in increments of 90 degrees.

The effects of the Transform command will be seen in the Prescan image or are after you click the Scan button and scan the image in; the Transform effect is not shown in the Overview viewing mode.

To use the Transform command:

1. Click the *Transform* button in the Settings window.

2. From the options that appear, choose the degree of rotation you wish.
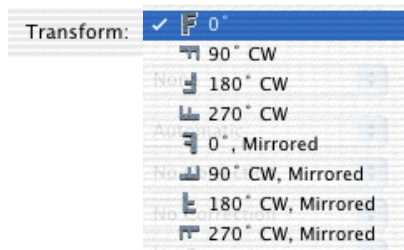
3. Click the *Scan* button in the Preview window. When the image is scanned, it will be rotated or transformed according to the selected option.

Image Category

The image category function in ScanWizard Pro applies predefined settings to your image and brings out characteristics specific to that image type. This is helpful in providing a more accurate output image.

To select the correct image category, go to the Settings window and choose the option you wish from the Image Category menu. Select the image category that corresponds most closely to the image characterstics of your original.

Category: ✓ None
Standard
Landscapes
Portrait (Skin Tones)
Jewelry (Gold Tones)
Sunsets
Metallic Subjects
High Keys
Low Keys
Under-Exposed
Over-Exposed

Custom...

Add New Custom Setting...
Remove Custom Setting...

- *None*: No image category conversion.

- *Standard*: Used for an image not falling into any of the categories described below. You can also use this category for images of good quality (neither underexposed nor overexposed, with accurate color and tones).

- *Landscape*: Used for images with cool atmosphere with broad tonal variation and a wide hue range. Examples: Natural scenery; skyline with an expanse of blue sky; mountains and fields.
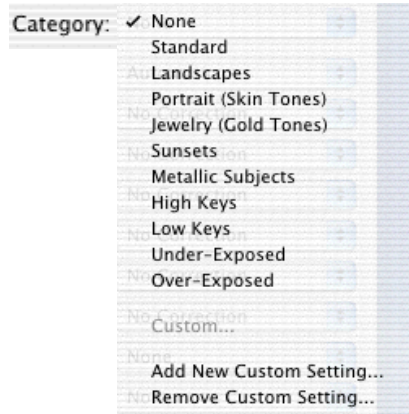
- *Portrait (Skin Tones)*: Used for images with dominant skin tones and mid-tone details present. Examples: Portraits and objects with fleece- or skin-like covering.

- *Jewelry (Gold Tones)*: Used for images featuring dominant gold / silver hues. Examples: Gold and silver jewelry, silverware.

- *Sunsets*: Used for images with warm reddish hues or a color cast reminiscent of sunsets. Examples: Scenes at dusk or twilight.

- *Metallic Subjects*: Used for images with broad highlight and shadow details but with very narrow mid-tone details. Examples: Audio equipment, Cameras.

- *High Keys*: Used for images with broad highlight tonal variation but with less shadow detail. Examples: Snow-covered landscapes; wedding gowns.

- *Low Keys*: Used for images with broad shadow tonal variation but with less highlight detail. Examples: Nighttime scenery; dark suits and clothing.

- *Underexposed*: Used for images with compressed tonal variation particularly in the shadow areas, characterized by an overall dark appearance typical of underexposed positive film.

- *Overexposed*: Used for images with compressed tonal variation particularly in the highlight areas, characterized by an overall bright appearance typical of overexposed positive film.

Image assigned "Standard" image category

Image assigned "Overexposed" image category

In the example below, an overexposed original is shown in two different image categories. Because the original was overexposed to begin with, choosing the Overexposed image category had the result of neutralizing the exposure, resulting in a better image.

The same original did not fare as well when it was assigned the Standard image category (too bright overall, not enough contrast), because this image category is best used for originals of fairly good quality (sharp, neither underexposed nor overexposed) and not, in this case, for an original with flawed exposure settings.

This example then shows the importance of choosing the correct image category that corresponds most closely to your original to obtain optimal results.

Advanced Image Correction Tools

The Advanced Image Correction (AIC) tools form an integral part of ScanWizard Pro. With the AIC tools, you can adjust or enhance images right from within ScanWizard Pro and preview the changes to your image even before you scan.

Before we go to the use of the AIC tools, we will briefly discuss the LCH color model, which is important for working with images in ScanWizard Pro. This is followed by other information relating to the LCH model, including the availability of the AIC tools in LCH vs. Native color mode, and recommendations on a workflow for optimizing images.

The following topics are covered:

- The LCH Color Model
- AIC tools in LCH vs. Native Mode
- AIC tools and your image type
- Workflow for optimizing images
- How to access the AIC tools
- Elements of the AIC dialog box
- The Action buttons
- Using Custom Settings
- Discussion of the individual AIC tools
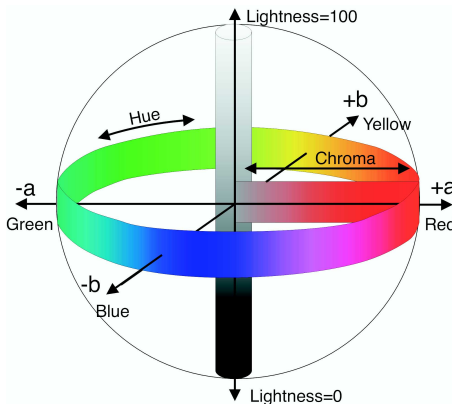
The LCH Color Model

One of ScanWizard Pro's strengths is its ability to let you work in the LCH color space. Unlike the RGB color model, which corresponds to the color space as defined in monitors and printers, the LCH color model is a more intuitive way of working with colors, based on the values of Lightness (the "L" in LCH), Chroma (C), and Hue (H). For instance, if you wish to change the color of the sky in an image to a darker blue, your own eye — and your own judgment — will be the guide to making those color changes. This is easier than, say, knowing the mathematical equivalent in RGB or CMYK values that would correspond to a "dark sky blue".

The LCH model, in effect, makes it easier to comprehend colors as they are couched in the terms we are familiar with: Lightness (how dark or light a color is), Chroma or saturation (how rich or dull a particular hue of green is), and Hue (the property that distinguishes, say, the color red from the color blue.)

In the LCH color model, colors of equal brightness lie on a single plane of the model, as shown below. Red and green lie opposite each other on the horizontal axis, as blue and yellow lie opposite each other on the vertical axis.

On the color sphere shown below, you can see how the different LCH properties play out:

• The different hues (red, green, yellow, blue) are spread around the sphere.

• The chroma (saturation) for each hue increases from the center of the sphere outward, with the most saturated colors lying on the edge of the sphere.

• The brightness values increase from the bottom of the model to the top.

AIC Tools in LCH vs. Native Color Mode

All the AIC tools are available when you work in the default LCH color space, but a different set of tools is available when you choose to work in the Native color space. As discussed in an earlier section of the manual, you can select the color space of your choice in the *Preference*s menu | *More...* command in the Preview window.
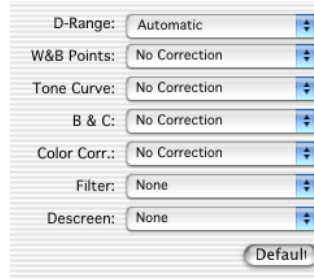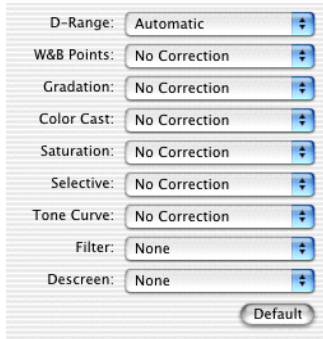
AIC Tools and your Image Type

The AIC tools do not apply to all image types. See the table below to determine which AIC tool can be used for a particular image type.

RGB	CMYK	Lab	Gray	Line Art	B&W Diffusion	Remark
Dynamic Range	V	V	V	V		
White/Black Points	V	V	V	V	V	
Gradation	V	V	V	V		*
Color Cast	V	V	V			
Saturation	V	V	V			
Selective	V	V	V			
Tone Curve	V	V	V	V		
Filter	V	V	V	V	V	
Descreen	V	V	V	V		**
Brightness & Contrast	V				V	
Color Correction	V					

　* For Line art, Gradation tool becomes the "Threshold" tool.

** For negative film, this function changes to "Film Type" selection.

Workflow for Optimizing Images

To prepare and optimize your images for the final scan, we recommend the use of the Advanced Image Correction tools in the sequence that they appear in the Settings window. Following this order will significantly influence the overall quality of your images.

1

Dynamic Range
Manual or auto
determine image
density range
(darkest tone to
lightest tone)

3

Gradation
Manual or auto-adjust
midtones of the
Lightness channel "L"

5

Saturation Curve
Adjust image
saturation by
manipulating the
saturation curve

7

Tone Curve
Adjust tonal
distribution of each
channel of a CMYK/
RGB image

2

White & Black Points
Manual or auto-adjust
shadow and highlight
points

4

Color Cast
Adjust gray balance by
removing color cast or
adjust desired cast by
adding color cast

6

Selective Color
Manipulate a specific color
range without affecting other
colors

8

Filter
Apply a particular filter for
special effects (e.g.,
unsharp masking to
sharpen image)

The sequence is the same if you are working in Native color mode. However, the Gradation, Color Cast, Saturation, and Selective Color tools (#3 to #6) will not be available. The Brightness / Contrast and Color Correction tools are offered in their place.

The Brightness / Contrast and Color Correction tools are offered in the Native color mode

|	
D-Range:	Automatic
W&B Points:	No Correction
Tone Curve:	No Correction
B & C:	No Correction
Color Corr.:	No Correction
Filter:	None
Descreen:	None
	Default
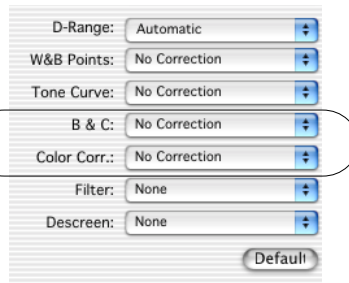
Accessing the AIC Tools

1. To access an AIC tool, click a particular tool in the Settings window or choose its counterpart in the Correction menu in the Preview window.

2. After clicking a tool, the AIC dialog box appears. The elements of the AIC dialog box are explained in the next section.
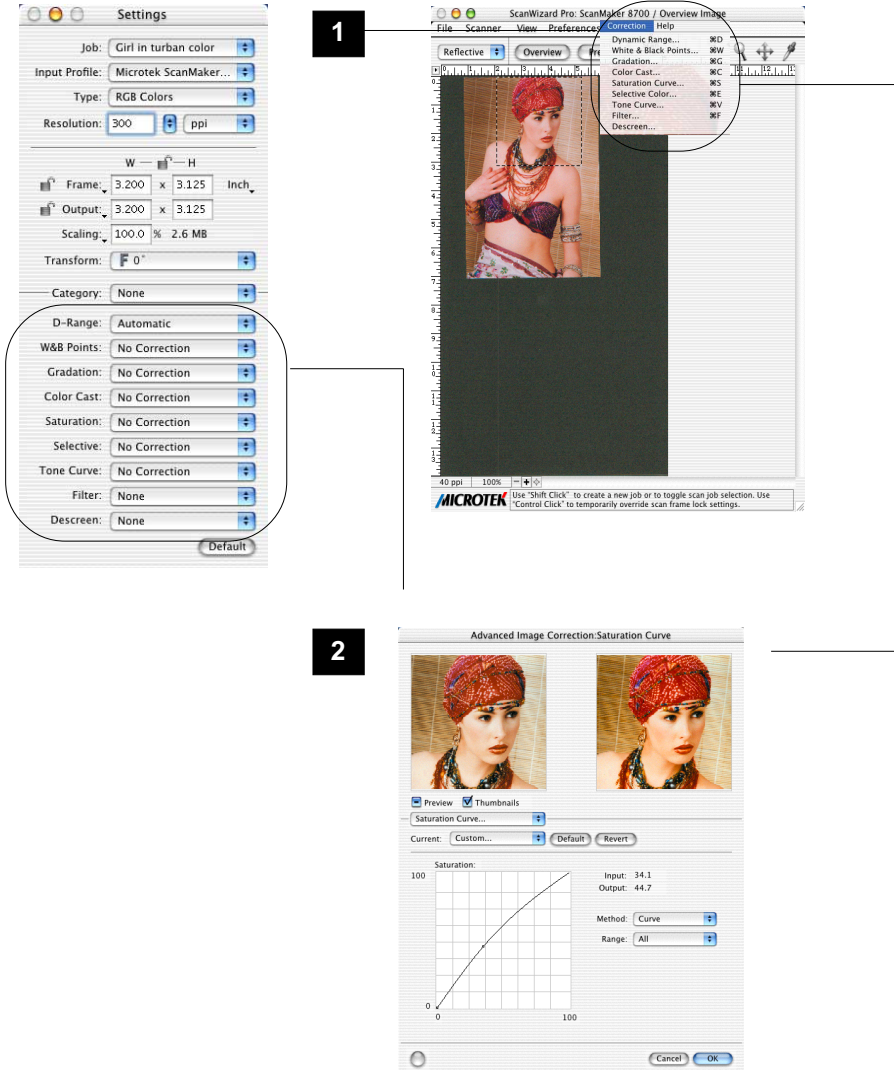
Elements of the Advanced Image Corrrection screen
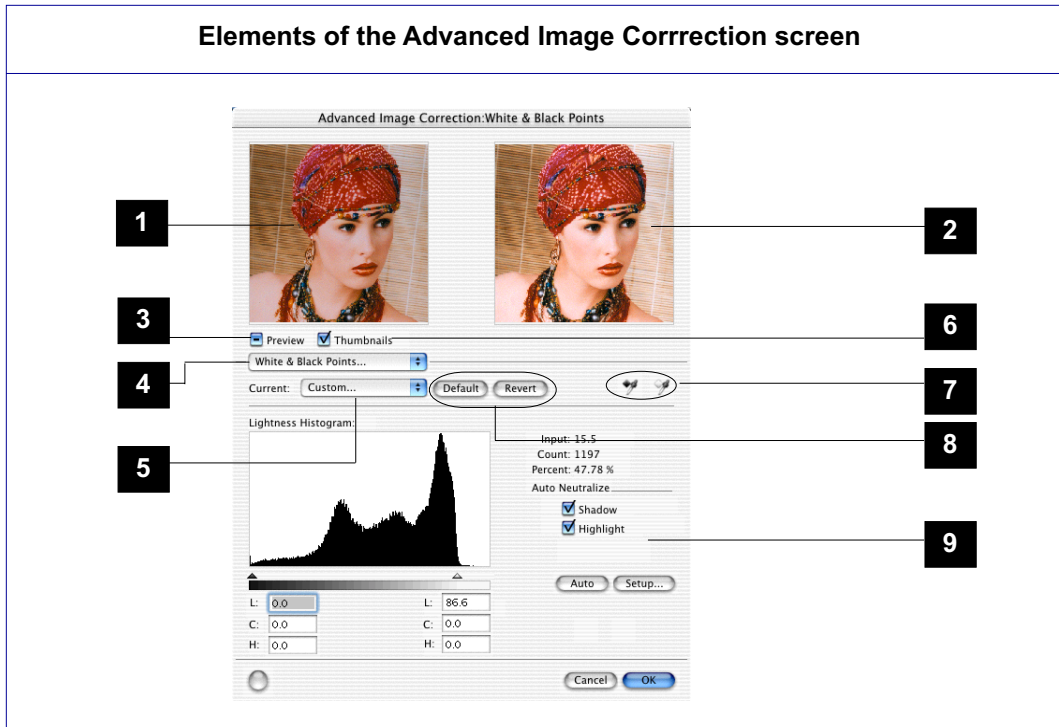
1. Left thumbnail: This shows the image *before* enhancements are applied.

2. Right thumbnail: This shows the image *after* enhancements are applied.

3. Preview option: If checked, changes or enhancements are applied immediately to the Preview window image (for both Overview and Prescan images). If unchecked, changes are seen only after you close the AIC dialog box.

4. Advanced Image Correction Tools (AIC): These tools adjust or enhance your images. Click any tool in this area, and see how the core of the AIC screen (#9) changes to reflect the properties of that tool.

5. AIC pop-up menu: This contains custom and other settings you have created for the particular AIC tool shown. This corresponds to the AIC pop-up menus in the Settings window.n Tools (AIC): These tools adjust or enhance your images. Click any tool in this area, and see how the core of the AIC screen (#9) changes to reflect the properties of that tool.

6. Thumbnail option: If checked, the before and after thumbnails are shown in the AIC screen. You can choose to uncheck this option and hide the thumbnails, since changes can be previewed in the Preview window. If unchecked, the screen collapses to show only the lower portion of the dialog box.

7. Function icons: These icons (e.g., eyedropper, lens, etc.) perform functions specific to the AIC tool being used. Function icons are explained in more detail under their corresponding AIC tool.

8. Action Buttons: These carry out a specific action. See the next section for more details.

9. Core of the AIC screen: This is the heart of the AIC screen, and the content here changes to reflect your selected AIC tool.

The Action Buttons

The Action Buttons in the AIC dialog box let you accept, cancel, or control the application of AIC settings.

The Action Buttons
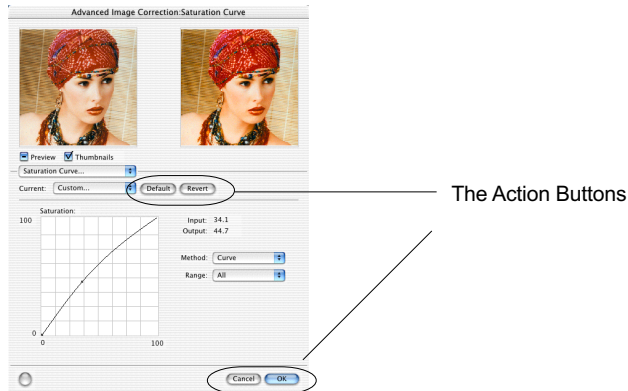
Default button

This button restores all settings to their default ScanWizard Pro values.

Revert button

This button cancels out the changes that were made with the current image-enhancement tool. This means that if you used several AIC tools, *Revert* cancels the effect of only the last used (or current) tool, and preserves the effects of the other preceding tools.

Example: If you changed the tone curve, applied filters, changed saturation, then clicked *Revert*, the saturation changes will be cancelled out, but the altered tone curve and filters settings remain in effect

Cancel button

This button cancels out all image-enhancement changes you have made to the current scan job, and then closes the AIC dialog box.

Example: If you applied filters, changed the curve, and then clicked *Cancel*, none of the changes will take effect, and you exit the AIC dialog box.

OK button

This button applies to the current scan job whatever image enhancements you have performed, and then closes the AIC dialog box.

Example: If you increased saturation, changed the gradation curve, and then clicked *OK*, all the changes are applied, and you exit the AIC dialog box.

Custom Settings

When you click on each AIC setting in the Settings window, a drop-down menu will show options for adding, removing, or loading custom settings. These custom settings are settings that you define yourself for your scan jobs.

For instance, if you wish to apply a certain filter (such as sharpen) to an image and then save that filter setting for future jobs, you can add the filter as a custom setting. The next time you wish to retrieve that particular filter setting, simply go to the Filter AIC drop-down menu, and choose that setting.
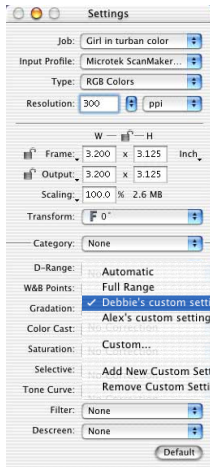
A user-defined setting that has been added and can now be retrieved

Lets you add or remove from the menu settings you have previously defined

The Custom pop-up menu in the Settings window is the same as the AIC Custom pop-up menu
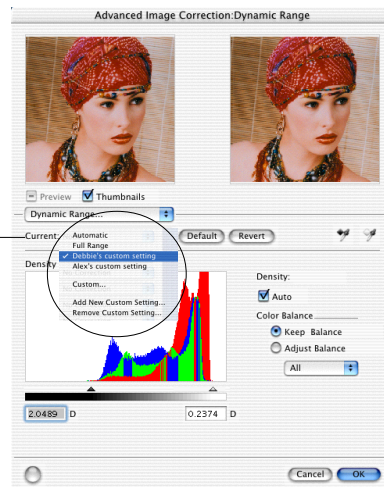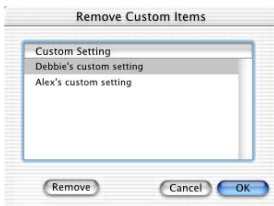
A. Adding custom settings

To add a custom setting for an AIC tool, click the *Add New Custom Setting...* in that tool's pop-up menu. When a dialog box comes up, enter the name of the new custom setting to be added. For instance, the added setting can be called "Debbie's Custom Setting," as shown below.
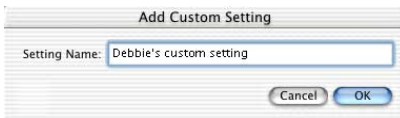

B. Removing custom settings

To remove a custom setting for an AIC tool, click the *Remove Custom Setting...*in that tool's pop-up menu. When a dialog box comes up, select the particular setting to be removed, then click *Remove* in the dialog box.

C. Loading / retrieving user-defined AIC settings

To load or retrieve a custom setting that you have previously defined for an AIC tool, go to that AIC tool's pop-up menu, and choose the setting you wish to be loaded.
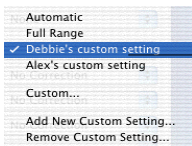
Custom setting to be retrieved or loaded

The Default button

The Default button in the Settings window brings up a dialog box where you can specify the AIC settings to be reset to their default values. To reset any or a combination of settings, check the boxes next to the targeted settings.

Checks on these boxes indicate that these AIC settings will be restored to their default values.
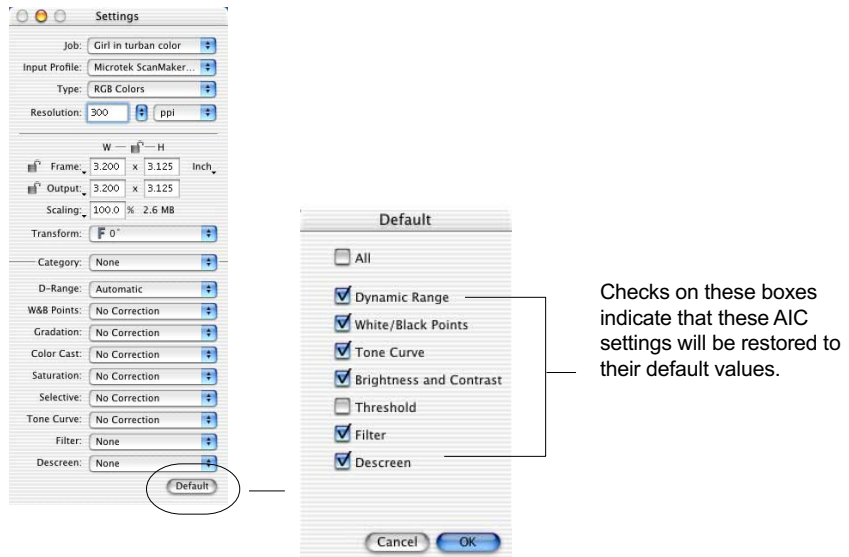
Dynamic Range tool (LCH & Native color mode)

The Dynamic Range tool is used to set the density capture range of the scanner and displays the density distribution (histogram) of the image to be scanned.

The Auto range (default) feature automatically determines the Dmin (minimum density, lighest tone) and Dmax (maximum density, darkest tone) of the image, and sets the scanner capture range.

Drag sliders to define custom Dmin/Dmax settings

Select this option to adjust the Dmin/ Dmax settings of the RGB channels **simultaneously**

Select this option to adjust the Dmin/ Dmax settings of the RGB channels **individually**

Select the channel in which you wish to work with the image. "All" is available if you choose the "Keep Color Balance" option. The individual color channels are available if you choose the "Adjust Color Balance" option

Enter custom Dmax setting here

Enter custom Dmin setting here

Click to apply or revert to automatic setting (ScanWizard Pro algorithm) if dissatisfied with your manual setting

You can use the Black and White Eyedropper tools to define the Dmax (darkest tone) and the Dmin (lightest tone) settings, r espectively

To do this: Click the Eyedropper tools in the Dynamic Range dialog box. Then move to the thumbnail image in the dialog box or to the preview image in the Preview window, and choose your Dmax / Dmin point.

- To define the Dmax (darkest tone) setting, use the Black Eyedropper tool.
- To define the Dmin (lightest tone) setting, use the White Eyedropper tool

White Eyedropper for Dmin settings

Black Eyedropper for Dmax settings
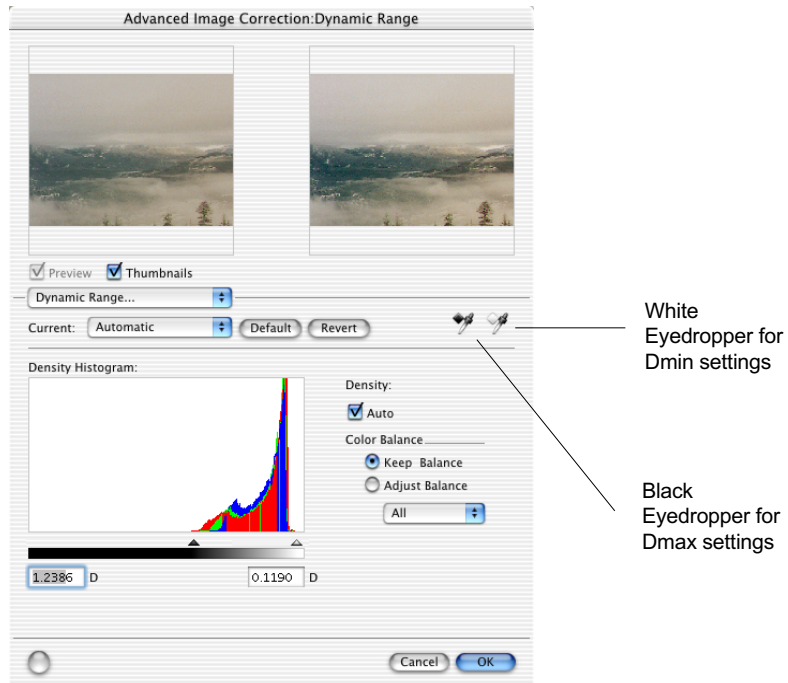
White & Black Points tool (LCH color mode)

The White & Black Points tool is used to change the shadow and highlight points of an image. (See note on next page for additional descriptions.)

By using this tool, you can manipulate an image to either bring out the highlights in a very dark image, or bring out more of the shadows in a very light image. The White & Black Points tool can also be used to neutralize the color cast in the highlight and shadow regions.

Observe histogram values for distribution of the Lightness "L" channel in the image, as cursor is swept around histogram

Check to auto neutralize unwanted color casts in Shadow (black) area or Highlight (white) area

Drag sliders to define custom shadow and highlight settings

Click to bring up the White/Black points setup dialog box. For more details, see the section titled *White & Black Points Setup* (under the Preferences menu in the Preview window)

Click to let ScanWizard Pro determine the shadow and highlight points automatically

Enter custom Lightness, Chroma & Hue values for Shadow (Black area) here. C & H values are applicable only when the *Auto Neutralize - Shadow* check box is enabled

Enter custom Lightness, Chroma & Hue values for Highlight (White area) here. C & H values are applicable only when the *Auto Neutralize - Highlight* check box is enabled

You can use the Black and White Eyedropper tools to define the Shadow and Highlight points.

To do this: Click the Eyedropper tools in the White & Black Points dialog box. Then move to the thumbnail image in the dialog box or to the preview image in the Preview window, and choose your Black / White Point.

• To define the Black (shadow) point, use the Black Eyedropper tool

• To define the White (highlight) point, use the White Eyedropper tool

Note: You may also set the White & Black point by using the Tag Windows Magic Diamonds. For more details, refer to Using the Magic Diamonds" under the Tag Windows tool section.

Enable this check box to show the adjustment effect on the prescan image

White Eyedropper to define the Highlight point

Black Eyedropper to define the Shadow point

The shadow point is defined as the lightness value "L" in an image that is output as black (mapped to the Minimum Output Level), while the highlight point is defined as the lightness value "L" that is output as white (mapped to the Maximum Output Level). The default values of the Minimum Output Level and Maximum Output Level are L=5.0 and L=95.0, respectively.

The W&B Points dialog box in Native color mode

Channel box

Edit boxes for shadow & highlight values

Sliders
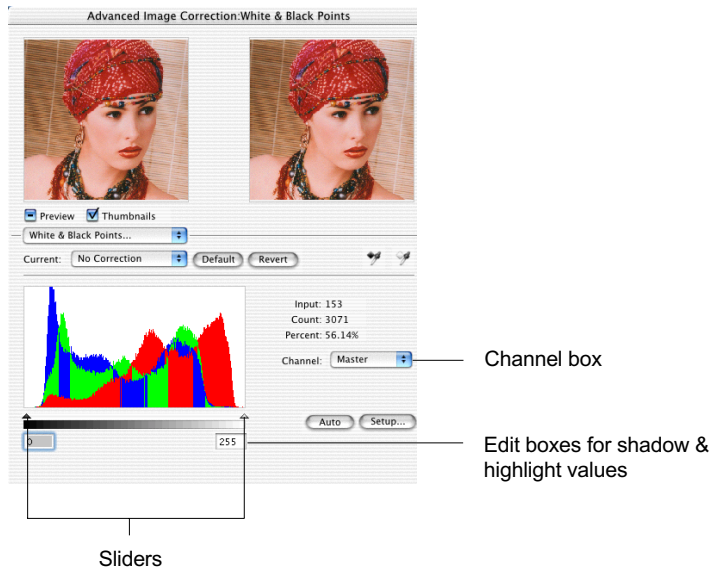
In Native color mode, the White & Black Points dialog box allows you to modify the histogram in your RGB, CMYK, or Lab channel. Channels can be modified individually or collectively (when you select "All") in the Channel box.

Following the selection of your channel, you can move the black and white sliders below the histogram to set the shadow and highlight values, respectively The edit boxes below the sliders will reflect those values.

Gradation tool (LCH color mode)

The Gradation tool lets you adjust the midtones (the mid-level grays) of the lightness channel "L" of an image without altering the color itself. This is because even with changes to the luminance or lightness value, the chroma and hue values are kept constant.

To prevent color images from losing saturation when adjusting the lightness, ScanWizard Pro provides a Saturation Range option. With this option, colors outside of a given chroma range are not affected by the manipulation of the gradation curve.

How to read the curve

The Curve shows the relationship of the brightness changes across the middle pixels between the resulting image and the original. When you open the Curves dialog box, the line on the graph is diagonal because the Input and Output values are the same.

Original curve

When the curve is moved up or down, the relationship between input value and output value changes accordingly.

- In areas where the curve is moved down, pixels in that portion of the image are darkened.

- In areas where the curve is moved up, pixels in that portion of the image are lightened.

Contrast in an image can be seen by the angle of the line. The steeper the slope, the higher the contrast. The closer the line is to horizontal, the lower the contrast.
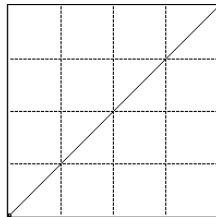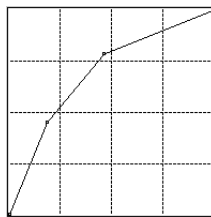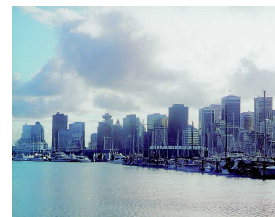
Modified curve

Gradation tool cont.
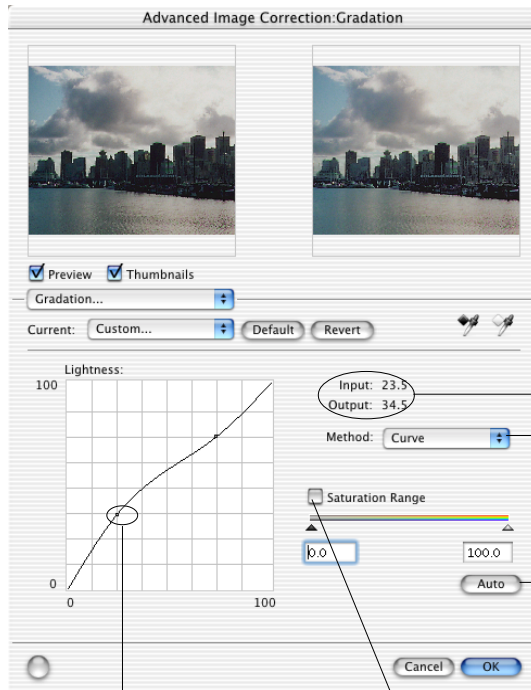
Advanced Image Correction:Gradation

Coordinates of cursor position within the grid

Choose the method you wish to display the gradation curve. Select from Curve, Line, or Gamma

Click **Auto** to let ScanWizard Pro calculate the Gradation setting automatically

Click to create handles from which to drag and manipulate a portion of the curve . The more handles are created, the easier and smoother it is to manipulate the curve. To remove a handle, drag it off the graph or the grid

Check to enable the **Saturation Range** option. Then drag the sliders or enter the values in the edit boxes to define the saturation (chroma) range. The colors outside the chroma range will not be affected by the Gradation curve

In this example, the lower chroma section (0 to 50) will be affected by the Gradation adjustment. The higher chroma section (51 to 100) outside the chroma range will not be affected

Defining a chroma range is helpful if you wish to prevent images from losing saturation or color intensity

Appearance of curve if
Method chosen is "Line"
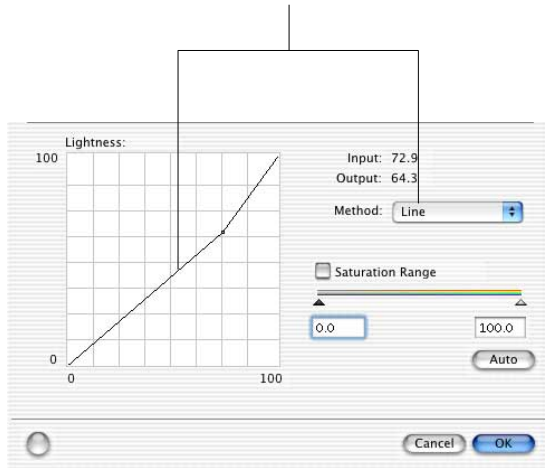
Lightness:
100

Input: 72.9
Output: 64.3

Method: Line

Saturation Range

0.0   100.0

0

0   100

Auto

Cancel   OK

Appearance of curve if Method
chosen is "Gamma"

Lightness:
100

Input:
Output:

Method: Gamma

Gamma: 1.17

Saturation Range

0.0   100.0

0

0   100

Auto

Cancel   OK
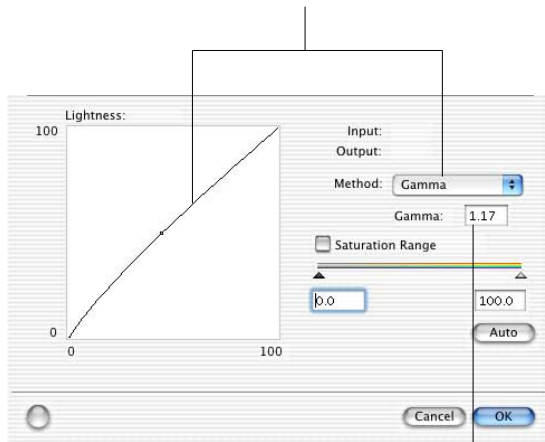
Instead of dragging the Gamma handle, you can also directly enter the appropriate
Gamma value in the edit box. Dragging points on the curve to a Gamma value
above 1.00, will lighten the dark tones. Dragging points on the curve to a Gamma
value below 1.00 will add shadows to light tones

Gradation tool cont.

You can also use the Black and White Eyedropper tools to define the Saturation Range.

To do this: Click the Eyedropper tools in the Gradation dialog box. Then move to the thumbnail image in the dialog box or to the preview image in the Preview window, and choose the setting for your high chr oma and low chroma range.
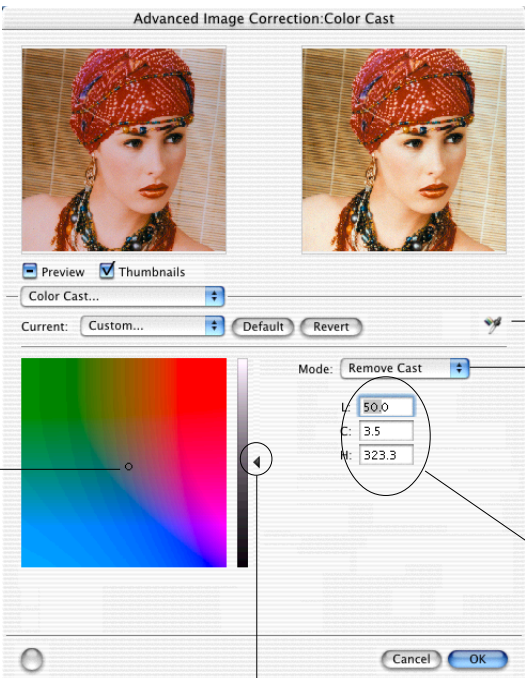
- Use the Black Eyedropper tool to define your low chroma range setting.
- Use the White Eyedropper tool to define your high chr oma range setting.
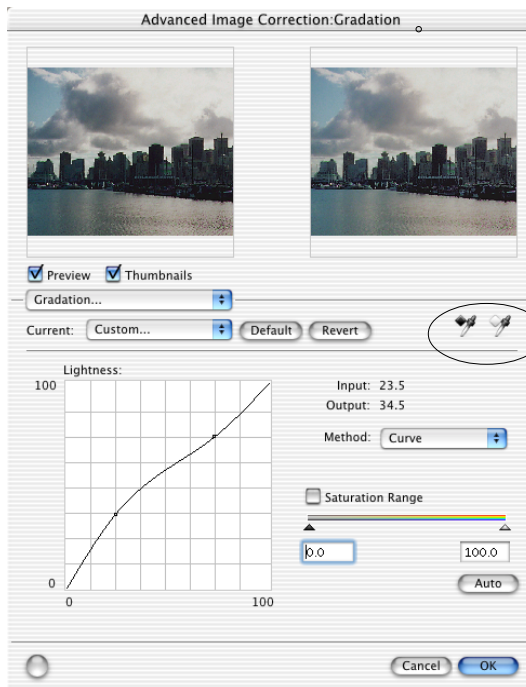
Black & White Eyedropper tools

Color Cast tool **(LCH color mode)**

The Color Cast tool is used to eliminate any unwanted color casts in an image, as well as to add a color cast without altering the lightness channel "L" values.

Color Cast Eyedropper

Select whether to add or remove a color cast.
"Remove Cast" is the default

Color (Hue or Chroma) Handle

Enter values in the edit boxes and see how the handles get positioned in the color box

Conversely, move the handles in the color box and see how the values change in the edit boxes

Lightness Handle

Color Cast tool cont.

It is more convenient to use the Color Cast Eyedropper tool in removing or a adding color cast. Click the Color Cast Eyedropper in the Color Cast dialog box. Then move to the thumbnail in the dialog box or the pr eview image in the Preview window, and pick the color cast to be added or r emoved.

Note: You can also use the Tag Windows Magic Diamonds to add or remove a color cast. For more details, see "Using the Magic Diamonds" under the Tag Windows tool section.

Use the Color Cast
Eyedropper to add or remove
a color cast

Saturation tool (LCH color mode)

The Saturation Curve tool lets you increase or decrease the color intensity (chroma or saturation) of an image without altering its hue and lightness values.
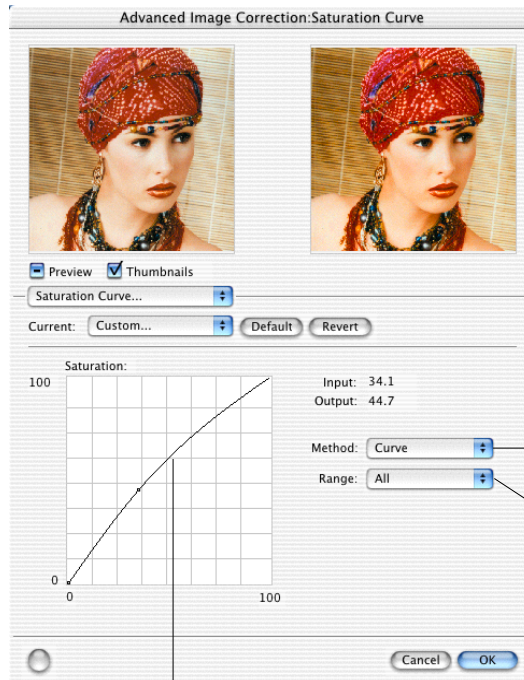
Select Saturation method. "Curve" is the default

Select Saturation Range. "All" is the default. Other selections let you change the saturation for Highlights only, Midtones only, or Shadows only

Drag the curve above the default diagonal line to increase saturation. Drag the curve below the default diagonal line to desaturate color into gray levels

Selective Color tool (LCH color mode)

The Selective Color tool is used to perform color correction to a specific color range without altering the other colors in an image. This is done either to increase the visual impact of a color or to completely change the relationship of the targeted color to the other colors in the image.

This sector represents the values of the "From" color

This box shows you the affected colors: the *"From"* color (left column) and the *"To"* color (right column)

Eyedropper tools

ΔLCH values expand or reduce the affected color area. LCH edit boxes in 2nd and 3rd column show values of "From" and "To" color

Click the *New* or *Delete* button to add or remove colors from the color box

Drag the *"From"* color slider to change the lightness ("L") value of the "From" color

Drag the *"To"* color slider to change the lightness ("L") value of the "To" color

Values affected by dragging the *From / To color sliders*

How to use the Selective Color tool

1. Define a *From* color setting with the following steps:

    A. Click the *New* button. For the first color to be changed, this step need not be performed. Each subsequent color to be changed, however, requires this step.

    B. Select the color to be altered with any of the following methods:

    1) Click the *round eyedropper* tool in the AIC screen, then go to your prescan image in the Preview window and pinpoint the color to be altered.

    2) Click the color wheel to select the *From* color; the selected *From* color will be enclosed in a sector. Within the sector is a hollow dot, and the position of the hollow dot corresponds to the *From* color *Chroma* and *Hue* values. If you wish to change the C & H values, click a new spot within the sector.

    3) Enter numerical values directly in the *From* LCH edit boxes.

Round eyedropper

Selected **From** color is enclosed in a sector with a hollow dot in it. Resizing this sector will change the ΔLCH values in the edit boxes

"From" LCH edit boxes

New button

Position of hollow dot corresponds to "From" C & H values
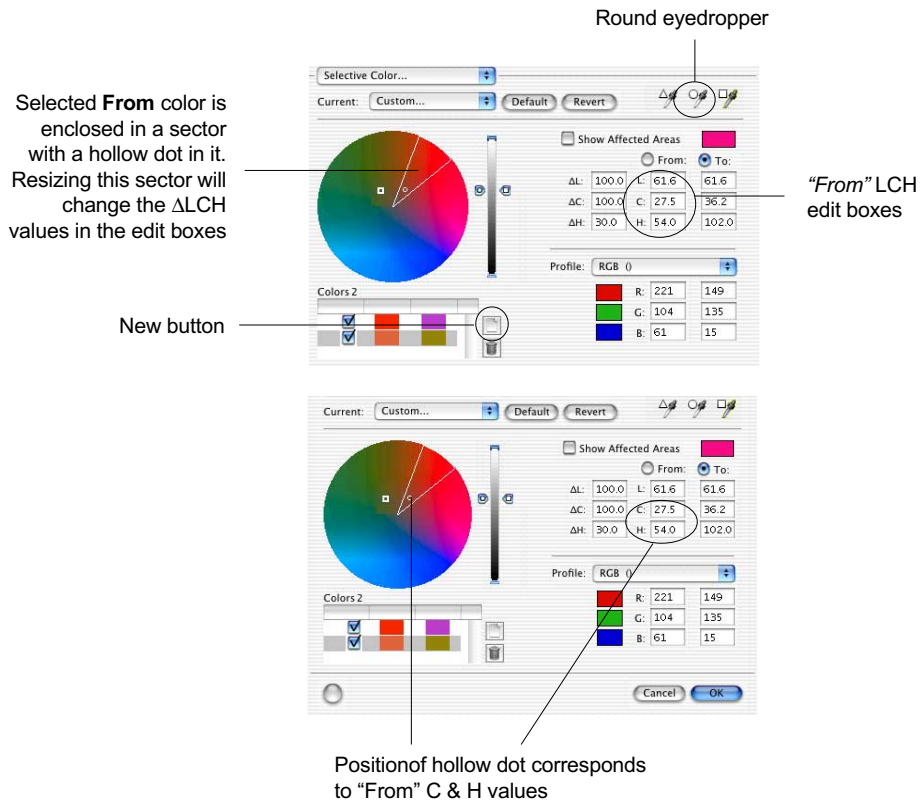
Selective Color tool cont.

2. Drag the *"From" color slider* of the lightness bar to the desired tone range. As an alternative, you can also click the *triangular eyedropper*, which lets you add or expand the range of the *From* color. With the eyedropper, go to the Prescan image and click on a range of colors similar to your chosen *From* color. As you click, you will see the sector in the color wheel expand or reduce to reflect the chosen range of colors.

3. Adjust the ΔLCH values to expand or reduce the region of the color area to be altered. This can be done by: *a)* Adjusting the *Lightness* bar and the radius, intersection, and arc of the sector in the color wheel; or *b)* Directly entering numerical values in the *ΔLCH* edit boxes.

From color slider

Lightness bar

ΔLCH edit boxes

Triangular eyedropper

Sector expands or reduce with use of triangular eyedropper
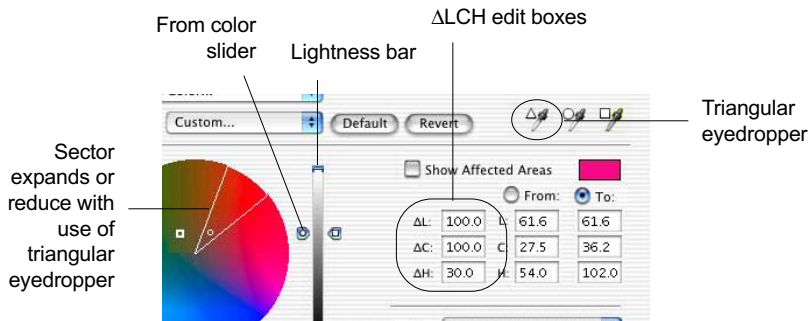
4. Define your *To* color setting with the following steps:

   a) Enable the *To* LCH column. This can be done by: *1)* Clicking the *To* option located on top of the LCH edit boxes; or *2)* Entering directly the LCH *To* values in the *To* LCH edit boxes.

   b) Select a *To* color with one of the following methods:

   • Click the *square eyedropper* in the AIC screen, then go to your prescan image in the Preview window and pinpoint the desired *To* color.

   • Click the color wheel to select the *To* color. Note that the selected color spot is highlighted with a square (□) sign.

   • Click near the arc of the *From* color sector to increase the hue of the selected color. Note that the □ position corresponds to the *Chroma* and *Hue* values of the *To* color. Thus, C & H values change as you click at new positions within the color wheel.

   • Enter numerical values directly in the *To* LCH edit boxes.

Square eyedropper

"To" LCH edit boxes
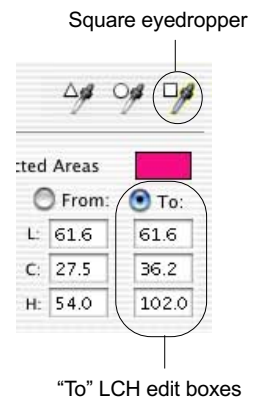
More Tips on using the Selective Color tool

To move the *From* color sector without changing the hollow dot position, press the *Shift* key and click inside the sector. When the pointer changes to a hollow cross, drag the sector to a new position. You will see that the sector can only be expanded or contracted in a limited fashion, as it is constrained by the position of the hollow dot. If you need to move the sector around, you will also need to reposition the hollow dot, which then changes the *Chroma* and *Hue* (C&H) values.

From color sector To reposition **From** color sector without moving the hollow dot, press the **Shift** key and click, and drag the sector around the hollow dot position. The sector cannot break away from the fixed position of the hollow dot.

Hollow dot

From color preview   **To** color preview
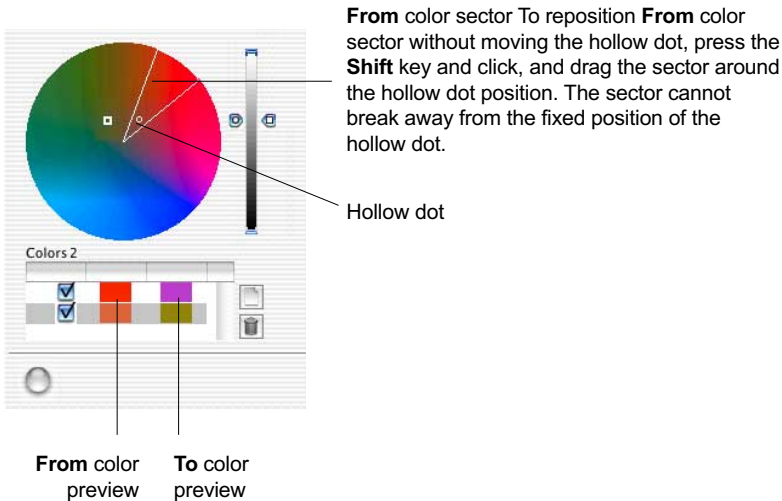
Likewise, you can move a defined lightness range of the *From* color along the Lightness bar without moving the *From* slider (fixed *L* value). Press the *Shift* key and click inside the lightness range. When the pointer changes to a hollow cross, drag the lightness range vertically to its new position. Note that the lightness range cannot go beyond the fixed "From" slider position.

Lightness bar

"From" color slider

"To" color slider

Range (the blue bars) within which the lightness can be moved without actually touching the "From" slider. You can move the bars up or down the slider to define the lightness range to be affected
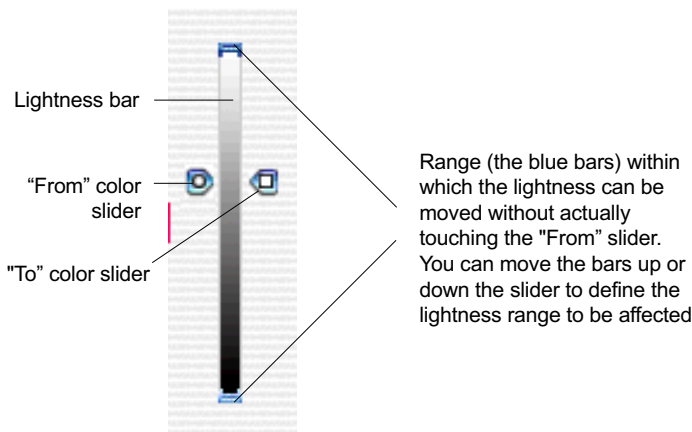
Selective Color tool cont.

E. If you are not satisfied with the resulting preview image, you can always go back to redefine your *From* color settings. To go back temporarily to the *From* color setting environment, pr ess the *Option* key and per form the *From* color adjustment. Release the *Option* key and the <u>*To*</u> color setting is again enabled.
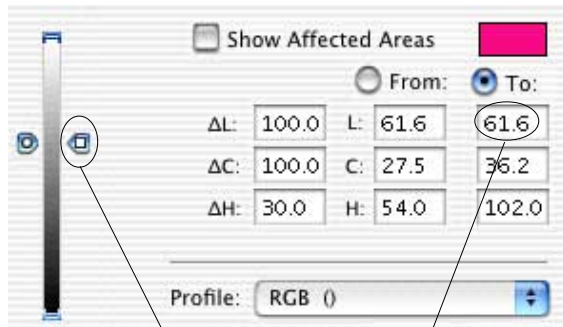
Lightness value here reflects the position of the "To" slider in the Lightness bar

F.   Use CMYK or RGB values as *From* and *To* Selective colors. This can be done in one of the following ways:

- Define such requirement in the CMS Setup dialog box.
- Click on the expansion arrow provided in the Selective Color dialog box.

Then proceed to set the *From* and *To* settings as they are done under the LCH mode. Note that changes to LCH settings remain visible as you manipulate colors in CMYK/RGB mode.
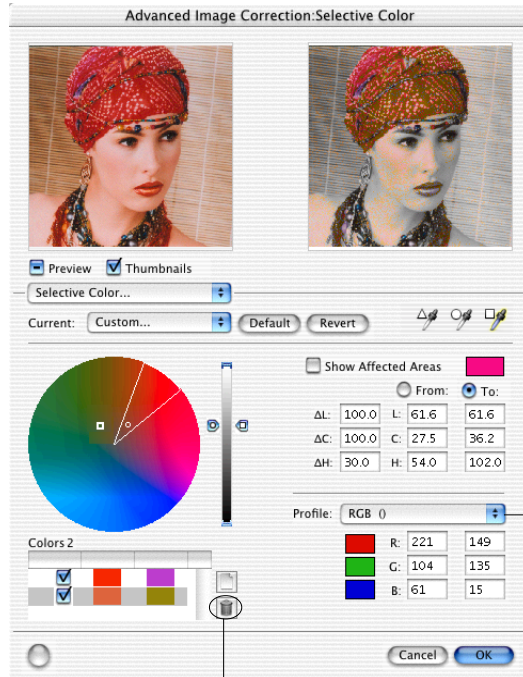
Select RGB or CMYK here
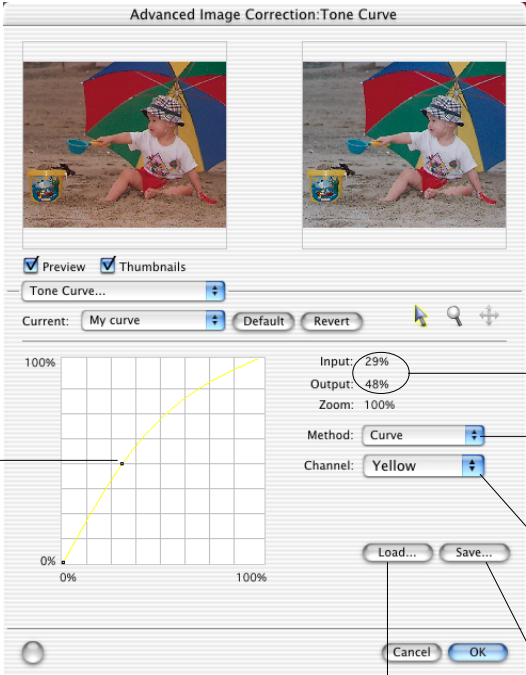
Click **DEL** button to delete a selected color

Tone Curve tool (LCH & Native color mode)

The Tone Curve tool is used to adjust the tonal distribution of each channel of an image. It functions very much like the Gradation tool, except that it provides additional functions to allow separate adjustments of the tones in each RGB or CMYK channel, depending on the image type. This tool is especially useful for correcting the "ink percentage" distribution (i.e., dot gain correction) in CMYK images.

In the example here, the original image looks cold, with a decidedly blue-green cast to it. The solution: Increase the "ink percentage" of the yellow and magenta channels to bring out the warmer tones.

For details on how to read the tone curve, see the section on how to use the Gradation tool.

Click to create handles from which to drag and manipulate a portion of the curve

The more handles are created, the easier and smoother it is to manipulate the curve

To remove a handle, drag the handle off the graph or grid

Coordinates of cursor position within the grid

Choose the kind of curve you wish to have. Select from Curve, Line, or Gamma

Choose the color channel in which the gamma will be affected

Load a previously saved tone curve for use with another image. Photoshop-saved curves can also be loaded

Save a tone curve together with its settings so that the curve can be used in the future if necessary

Appearance of curve if Method chosen is "Line"
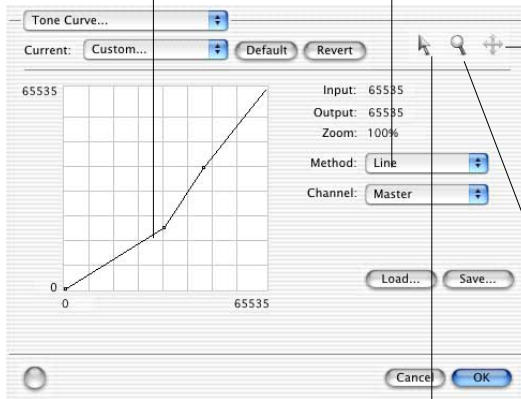
Use the Curve Move tool to scroll through the curve if the curve has been zoomed in. This curve tool can be used only if the curve has been zoomed in with the Curve Zoom Frame button (left). Otherwise, the Curve Panel tool will be dimmed

Use the Curve Pointer tool to define points in the curve that will be modified. When you click on any point in the curve, a black handle appears to mark your position. To remove the handle, drag it off the graph.

Use the Curve Zoom Frame tool to zoom in and out on a particular point in the curve. Once the area is zoomed in, you can then use the Curve Pointer tool to define new points for better precision. This is particularly useful for working with 12-bit images, as more detail can be seen in such images. The zoom level can be seen in the *Zoom* field. To zoom out, use *Option*-click

Appearance of curve if Method chosen is "Gamma"
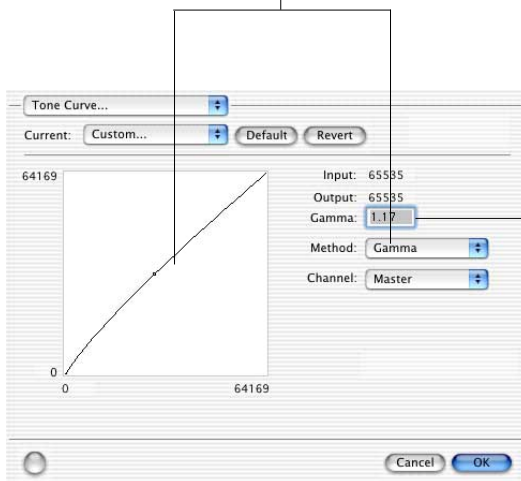
Instead of dragging the Gamma handle, you can also directly enter the appropriate Gamma value in the edit box. Dragging points on the curve to a Gamma value above 1.00, will lighten the dark tones. Dragging points on the curve to a Gamma value below 1.00 will darken the light tones

Filter tool (LCH & Native color mode)

The Filter tool is used to apply special effects to your images. Several filters are provided in ScanWizard Pro, including Blur / Blur More, Sharpen / Sharpen More, Emboss, Edge Enhancement, Gaussian Blur, and Unsharp Masking.

In using most of the Filters (except Unsharp Masking), the image you obtain in the preview window may differ from the way the image appears when you finally scan it in. For the Unsharp Masking filter, the final scan result can be simulated and previewed, either from the thumbnail on the filters dialog box or from the preview image in the Preview window.

Keep in mind too that the appearance of the image in the preview window and how it is affected by a filter will depend on the resolution of the image. The higher the resolution, the less obvious the effect of certain filters (such as Blur).

Choose the filter you want from this area

Check this box to ensure that for the Unsharp Masking filter, the image displayed in the preview window simulates that of the final scan
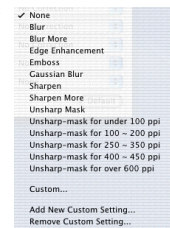
Check this box to apply the filter effect to the Lightness "L" channel (for LCH mode only)

A. *Blur*: The Blur filters eliminate noise in the parts of the image where significant color transitions occur. These filters decrease the contrast between adjacent pixels, making the image appear hazy and out of focus. *Blur* smooths out the transitions by lightening pixels next to the hard edges of defined lines and shaded areas. *Blur More* produces an effect three or four times stronger than Blur.

B. *Sharpen*: The Sharpen filters do the opposite of the Blur filters and increase the contrast of adjacent pixels, making images appear sharper and more focused. Both *Sharpen* and *Sharpen More* filters improve clarity, with the Sharpen More filter having a stronger sharpening effect between the two.

C. *Edge Enhancement:* The Edge Enhancement filter gives greater contrast to edges. The filter can do this because edges are areas in an image where gray or color levels change abruptly. It is best to use this tool for improving geometrical contoured shapes.
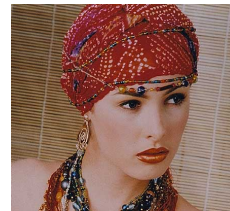
Original   Edge Enhancement

D. *Emboss:* The Emboss filter makes a selection appear raised or stamped by suppressing the color within the selection and then tracing its edges with black.

Original   Emboss

E. *Unsharp Masking:* The Unsharp Masking filter adjusts the contrast of edge detail and creates the illusion of more image sharpness. This filter can be useful for refocusing an image that has become blurry from interpolation or scanning. The dialog box below appears when you choose Unsharp Masking from the Filters menu.

Specifiy the degree of the filter's effect here. The higher the value, the stronger the sharpening effect of the filter. Too much Unsharp Masking will emphasize the noise in the image
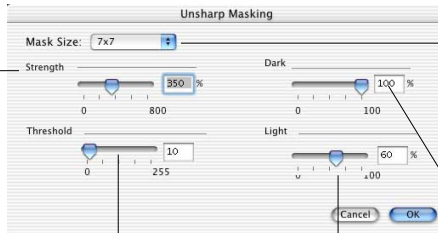
This parameter determines the depth of surrounding pixels that will be affected. The larger the mask size, the stronger the sharpening effect of the filter

This parameter specifies a tolerance range to prevent overall sharpening that might generate noise or cause unexpected results.

The Threshold defines the required range of contrast between adjacent pixels before Unsharp Masking is applied. Only the pixels with the range of contrast between adjacent pixels before sharpening is applied to an edge. A lower Threshold value produces a more pronounced effect

This parameter pertains to how the Unsharp Masking filter affects pixels which are darker than their adjacent pixels. By default, a value of 100 is specified for this field. The higher the value, the darker the edge around the lighter areas and the more pronounced the Unsharp Masking effect is

This parameter pertains to how the Unsharp Masking filter affects pixels which are lighter than their adjacent pixels. By default, a value of 60 is specified for this field. The higher the value, the lighter the edge around the darker areas and the more pronounced the Unsharp Masking effect is.

Original   Unsharp Masking

F. *Gaussian Blur:* The Gaussian Blur is used to defocus an area of the image where significant color transitions occur or where noise exists, and the filter produces a hazy effect. "Gaussian" refers to the bell-shaped curve that is generated when this filter adjusts the color values of the affected pixels. The dialog box below appears when you choose Gaussian Blur from the Filters menu.
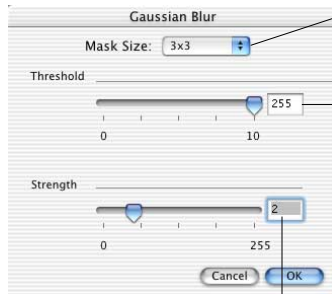
This parameter determines the depth of the surrounding pixels that will be affected. The larger the mask size, the stronger the blurring effect of the filter

This parameter allows you to specify a tolerance range or a field of contrast between adjacent pixels before blurring is applied. Blurring is applied only when pixel differences are below the Threshold value. The smaller the Threshold value, the weaker the blurring effect

This parameter specifies the degree of the filter's effect. The higher the value, the stronger the blurring effect of the filter

Original
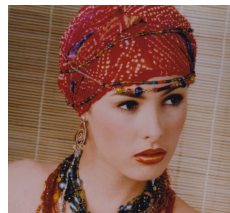
Gaussian Blur

Brightness & Contrast tool (Native color mode)

The Brightness & Contrast tool lets you control the brightness and contrast levels of the entire image. Increasing the brightness makes all tones in the image lighter. Contrast, on the other hand, is the range between the darkest and lightest shades in the image, and increasing the contrast makes greater separation between the darkest and lightest areas of the image.

Note: Individual channel adjustments for brightness and contrast are not supported. For RGB color images, the same efect applies to all channels. For Lab color images, brightness and contrast applies only to the L (Lightness) channel.
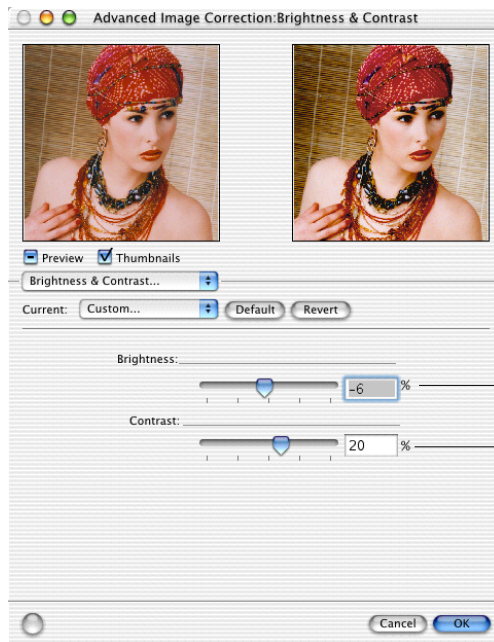
Drag the sliders or enter values to change Brightness and Contrast

- Brightness: The Brightness contol lets you change the brightness setting. Too much brightness can make an image look washed out, while very low brightness levels can make an image look very dark.
- Contrast: The Contrast control lets you change the contrast setting. Too much contrast can make an image look like a photocopy of a picture with little or no gray shades. Too little contrast can make an image look dull and flat.

Color Correction tool (Native Color Mode only)

The Color Correction tool changes the hue and saturation of an image. You can also add a color cast to an image by simply moving the pointer to a particular place on the Wheel, or you can r emove an unwanted color cast by moving the pointer to a complementary color to balance out the tones. For instance, to remove a greenish cast from your image, move the pointer in the Wheel to the "red" portion to neutralize the gr eenish hue of the image. The Color Correction tool is available only for RGB and indexed color images.

Picker: The Picker lets you pick a known neutral gray shade in your image and adjusts it to a closer, truer gray. The grays in an image may have a particular color cast which can be verified through the color information in the Information window
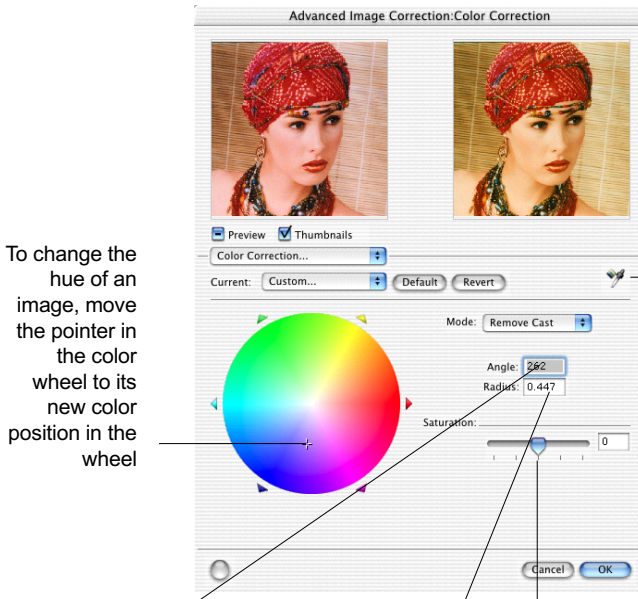
To change the hue of an image, move the pointer in the color wheel to its new color position in the wheel

A gray that tends towards a reddish tint, for instance, will have its R value skewed higher than the G and B values. By using the Picker on a gray area, the gray is adjusted so that the RGB values become approximately equal

Angle: This shows the angle of the pointer on the Color Wheel as measured in degrees, and a value can also be entered directly in the edit box to move the cursor to any point in the Wheel

This lets you change the intensity of the hues (colors) in your image. Use Saturation selectively, because increasing saturation will increase the intensity of all hues in the image

Example: 0˚ corresponds to the color red on the Wheel, 60˚ to the color yellow, 120˚ to the color green, 180˚ to the color cyan, 240˚ to the color blue, and 300˚ to the color magenta

The Radius field shows the amount of shift towards a particular color and works in tandem with the Angle field. The Radius range extends from 0 located at the center of the Color Wheel and indicating the least concentration of color, to 1, located at the periphery of the Wheel and indicating the greatest concentration of color

Example: If your angle is 0˚ (red on the Color Wheel) and the radius is 1, this results in an intense reddish cast on the entire image.
The Angle-Radius feature works differently from that of the Saturation bar, which increases the saturation of **all** hues in the image without tending towards any particular color cast.

Threshold tool (Line Art images only)

For Line Art images, the only AIC tool available is the Threshold tool.

Threshold is the dividing line between black and white; the range is 0 to 255, and the default is 128. Thus, gray levels below the Threshold are converted to black, while gray levels equal to or above the Threshold are converted to white, resulting in a high-contrast, black-and-white representation of the image.
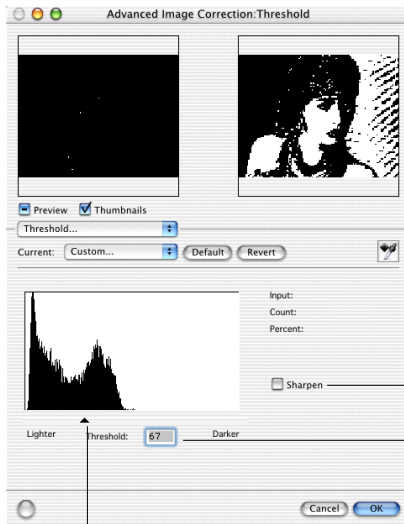
Check this box if you wish to sharpen your Line Art image

Aside from dragging the sliders, you can also enter a value in the Threshold edit box to change the Threshold

Drag the slider to change the Threshold.

• To darken the original, drag the slider to the right. This increases the Threshold value so that more pixels are turned to black, resulting in a darker image.

• To lighten the original, drag the slider to the left. This lowers the Threshold value so that more pixels are turned to white, resulting in a lighter image.

Descreen

The Descreen tool lets you remove moiré patterns in the scan process. Moirés occur when you scan a screened original (mostly reflective materials, such as pictures from a newspaper or magazine), and these patterns appear to the naked eye like a series of cross-hatching lines, as shown in the example below.

Before Descreen   After Descreen

To use Descreen:

1. Click the *Descreen* pop-up menu.

2. When the Descreen menu comes up, select the screen for your needs.

   • Choose *Newspaper (85 lpi)* if the original image has a coarse dot pattern (like images in a newspaper).

   • Choose *Magazine (150 lpi)* for images with a finer dot pattern.

   • Choose *Art Magazine* (175 lpi) for images with near-photographic quality with a very tight dot pattern.

   • Choose *Custom* to set your own descreen options.
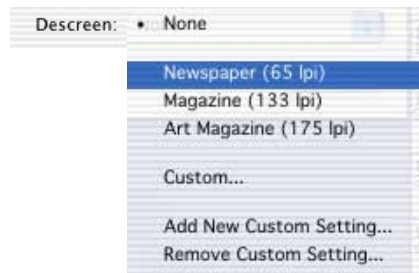
Note: To find the exact line screen or lpi, you can also purchase a halftone screen finder at a professional print shop.

The Information Window

The Information window displays color information as you move the cursor over the preview image in the Preview window (or the thumbnail in the Advanced Image Correction dialog box if it is open).

You can choose to show or hide the Information window in ScanWizard Pro. To do this click the *Show / Hide Info window* toggle command under the View menu in the Preview window.

Elements of the Information window
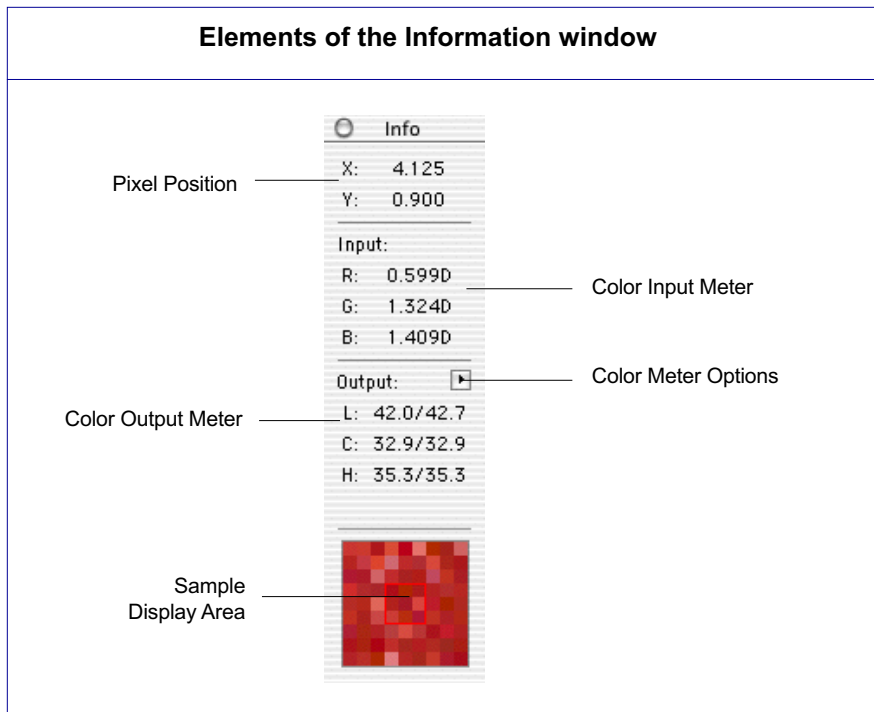
A. Pixel Position: The Pixel Position displays the location of the pixel on the *x* (horizontal) and *y* (vertical) axis of the image, based on the unit of measurement chosen for your ruler.

B. Color Input Meter: This displays the input (density) pixel values at the specific *x/y* location. Take note of the following:
   • For all color image types (RGB, CMYK, or Lab), the density values of the raw image are displayed.
   • For grayscale images, the gray (K) channel is displayed.
   • For single-bit images such as line art, this section is disabled.

C. Color Output Meter: This displays the output values of the selected pixel at the specific *x/y* location. Take note of the following:

• The left part of the fraction is the *Before* value, or the pixel value before image correction.

• The right part of the fraction is the *After* value, or the pixel value of the final output image after all image corrections. In the example shown, the *After* value is the same as the *Before* value, as the image was not corrected or adjusted in any way, leaving the colors unaffected.

The range of your output value will depend on the output image type. See the table below for more information.

For LCH Display Mode

Channel	Value Range
L	0 - 100
C	0 - 100
H	0 - 360

For Native Display Mode

Image Type	Value Range
RGB	0 - 255
CMYK	0 - 100%
Gray Scale	0 - 100%

D. Color Meter Options: These options let you switch display modes between LCH and Native color display and also let you choose how color information is displayed — in numbers or percentages. Take note that the *Numbers* option is available only in Native color and RGB mode.

E. Sample Display Area: This shows a pixelized display of the area surrounding the cursor. The size of the sample area depends on the selection made in the Color Meter Options (discussed next section).

Color Meter Options

The Color Meter options also let you choose the size of your sample display area.

For instance, if you choose 5 x 5 as your sample area, this means your RGB values will represent color information for a 5-pixel by 5-pixel area. If you choose 1 x 1 (the default), the color information pertains to a single pixel — the pixel in the middle of the sample area.

Info

X: 4.125
Y: 0.900

Input:
R: 0.599D
G: 1.324D
B: 1.409D

Output: ▶ ── Color Meter Options
L: 42.0/42.7
C: 32.9/32.9   ✓ Value
H: 35.3/35.3   Percent

                         ✓ Native
                            LCH
Sample Size
display, with   1x1
3x3 option   2x2
shown here   ✓ 3x3
                          4x4
                          5x5
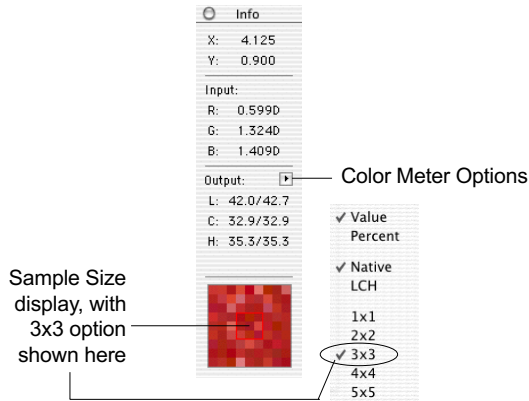
If you select Native color mode as your display, the Color Meter options let you choose whether you wish to display color information in numbers or percentages.

- If *Value* is chosen, the numbers represent values in the 0-to-255 pixel scale regardless of the bit depth of your output image. For instance, an *R* value of 23 indicates that the sampling size selected has a red color value of 23. Value is calculated by multiplying the percentage by the constant 255 (value = 255 x percent).

- If *Percent* is chosen, the numbers represent percentage of intensity (divided by 255). For instance, a *G* value of 35% indicates that the sampling size selected has a green color value to be 35 percent intense (out of 100 percent). Percent is calculated by dividing the constant 255 by the value (percent = V/255). For CMYK images, the display is always in Percent.

Creating Color Tag Windows

Tag windows are used to isolate and identify precise colors in a given image, providing a visible and retrievable record of color values. With the use of the Tag Windows tool, ScanWizard Pro lets you pinpoint and "tag" the color on the image, showing you the original or *Before* values, as well as the corrected or *After* values following the application of image adjustment controls. Within the Tag windows also are *Magic Diamonds* that can be used to set the black and white point for the image, as well as remove a color cast.

To use the tag windows:

1. Click the *Tag Windows tool* in the Preview window, and click an area in the preview image.

2. The tag window appears, displaying the *x/y* positions of the pixel selected by the Tag Windows tool, as well as the precise color value of the selected pixel. The color of the selected pixel is shown in the color strip at the bottom of the tag window.

3. To close the Tag window, click the Close box. To close all tag windows, press the *Option* key and click the Close box of any tag window.

4. Take note of the following:

    *   To set the shadow (black) point, click on a dark area of the image, then click the *Black Magic Diamond* in the tag window.

    *   To set the highlight (white) point, click on a light area, then click the *White Magic Diamond* in the tag Window.

    *   To add a color cast: Click the Tag Windows tool, then click a color in the image that corresponds to the color cast to be added. Hold down the *Option* key, and then add the color cast.

    *   To remove a color cast, click on the part of the image where the neutral color cast is, then click the *RGB Diamond* in the Tag window.

Tag windows tool

Tag window

Black & White Magic Diamonds
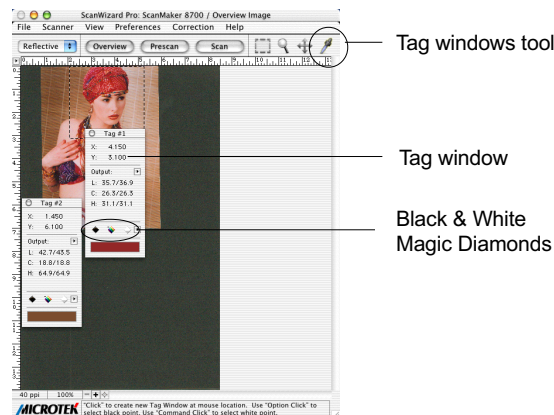
The Scan Job Queue Window

The Scan Job Queue window provides several functions for managing your scan jobs. By definition, a scan job contains the following elements: a set of scanning parameters (shown in the Settings window); a scan frame (shown in the Preview window); and one or several scan job items (shown in the Scan Job Queue window).

You can have multiple scan jobs, each having its own distinct settings; the number of scan jobs is indicated by the number of titles in the Scan Job Queue window (two in the example below).

Scan jobs marked with a check are the ones designated to be scanned, and the jobs are scanned in the order that they appear in the Scan Job Queue window.

Elements of the Scan Job Queue window

B. Thumbnail of prescan image

A. Image type menu

C. Title of scan job

D. Selected scan job (highlighted)

E. Checked scan job

F. Current scan job (with green dot)

G. Image size

H. Function buttons for controlling scan jobs
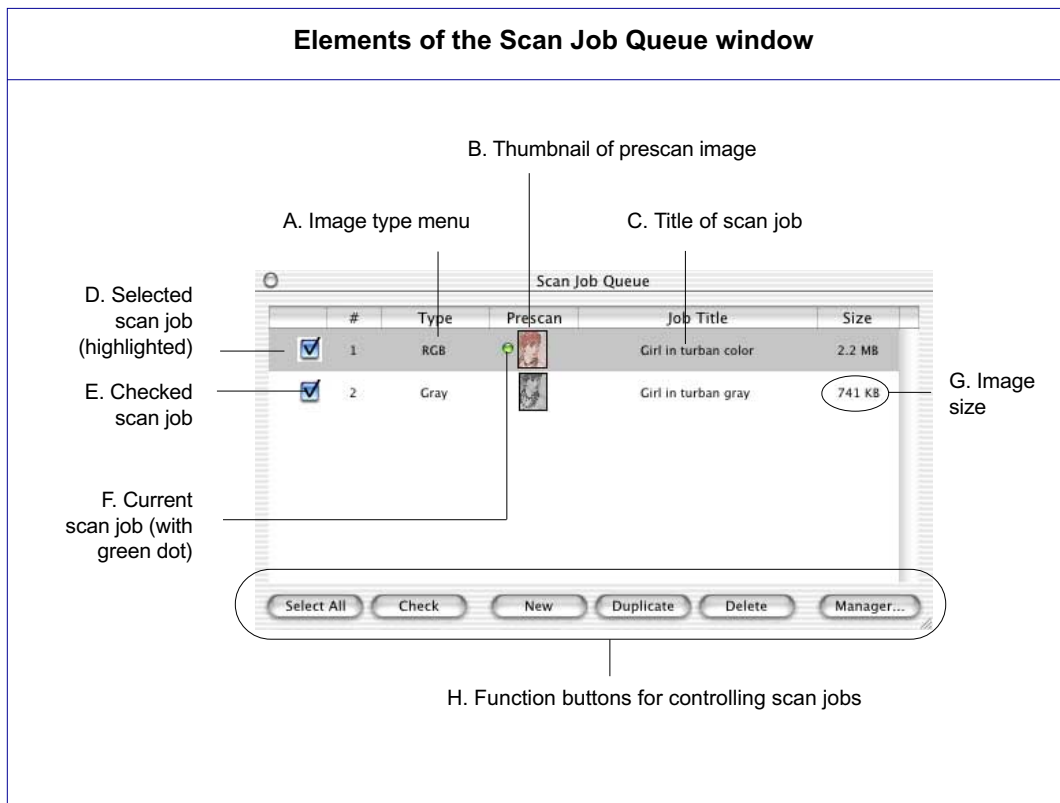
A. Image type display: This shows the image type of the scan job (e.g., RGB, CMYK, Grayscale, etc.).

B. Thumbnail of prescan image: A thumbnail appears for the selected scan job after you click the *Prescan* button in the Preview window. This means a prescan image is available for that scan job. To see the prescan image, double-click the scan frame or go to the View menu in the Preview window and switch to prescan image viewing mode.

C. Title of scan job: The title of each scan job is shown. To edit a scan job title, double-click the title and type a new name when an edit box appears.

D. Selected scan job: The selected scan job is the highlighted item. You can have multiple selected scan jobs, and clicking on a function button (such as *Check* or *Duplicate*) will implement that function on the selected scan job.

E. Checked scan job: Checked scan jobs are the ones that are scanned when you click the *Scan* button in the Preview window. The check box is a toggle for checking / unchecking a scan job. To check a box, you can either click the check box or use the *Check* button at the bottom of the Scan Job Queue window.

F. Current scan job: This is the current scan job, indicated by a green dot in front of the title. There may be several defined scan jobs, but only one scan job can be current. In the Preview window, the current scan job is the one with the flashing marquee.

G. Image size: This is the image size of the scan job.

H. Function buttons for controlling scan jobs: These buttons perform a specific action on the selected scan job. The *Duplicate*, *Delete*, *Select All* and *Check* buttons can be used on multiple selected scan jobs.

Selecting Multiple Scan Jobs

The *Duplicate*, *Delete*, and *Check* buttons at the bottom of the Scan Job Queue window can be used for multiple job selections.

For example, you can select multiple scan jobs, and then click the *Delete* button to remove all the jobs simultaneously.

To select multiple scan jobs, press the *Shift* key and click on the jobs to be selected.

Editing Multiple Scan Jobs

ScanWizard Pro lets you edit multiple scan jobs at the same time, increasing your efficiency in using the software.

To edit multiple scan jobs, simply select all the scan jobs to be edited in the Scan Job Queue window. To include each scan job for selection, use the *Shift* + Click combination (pressing the *Shift* key while clicking the mouse at the same time). Then perform the selected editing function.

For instance, you can go to the Settings window and choose an image type (CMYK or Lab Color) that will apply to all the scan jobs. Another example is to apply a common resolution setting to all the scan jobs. Simultaneous editing simplifies the scanning process for you.

Adding a New Scan Job

1. Click the *New* button.

2. When a text box appears, accept the default name or enter a name for the new scan job. Use unique names for your scan jobs, as duplicate names are not accepted.

3. Define the scan frame in the Preview window for the new scan job.

4. In the Settings window, specify the settings for the new scan job. With the creation of a new scan job, the new scan job becomes the current scan job.

Duplicating a Scan Job

1. From the list of scan jobs available, select the scan job(s) to be duplicated

2. Click the *Duplicate* button. The selected scan job(s) will be duplicated. The Duplicate function is very useful when scanning several images at the same settings.

Removing a Scan Job

To delete a scan job, highlight the scan job to be removed, then click the *Delete* button.

Using the Scan Job Manager button

The Scan Job Manager button lets you add, save, or delete scan jobs easily to and from folders.

To use this feature:

1. Click the *Manager* button in the Scan Job Queue window.

2. When a dialog box appears, use the Function Buttons to do the following:

    *   To create a new folder for saving scan jobs, click the *New Folder* button.

    *   To add scan jobs from a selected folder to the scan job queue, select the jobs to be added from the upper half of the dialog box by highlighting, then click the *Add* or *Add All* button.

    *   To save a copy of a scan job to a selected folder, highlight the scan job to be saved from the lower half of the dialog box. Next, highlight the selected folder from the upper half of the dialog box. Finally, click the *Save* button.

    *   To remove scan jobs from the scan job queue, highlight the scan jobs to be removed, then click the *Remove* or *Remove All* button.

New folder

Scan Job folders created with the *New* button

Your current scan jobs

Function Buttons
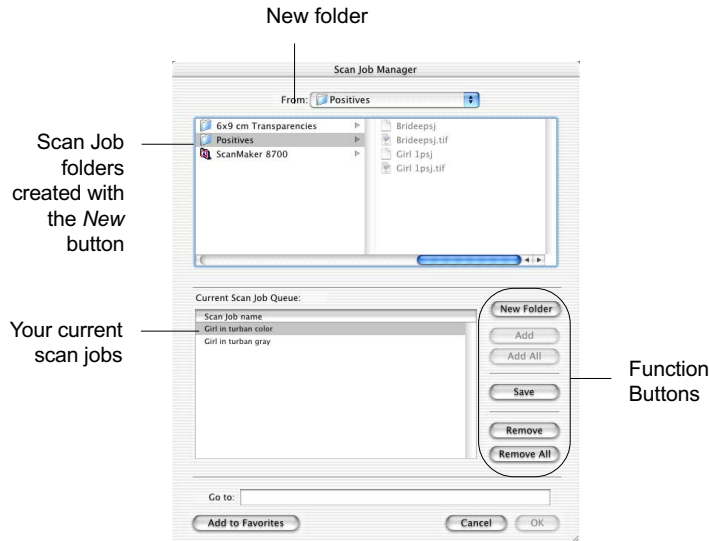
Appendix A: More Color Matching Information

This section contains supplementary information on further steps you need to take to achieve color matching across your devices.

Calibrating your monitor

Calibrating your monitor to obtain the proper monitor profile is important for achieving higher precision in color matching. ICC profiles for your monitor may be created specifically by profiling your monitor through the following utilities:

- The *Calibrate* function under *System Preferences...Displays.*
- Any third-party calibration programs or hardware calibrator

You can also obtain your monitor profile by checking with the manufacturer of your monitor.

Setting up the System (Monitor) Profile

After creating or identifying the monitor profile, you need to select the moitor profile to make sure the image is displayed correctly.

Appendix B: Kodak Color Management System

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KCMS Overview: Background Information

Everyone perceives colors differently. Even the same person's perception can be affected by different lighting conditions. Different devices (input, display, and output) also interpret and define color differently and simply can't create the same gamut (or "range") of colors.

The goal of color management, then, is to help you get accurate, predictable color across all devices by managing, compensating for, and controlling these differences.

The Idea Behind Color Management

Each type of device reads, displays, or interprets color in a unique way. This unique interpretation is called a "device dependent color space." And while there are groups of color spaces, such as RGB or CMYK each device is still unique within its group. For example, monitors display color in RGB, yet each monitor displays a unique version.

The CMS automatically translates between each device dependent color space— so the color data is accurate and understandable.

This chart shows the central role of the CMS in managing device dependent color spaces.
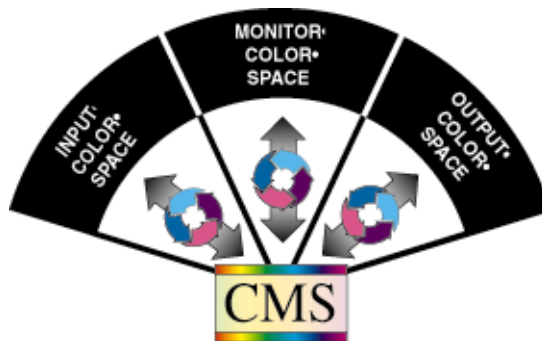
How Color Management Works

The aim of color management is to preserve true color information by making up for the differences in the way devices communicate color. Your CMS does this by using a scientifically designed system including:

• A Color Matching Processor

• A Device-Independent color space, frequently called a Reference Color Space or Profile Connection Space (PCS), which acts as a Rosette Stone in the translation process

• Device Color Profiles (DCPs)

  DCPs relate a device dependent color space to the Profile Connection Space. The CMS uses the Color Profile to translate from one device dependent color space to another.
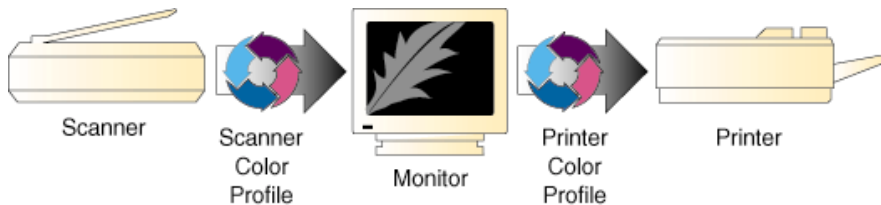
How CMS Translates between Devices

When you scan an image, a CMS uses the information about the scanner—stored in the Scanner Color Profile—to translate the RGB image from the scanner to the Profile Connection Space. The CMS then uses the information about your monitor—stored in the Monitor Color Profile—to translate the image from the Profile Connection Space to your monitor color space, where you see it displayed.

In this example, the scanner is the "source" device, and the monitor is the "destination" device.

When you print the image, the CMS again translates the image data from the monitor's RGB color space to the printer's CMYK color space—using the information about both devices as stored in their Color Profiles.

So, although all of the devices in this example use different device dependent color spaces, the CMS is able to translate between them and produce accurate, predictable color.

What are Device Color Profiles

Color Management Systems use Device Color Profiles to interpret color data between devices. DCPs are a collection of one or more ICC Profile data files. ICC Profiles contain color characteristics of a given device (input, display, or output).

ICC profiles conform to the International Color Consortium profile specification, allowing the same device profiles to be used across multiple platforms.

Where Do Color Profiles Come From?

Color Profiles are created by either Kodak scientists or other color professionals using specialized software packages, sometimes known as profile building tools.

Kodak scientists use sensitive, specialized equipment to measure the color characteristics of a representative example of each device, as supplied by the manufacturer, to determine the intrinsic properties of the device.

From these measurements they develop a "characterization" of the device, called a Device Color Profile, for each make and model measured.

The Color Profile includes color tables that relates the device's color space to a Profile Connection Space, as well as information about key attributes of the device for use by CMS-based applications.

A Word about Source and Destination

People often get confused about what is the "source" of an image and what is its "destination," so let's clarify this.

In general, the "source" of an image refers to where the image currently is, and the "destination" is where you want the image to go.

In CMS terms, "source" means the Color Profile used to bring the image data into the Profile Connection Space (PCS). "Destination" means which Color Profile is used to get it from PCS to the destination device. For example, when you scan in

an image, you want it to appear on your monitor. So the source is your scanner, and its related Color Profile, and the destination is your monitor, using its Color Profile.
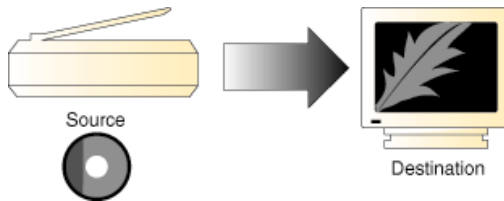
Likewise, when you open a Photo CD image, the source is the Photo CD, plus the Color Profile that relates the color data to the PCS, and the destination is the monitor, plus the Color Profile that relates the PCS to the monitor's color space.

Here's another example: Let's say you manipulate the image on your monitor screen, and print it.

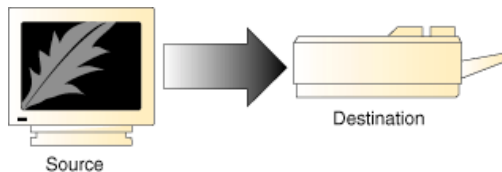The source this time is the monitor (plus the Color Profile that relates it to the PCS), and the destination is a printer (plus the Color Profile that relates the PCS to the printer's color space).

So, Source and Destination mirror a logical two-step process most Color Management Systems use to translate images between device color spaces;

• The Source Profile brings the image into the PCS

• The Destination Profile connects the image from the PCS to the output device, such as a Monitor, Printer, or Proofer.

However, this is not the case with a Kodak CMS.

Kodak has patented its composition technology. This technology takes the Source and Destination Profiles and composes them into a single color transforming profile.

This technology adds significant improvement in the quality and performance of the Color Management System.

Note: You use the Source/Destination information when you setup or use your CMS-based application, such as PageMaker 6.5.

Controlling UCR & GCR

Controlling UCR and GCR with Professional CMYK Profiles

In the final stages of color prepress production, the issues change: And your role changes with them. You become that of a professional separator. And it becomes a question of how skilled you are at making good films, films that run correctly on press, avoiding downtime, rework, and expense.

Kodak Digital Science Professional CMYK Profiles helps you with your separations. It expands your selection of undercolor removal (UCR) and gray component replacement (GCR) options, so you can produce correct, quality separations.

Some Background

It is difficult to print four wet layers of ink on top of one another. This is one of the physical constraints of the printing process.

In theory, if you printed a 100% of each CMYK layer, you would have 400% Total Area Coverage (TAC). Real-world experience proves this to be impractical. It is difficult to print jobs that have more than 340% TAC, and most printers feel more comfortable with 280% TAC.

Another area of practical concern is in how process inks are combined. Most printers can not produce a clear, dense black from cyan, magenta, and yellow. Black is needed to produce better details, contrast, and to get a desirable density. Adding black to CMY reduces ink coverage TAC, and thus improves the ability of paper to firmly hold each layer of wet ink, known as ink trapping.

So, from the concerns about ink coverage and ink combinations have come tried-and-true approaches to producing excellent films for excellent separations.

Two aspects of the offset printing process are undercolor removal (UCR) and gray component replacement (GCR).

UCR

Undercolor removal is the practice of removing quantities of yellow, magenta, and cyan ink from the dark neutral areas in a reproduction and replacing what was removed with an appropriate amount of black. Kodak implements UCR in its Color Profiles within a TAC constraint: CMY gets replaced by the maximum amount of K up to the TAC limit—so you get the highest possible density.

The neutral center of both diagrams show different UCR/TAC settings. With UCR applied, less process inks and more black increases the density in the shadows.
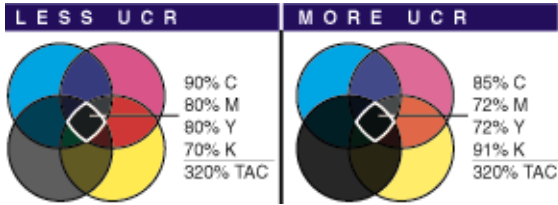
Advantages & Disadvantages to UCR

Undercolor removal within a TAC constraint reduces the problem of printing four solid layers of ink, one on top of the other, while each previous layer is still wet. Reducing the ink coverage, TAC, improves the ability of the paper to firmly hold each layer of wet ink.

Less ink means better control, and faster drying times. Also, replacing cmy ink with the less expensive black ink has proven more cost efficient on long runs that use more ink.

Also, blacks and neutrals that print black are not influenced easily by shifts in the chromatic inks which cause color casts in the shadow tones. Separations produced with greater UCR produce darker blacks which result in better shadow detail.

However, some printers don't like high UCR because of on-press dot gain and contrasty rosettes.

GCR

Gray component replacement is a variation on undercolor removal. The theory is simple: Whenever amounts of cyan, magenta, and yellow are present in the same color, that color has a gray component. Some or all of this gray component can be printed with black ink while maintaining the original color appearances.

In contrast to UCR, GCR involves a more general color replacement, with black being substituted over all colors.

The neutral center of both diagrams looks the same. With more GCR applied, less color ink and more black ink produces the same color.
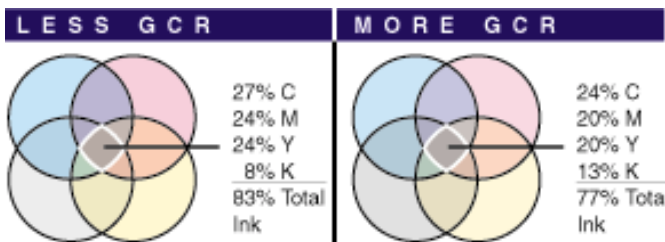
Advantages & Problems of GCR

The main advantage of GCR is it reduces the effects of variations on press, so when ink coverage varies, the colors become slightly lighter or darker, rather than changing hue.

Increased amounts of GCR also allows your printing company to use a somewhat higher proportion of black ink, thus reducing cost — which saves you money.

High levels of GCR and/or UCR expand the overall gamut, so darker and more saturated colors are achievable. However, with too light GCR you may not get as saturated a color as with higher levels of GCR.

Professional CMYK Profiles Package: What You Get From Them

Professional CMYK Profiles packages were developed for the serious professional concerned about productivity, quality separations, and color fidelity.

With *Professional CMYK Profiles*, you get six different UCR/GCR settings that conform to generic CMYK SWOP, Japanese Ink Standard, and Euroscale standards — Letting you select the best values for your printing conditions.

Any of these combinations give you the control you need to optimize your separations for your proofing and printing applications, reduce your printing costs, and minimize ink trapping problems on press.

However, check with your printer as to the optimal UCR/GCR setting to select for your printing conditions. The following pages list the settings for the three standards.

EUROPEAN PRINTING STANDARDS:

Filename	Profile Description	GCR	Maximum TAC
eucmyk02.pf	Light GCR 260 UCR CMYK Euro Positive Proofing	Light	260%
eucmyk04.pf	Light GCR 280 UCR CMYK Euro Positive Proofing	Light	280%
eucmyk06.pf	Light GCR 300 UCR CMYK Euro Positive Proofing	Light	300%
eucmyk08.pf	Light GCR 320 UCR CMYK Euro Positive Proofing	Light	320%
eucmyk10.pf	Light GCR 340 UCR CMYK Euro Positive Proofing	Light	340%
eucmyk50.pf	Light GCR 360 UCR CMYK Euro Positive Proofing	Light	360%

U.S. CMYK SWOP PRINTING STANDARDS:

Filename	Profile Description	GCR	Maximum TAC	
gncmyk02.pf	Light GCR 260 UCR CMYK US Negative Proofing	Light	260%	
gncmyk04.pf Proofing	Light GCR 280 UCR CMYK	Light	280%	US Negative
gncmyk08.pf Proofing	Light GCR 320 UCR CMYK	Light	320%	US Negative
gncmyk10.pf	Light GCR 340 UCR CMYK US Negative Proofing	Light	340%	
gncmyk14.pf	Medium GCR 280 UCR CMYK US Negative Proofing	Medium	280%	
gncmyk18.pf	Medium GCR 320 UCR CMYK US Negative Proofing	Medium	320%	
gncmyk28.pf	Heavy GCR 320 UCR CMYK US Negative Proofing	Heavy	320%	
gncmyk50.pf	Light GCR 360 UCR CMYK US Negative Proofing	Light	360%	

JAPANESE PRINTING STANDARDS:

Filename	Profile Description	GCR	Maximum TAC
jpcmyk02.pf	Light GCR 260 UCR CMYK Japan Std. Proofing	Light	260%
jpcmyk04.pf	Light GCR 280 UCR CMYK Japan Std. Proofing	Light	280%
jpcmyk06.pf	Light GCR 300 UCR CMYK Japan Std. Proofing	Light	300%
jpcmyk08.pf	Light GCR 320 UCR CMYK Japan Std. Proofing	Light	320%
jpcmyk10.pf	Light GCR 340 UCR CMYK Japan Std. Proofing	Light	340%
jpcmyk50.pf	Light GCR 360 UCR CMYK Japan Std. Proofing	Light	360%

You read these settings as follows:

• All TAC percentages have the maximum degree of UCR in order to attain the highest density blacks within that TAC limit.

• A Light GCR means a small percentage of the possible gray component is replaced with black.

Check With Your Service Provider

These DCPs were created with the following conditions in mind. You will want to check with your service provider to confirm the laydown order.

Colorant Laydown Order: Yellow, Magenta, Cyan, Black

This DCP assumes that your imagesetter has been linearized. So, it's important that you use some kind of calibration software for your imagesetter.