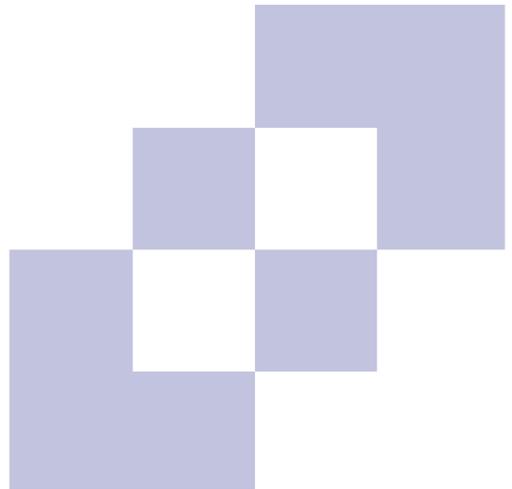


OPS115

Scanning Master Pro Color

USER'S MANUAL

MANUAL NO.OPS115-UM-155



GRAPHTEC

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Precautions

- TWAIN device drivers must be installed before scanning data from a TWAIN device.
- Do not run any other scanning software while scanning data from the scanner using Scanning Master Pro Color.
- To run Scanning Master Pro Color, one or more printer drivers should be installed.
- Use a plotter that supports raster printing to print out with Scanning Master Pro Color.
- When using a plotter for long-length printing with Scanning Master Pro Color, the plotter must support long-length printing.

When using the Network interface

Requires a Network interface.

When using the USB interface

Requires a USB 2.0 interface.

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CONTENTS

SOFTWARE USAGE AGREEMENT	i
Registered Trademarks	ii
Precautions	ii
Notes on this Manual	ii
1. INTRODUCTION	
1.1 Introduction.....	1-1
1.2 Features.....	1-1
1.3 System Requirements.....	1-2
System requirements.....	1-2
Compatible scanners and other devices.....	1-3
2. SETUP	
2.1 Installing the Scanning Master Pro Color Application.....	2-1
3. OPERATIONS	
3.1 Scanner Connection Confirmation.....	3-1
When “Interface” is set to “USB / Network Utility”	3-1
When “Interface” is set to “Network”	3-2
3.2 TWAIN Input Device Settings.....	3-4
3.3 Scanning Procedure.....	3-5
3.4 Scan Settings.....	3-6
3.4.1 Document Tab.....	3-8
3.4.2 Adjustments tab.....	3-10
When Output is Bilevel.....	3-10
When Output is Halftones.....	3-11
When Output is Grayscale.....	3-12
When Output is 8-bit Color (Standard).....	3-13
When Output is 8-bit Color (Optimized).....	3-15
When output is 8-bit Color (Palette).....	3-17
When Output is 24-bit Color.....	3-19
3.4.3 File tab.....	3-20
3.4.4 Options tab.....	3-21
3.5 Scan and Print.....	3-23
3.5.1 Printer Tab.....	3-23
3.6 Scanner Adjustment.....	3-24
3.6.1 Distance Correction.....	3-24
3.6.2 Joint Fine-adjustment.....	3-24
3.6.3 Trapezoidal Correction.....	3-25
3.6.4 Power-saving mode setting.....	3-26

4. IMAGE DATA MANIPULATION

4.1	Window Overview	4-2
4.1.1	Starting the Scanner	4-2
4.1.2	Maximize the window	4-2
4.1.3	Toolbar	4-3
4.1.4	Scan Tools	4-7
4.1.5	Page Toolbar	4-7
4.1.6	Editing Tools	4-8
4.1.7	Status Bar	4-10
4.1.8	Color Tools	4-11
4.1.9	Palette Tools (for 8-bit color)	4-12
4.1.10	Palette Tools (for 24-bit color)	4-12
4.2	Basic File Operations	4-14
4.2.1	Opening an Image File	4-14
4.2.2	Saving an Image File	4-15
4.2.3	Changing the File Name, Folder, or File Format	4-15
4.2.4	Thumbnail View	4-16
	File menu	4-16
	Image file menu	4-16
4.2.5	Search for Files	4-17
	File menu	4-18
	Image File menu	4-18
4.3	Printing Image Data	4-20
4.4	Viewing the Image	4-21
4.4.1	Scrolling the Image	4-21
4.4.2	Previewing the Whole Image	4-21
4.4.3	Viewing the Image at Pixel Level	4-21
4.4.4	Zooming in on the Image	4-22
4.4.5	Zooming out the Image	4-22
4.4.6	Bird's Eye Display	4-22
	How to use the Bird's Eye Function	4-22
4.4.7	Zoom Display	4-23
	How to use Zoom	4-23
	Loupe	4-23
4.4.8	Image Info	4-24
	For multi-page images	4-24
4.5	Using the Editing Functions	4-25
4.5.1	Cut	4-25
4.5.2	Copy	4-26
4.5.3	Paste	4-27
	New Image	4-27
	Current window	4-27
	Transparent Background	4-28
4.5.4	Extend Line	4-28
4.5.5	Select Color	4-29
4.5.6	Rubout	4-30
4.5.7	Erase area	4-30
4.5.8	Revise	4-31
4.5.9	Line	4-31
4.5.10	Fill	4-32
4.5.11	Text	4-34
	Standard	4-34
	Position Text Using Line	4-35
4.5.12	Undo Edit Function	4-36
4.5.13	Redo Undo Edit	4-36

4.6	Using Page Functions	4-37
4.6.1	Previous Page	4-37
4.6.2	Next Page	4-37
4.6.3	First Page	4-37
4.6.4	Last Page	4-37
4.6.5	Jump	4-37
4.6.6	Cut	4-38
4.6.7	Copy	4-38
4.6.8	Paste	4-38
	Before	4-38
	After	4-38
	New window	4-38
4.6.9	Delete	4-39
4.6.10	Save	4-39
4.6.11	Insert	4-39
	From scanner	4-39
	From file	4-39
4.6.12	Add	4-39
	From scanner	4-39
	From file	4-39
4.6.13	Convert	4-40
4.6.14	View	4-40
	Full Page View	4-40
	Reduced Size View	4-40
	Page and Reduced Size View	4-40
4.7	Other Image Editing Functions	4-41
4.7.1	Preview display	4-41
4.7.2	Crop	4-42
	A0-Landscape to B4-Portrait	4-42
	User 1 to 4	4-42
	Set Region	4-42
	Move	4-42
4.7.3	Despeckling	4-43
4.7.4	Deskew	4-43
	Deskew by setting the angle	4-43
	Deskew by line	4-44
	Deskew by reading the angle (for bilevel data only)	4-44
4.7.5	4-point Correction	4-45
4.7.6	2-point Correction	4-46
4.7.7	Resize	4-47
	When Pixel has been selected as the Specification Method	4-47
	When Paper Size has been selected as the Specification Method	4-47
	When Resolution has been selected as the Specification Method	4-48
	When Scale has been selected as the Specification Method	4-48
4.7.8	Link	4-49
	Specifying base points	4-50
4.7.9	Select Area	4-51
4.7.10	Smoothing	4-52
4.7.11	Enhance Edges	4-53
4.7.12	Color Controls	4-54
	Adjust	4-54
	Grayscale	4-55
	Edit and Save Palette	4-56
	Reduce Colors - Bilevel	4-57
	Reduce Colors - 8-bit Color	4-58

	Increase Colors - 8-bit Color	4-59
	Increase Colors - 24-bit Color	4-60
4.7.13	Delete Color	4-61
4.7.14	Modify Color	4-63
4.7.15	Extract Color	4-65
4.7.16	Select Color	4-67
4.7.17	Inverting the Image	4-67
4.7.18	Mirroring the Image	4-67
4.7.19	Rotating the Image	4-68
	Rotating the image 90 degrees counterclockwise	4-68
	Rotating the image 90 degrees clockwise	4-68
	Rotating the image 180 degrees	4-68
4.7.20	Undo	4-68
4.8	Image Measurement	4-69
4.8.1	Setting the Unit Length	4-69
4.8.2	Setting the Distance Between Specified Points	4-69

5. DESCRIPTIONS OF FUNCTIONS

5.1	Options Settings	5-1
5.1.1	File Settings tab	5-1
5.1.2	Display Settings tab	5-2
5.1.3	General tab	5-3
5.1.4	Unit Setup tab	5-4
5.1.5	Edit tab	5-5
5.1.6	Thumbnails tab	5-6
5.1.7	Tools tab	5-7
5.1.8	Customize	5-8
5.2	View Window	5-9
5.2.1	View Window	5-9
5.2.2	Toolbar	5-9
5.2.3	Status Bar	5-9
5.3	Menus	5-10
5.3.1	File Menu	5-10
5.3.2	Edit Menu	5-11
5.3.3	View Menu	5-12
5.3.4	Page menu	5-13
5.3.5	Scan Menu	5-13
5.3.6	Tools Menu	5-14
5.3.7	Window Menu	5-15
5.3.8	Help Menu	5-15
5.4	File Formats	5-16
5.4.1	File Format Compatibility	5-18

INDEX	I-1
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1. INTRODUCTION

1.1 Introduction

Scanning Master Pro Color is a software application for scanning, displaying, and editing image data from a scanner.

1.2 Features

Improved ease-of-use with comprehensive scanning setting functions

All scanner settings are set by the Scanning Master Pro Color program. The state of drawings to be scanned may vary widely. Different image resolutions can be selected, and threshold values are set precisely to suit the particular drawing to be scanned, even for blueprints or old, discolored prints.

Scanning functions for sharp input

Rocker Mode is used to determine the settings while checking the scanned image by repeatedly scanning specific parts of the input image.

Threshold value adjustment function

Monochrome inversion, half-tone, brightness, and threshold values can be fine tuned to match the requirements.

Wide range of editing functions

The despeckle function can be used to eliminate speckles below the specified threshold value, and the skew correction function can be used to correct skewed documents when scanning. Other features include copying, pasting, area deletion, and rotation.

Note: The available editing functions vary depending on the type of image data (grayscale, 8-bit color, 24-bit color, bilevel monochrome).

Supports a wide range of file formats

The following file types can be used.

Bilevel : Bitmap, CAD Overlay ESP, TIFF uncompressed, TIFF G4, TIFF PackBits, TIFF CCITT G3, TIFF G3, CALS G4, PCX, INTERGRAPH G4, Sun Raster uncompressed, Sun Raster Encode, PDF*1

Grayscale : Bitmap, Bitmap RLE, TIFF uncompressed, TIFF PackBits, TIFF JPEG, PCX, Sun Raster uncompressed, Sun Raster Encode, JPEG, PDF*1

8-bit color : Bitmap, Bitmap RLE, TIFF uncompressed, TIFF PackBits, PCX, Sun Raster uncompressed, Sun Raster Encode, PDF*1

24-bit color: Bitmap, TIFF uncompressed, TIFF PackBits, TIFF JPEG, PCX, Sun Raster uncompressed, JPEG, PDF*1

*1 For saving data only

1.3 System Requirements

The minimum system requirements for running the scanner's hardware and software are listed below.

System requirements

OS: Windows Vista Ultimate/Business/Home Premium/Home Basic
Windows 7 Ultimate/Enterprise/Professional/Home Premium
Windows 8/Pro/Enterprise
Windows 8.1/Pro/Enterprise
Windows 10 Home/Pro/Enterprise/Education

PC: Environment that the OS is working properly
(Recommended environment CPU: Dual Core or higher grade Memory: 3 GB or more)

Hard Disk Drive: Disk space amount that can contain the scanned-in data

Monitor: 1024 x 768 pixels, True Color display

Mouse

Network interface : 10BASE-T/100BASE-TX/1000BASE-T (to connect the scanner via the Network interface)

USB 2.0 Interface: that comes standard with your computer
(to connect the scanner via the USB interface)



- **There is no guarantee the operation of all computers equipped with USB 2.0 interface as standard.**
- **If your scanner does not operate with the USB interface that comes with your computer, or if your computer does not have a USB 2.0 interface, please contact your sales representative or nearest Graphtec vendor for information on supported add-on cards.**
- **When using this driver software, please logon as the administrator. If you logon as the general user, some functions are limited.**
- **If you want to scan in and edit grayscale or color data, you may need a memory larger than the recommended size.**

Depending on the document, it may not be possible to scan in the images it contains or the process may slow down even if the memory size is increased.

If you encounter such a problem, from the Scanning Master Pro Color 'OPS115' menu select Tools menu > Options > General tab and enable "Use Work File". In addition, enable "Specify Folder" and then specify a folder that contains sufficient available space.

Compatible scanners and other devices

- The following Graphtec models
 - CS510 Series
 - CS610 Series
 - IS210 Series
 - CSX300 Series
 - CSX500 Series
- TWAIN-compatible imaging devices, such as scanners and digital cameras, capable of outputting bilevel monochrome images, 8-bit/pixel grayscale, 8-bit color images, and 24-bit color images.



For details, see the README.TXT file.

For details on how to connect your scanner to your computer, please refer to your scanner's User's Manual.

2. SETUP

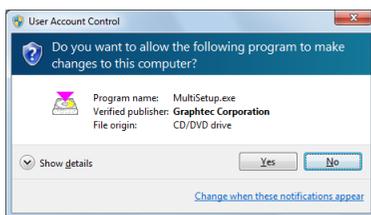
2.1 Installing the Scanning Master Pro Color Application

The following steps are explained using the Windows 7 screens.

- (1) Start up Windows.
- (2) Insert the attached **"IMAGE SCANNER USER GUIDE CD-ROM"** into the CD-ROM drive. AutoPlay screen will appear shortly. Select **[Run MultiSetup.exe]** from there.

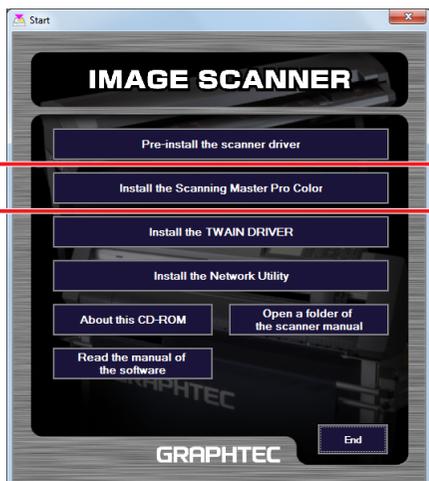


- (3) Click **"Yes"** on the User Account Control screen, which appears, to continue the installation.



- (4) The **"Setup menu"** screen starts automatically. Next, click the **"Install the Scanning Master Pro Color"** button.

If the **"Setup menu"** screen does not start, open Windows Explorer, and double-click on **"MultiSetup.exe"** within the CD-ROM folder.

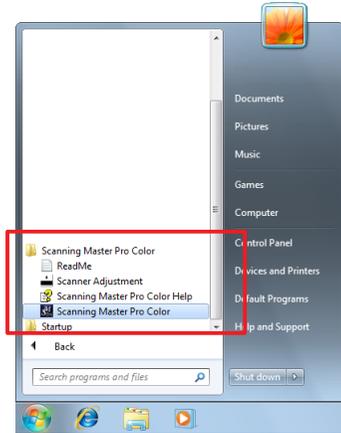


2. SETUP

(5) The Scanning Master Pro Color 'OPS115' set-up program will start shortly.

From this point on, follow the set-up program's instructions to install the Scanning Master Pro Color" 'OPS115' application.

If the application has been properly installed, "**Scanning Master Pro Color**" will be added to the **[Start]** menu on the Windows desktop.



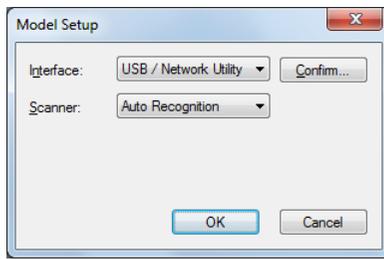
3. OPERATIONS

3.1 Scanner Connection Confirmation

When “Interface” is set to “USB / Network Utility”

To confirm that the scanner is connected with USB interface, or the scanner is operated with Graphtec Network Utility after connecting to the network, perform the following procedures.

- (1) Connect your scanner with your computer.
For details, please follow the instructions in the user manual and connect the scanner to your computer or install the scanner driver software.
- (2) Confirm the Scanning Master Pro Color icon. The icon is in the Scanning Master Pro Color folder under Programs, in the **Start** Button Menu.
- (3) Click the Scanning Master Pro Color icon.
- (4) The **Model Setup** screen can be displayed with the **Model Setup** command on the **scan** menu.



Interface Select the interface used to connect the scanner to the computer.

Scanner Sets the model of the scanner through which image data is scanned in.

* When selecting “Auto Recognition”, all the scanners already connected are recognized.

Confirm button Use this button to confirm that the scanner is connected. If a scanner is connected, its name and version number are displayed.

- (5) Click the Confirm button after checking that “**Interface**” is set to “**USB / Network Utility**” and “**Scanner**” is set to “**Auto Recognition**”. Next, confirm the connection status of the scanner. If the scanner is properly connected, the scanner name and version number will be displayed.



- If the scanner is not properly recognized with “Auto Recognition”, please select the device to be used from [Scanner].
- When “Scanner” is set to “Auto Recognition”, multiple scanners should not be connected at the same time.

- (6) Click the **OK** button to close the **Model Setup** screen.

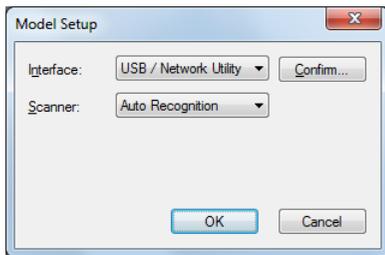
When “Interface” is set to “Network”

To use the scanner without starting the Graphtec Network Utility after connecting to the Network, perform the following procedures.



Even when “Interface” is set to “Network”, the Graphtec Network Utility is required to install. For details, see User’s Manual supplied with the scanner.

- (1) Connect your scanner with your computer.
For details, please follow the instructions in the user manual and connect the scanner to your computer or install the scanner driver software.
- (2) Confirm the Scanning Master Pro Color icon. The icon is in the Scanning Master Pro Color folder under Programs, in the **Start** Button Menu.
- (3) Click the Scanning Master Pro Color icon.
- (4) The **Model Setup** screen can be displayed with the **Model Setup** command on the **scan** menu.



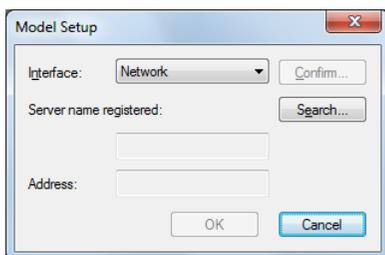
Interface Select the interface used to connect the scanner to the computer.

Scanner Sets the model of the scanner through which image data is scanned in.

* When selecting “Auto Recognition”, all the scanners already connected are recognized.

Confirm button Use this button to confirm that the scanner is connected. If a scanner is connected, its name and version number are displayed.

- (5) After confirming that “Network” is displayed in “Interface”, click the **Search...** button.



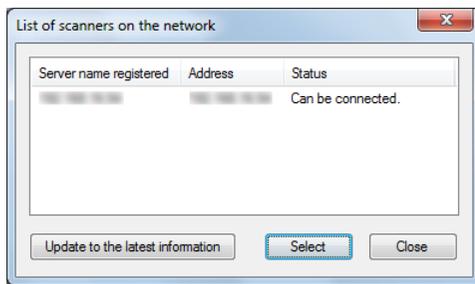
Server name registered

..... The scanner name to be used is displayed (The server name registered is the scanner name has been registered with Graphtec Network Utility).

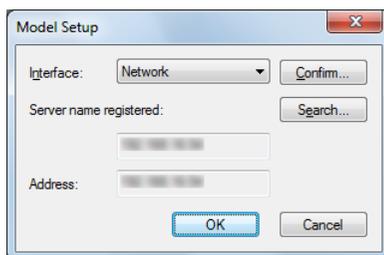
Address IP address of the scanner to be used is displayed.

Search button List of the scanners on the network is displayed.

- (6) **List of scanners on the network** screen is displayed. Select a scanner and press the **Select** button.



- (7) Click the **Confirm** button after checking that the selected scanner's information is displayed in **"Server name registered"** and **"Address"**. Next, confirm the connection status of the scanner. If the scanner is properly connected, the scanner name and version number will be displayed.



- (8) Click the **OK** button to close the **Model Setup** screen.



To set to "Network" in "Interface", check the following:

- When the scanner is used with other applications, exit the appropriate applications. When it is connected using the "Graphtec Network Utility", press the Disconnect button.
- When the scanner is not recognized, restart the scanner. After a few minutes, check it again. When using IS210 or CS510/610 Scanner, make sure that the scanner connection is switched to the Network.
- If the scanner is not recognized, possible causes include the following.
 - The scanner driver is not installed, or during the installation.
 - "Graphtec Network Utility" is not installed.
 - The scanner power is not turned on.
 - The scanner is turned into the power-saving mode. (When the scanner is connected to the network, set long wait time as much as possible. See the "3.6 Switching the Power-saving Mode".)
- Multiple scanners should not be connected at the same time. When connecting other scanner using USB interface, disconnect the USB cable. When other scanner has been connected using "Graphtec Network Utility", press the Disconnect button.

3.2 TWAIN Input Device Settings

The following settings should be performed when using TWAIN input devices.

- (1) Check that the TWAIN device and the computer are turned off before turning on the TWAIN device.
- (2) Now turn on the computer.
- (3) Start up Windows.
- (4) Check the Scanning Master Pro Color icon inside the Scanning Master Pro Color folder in the Programs folder by clicking the **Start** button.
- (5) Click the **Scanning Master Pro Color** icon.
- (6) When running Scanning Master Pro Color for the first time, the TWAIN device connected to the system must be specified in **Model Setup** in the **Scan** menu.

Select **Interface** and then **TWAIN device** to display the following window.



When scanning using a TWAIN device, the TWAIN device must be compatible with bilevel monochrome, 8-bit/pixel grayscale, 8-bit color, or 24-bit color output.

Interface Selects the TWAIN device.

Continuous Scan . Allows continuous scanning of documents without closing the TWAIN device user interface.

Select Lists the TWAIN devices connected to the system for selecting the device to be used for scanning.

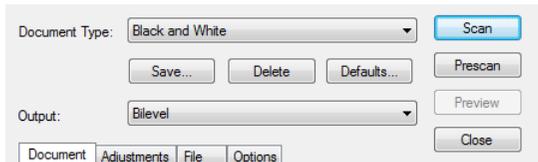
- (7) Select Scan in the **Scan** menu or click the **Scan** button on the toolbar to display the interface for the TWAIN device. For detailed information on TWAIN device settings, refer to the user's manual or help file for the particular device.



3.3 Scanning Procedure



Select the **Scan** command from the **Scan** menu, or click the **Scan** button in the **Scan** Tools sub-window, or click the **Scan** button on the **toolbar** to display the **Scan** window.



To scan the document, simply select the document type in the **Scan** window and then click the **Scan** button. For further details on the Scan window settings, please refer to **Section 3.4, "Scan Settings"**. Scan settings are preset for each document type. You can add, modify or delete document types as required.

To add or modify a document type

- (1) Select the **Scan** command from the **Scan** menu, or click the **Scan** button in the **Scan** Tools sub-window, or click the **Scan** button on the **toolbar**.



- (2) Change the settings in the **Scan** window. Prescan and preview the document to set the optimum scan conditions.
- (3) Click the **Save...** button to name and save the scan settings.
- (4) The saved scan settings are added to the document types.

To delete a document type

- (1) Select the **Scan** command from the **Scan** menu, or click the **Scan** button in the **Scan** Tools sub-window, or click the **Scan** button on the **toolbar**.



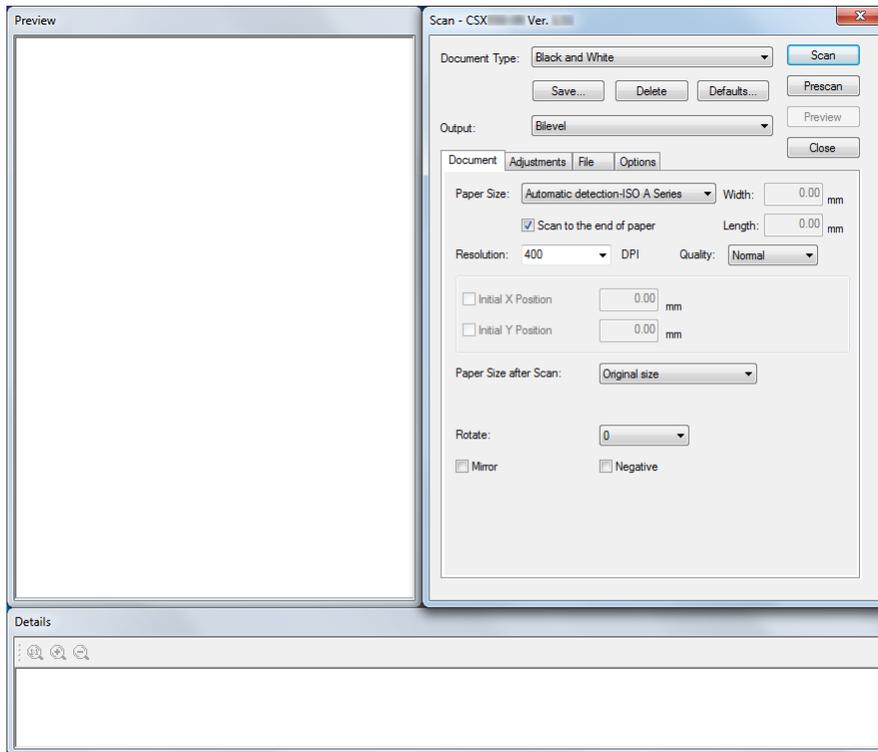
- (2) In the **Scan** window, select the document type you want to delete, and then click the **Delete** button.
- (3) The specified scan settings are deleted from the document types.

3.4 Scan Settings



Scanning Master Pro Color may not permit you to select or specify some of the Scan Settings, depending on the scanner model that you have.

For details on connecting your scanner to your computer, please see your scanner's User's Manual.



Scan Button Performs scanning using the specified settings.

Prescan Button Performs a prescan operation. The Prescan mode lets you set the scanning conditions most suitable for the document while the scanner is actually in operation.

Using the **Rocker Mode**, you can change the scanning conditions while scanning in the same section repeatedly; you should set the optimal scanning conditions while reviewing the on-screen image quality. Then perform the actual scanning.

Use the following procedure for operation:

- (1) Press the **Prescan** button to initiate scanning.
- (2) Continue scanning up to the section for which you want to set the scanning conditions. If the image is currently displayed in the **Preview** Window, move the mouse cursor to the section for which you want to set the scanning conditions.

Left-click there to move the scanning position to a previous one.

- (3) Once the scanning position has been moved, turn on the **Rocker Mode** at any position to scan in data repeatedly from the same position. At this time, while reviewing the onscreen image in the **Preview** or **Details** Window, you can set the optimal conditions by changing the scanning settings.

(4) Once you have set the optimal conditions, quit the Prescan Mode and run **Scan**.

- Preview** Performs scanning using the specified settings, and displays the results in the **Preview** window. Left-click on any part of the **Preview** window to display that area in the **Details** window. To change the size of the display, click on the buttons in the **Preview** window. Scanning is performed at the 1:1 setting.
- Output** Specify how the scanned-in image data is to be processed.
- **Bilevel**
Data is scanned in at two levels of black and white. Suitable for scanning in line drawings or characters.
 - **Halftones**
Data is scanned in at two levels of black and white. During scanning, one of four halftone methods is used to perform halftone processing.
 - **Grayscale**
Data is scanned in as an eight-bit image that contains a 256-level gray scale. Suitable for scanning in a monochrome photograph or similar document.
 - **8-bit color**
Data is scanned in as an eight-bit color image.
 - **24-bit color**
Data is scanned in as a 24-bit color image.
- Document Type** Specify the type of document. Also specify any settings that are to be saved/read.
- Save... Button** Saves the settings made at the **Adjustments** tab under a new file name. The saved settings can be read in **Document Type**.
- Delete Button** Deletes the currently selected **Document Type** from the list.
- Defaults Button** Loads the default settings for the specified **Document Type**.

TIP 

Settings entered at **Output** and at the **Document**, **Adjustments**, **File**, and **Options** tabs are saved as scan conditions.

3.4.1 Document Tab

Paper Size Select the size of the document that contains the image data you want to scan in. If you want to supply a user-defined paper size here, type in the width and length of the document.

When automatic detection of document size is enabled

All automatic detection cannot be specified for the CSX510 model.

• **Automatic detection**

The scanner automatically detects the dimensions of the document to be scanned.

This setting cannot be specified for the CSX300/530/550 model.

• **Automatic detection of standard size**

The document is scanned so that its length and width proportions automatically fit within the borders of the set paper size.

This setting cannot be specified for the CSX300/530/550 model.

• **Automatic detection—ISO series**

This setting cannot be specified for the CSX300/530/550 model.

• **Automatic detection—ISO A series**

This setting can only be specified for the CSX300/530/550 model.

• **Automatic detection—ISO B series**

This setting can only be specified for the CSX300/530/550 model.

• **Automatic detection—ANSI series**

• **Automatic detection—ARCH series**

• **Automatic detection—DIN series**

The document is scanned so that its length and width proportions automatically fit within the borders of the paper size of each series.

For the paper length when using a scanner CSX530/550, refer to “Scan to the end of paper”.

Orientation Select the orientation of the document that contains the image data you want to scan in.

This cannot be specified when the automatic detection for the paper size is selected.

Scan to the end of paper

..... The image is created until the end of the paper.

When not selecting this, the image is created within standard paper size that is automatically detected.

This is enabled when the automatic detection for the paper size is selected.

This setting can only be specified for the CSX530/550 model.



When the paper is scanned in landscape orientation without designation, the error may occur on the length of the detection.

Resolution Specify the resolution at which image data is scanned in.

Quality Specify the scan quality at which image data is scanned in.

Initial X Position Initial Y Position

..... Let you move the start position so that you can skip over any white margins at the edge of the document.

Paper Size after Scan

.....After the document has been scanned, the document is enlarged or reduced to a specified paper size without altering its height to width ratio.

End-of-paper processing

.....Specifies the processing to be performed when the scanner has detected the end of the paper during scanning.

This is disabled when the automatic detection for the paper size is selected.

• Confirm

Displays a window for confirming whether or not to create an image all the way up to a specified paper size.

• End of paper

Creates the image all the way up to the position at which the end of the paper was detected.

• Paper size

Creates an image all the way up to a specified paper size.

RotateThe image will be rotated after scanning.

MirrorIf you enable this option, the image will be inverted on the vertical axis after scanning.

NegativeIf you enable this option, the image will be color-inverted after scanning.

Document Thickness..Displays the thickness of the document during scanning.
This setting can be only displayed in the CS610 model.

3.4.2 Adjustments tab

Rocker Mode If you enable this option, you can change the scanning conditions while scanning the same section repeatedly; you should set the optimal scanning conditions while reviewing the onscreen image quality. Then perform the actual scanning.

TIP

Rocker Mode is available only for prescanning.

Once the scanning position has been moved, you can turn on the Rocker Mode at any position and scan in data repeatedly from the same position.

With the image displayed in the Preview window, move the mouse cursor to the area for which you wish to make the settings for scanning, and then right-click to return the scanning position to a previous position and turn on the Rocker mode.

You can turn the Rocker mode off if you right-click in the Preview window when in Rocker mode.

When Output is Bilevel

Intensity Adjusts the overall brightness level. The higher the Intensity value, the whiter (fainter) the overall image appears.

Intensity Correction ... Specify the degree of correction that applies to auto adjustment of the difference in contrast between the foreground and background.

If the value is 0 (zero), only Brightness (Intensity) is available.

The larger the value, the greater the effect on documents with contrast. Note that setting an excessively large value here is likely to generate noise or speckles.

Edge Adjustment Setting a larger value here sharpens thin lines, characters, etc.

Note that setting an excessively large value is likely to generate noise or speckles at each boundary between a black and a white area.

TIP

If a good image is not obtained by default when you select "Bilevel" for Output, adjust the control settings in the following order:

Intensity > Intensity Correction > Edge Adjustment

White Level All pixels whiter than the setting will be scanned in as white.

The smaller the setting, the larger the effect. For example, this is useful to scan in the background on the image as white.

Black Level All pixels blacker than the setting will be scanned in as black.

The smaller the setting, the larger the effect. For example, this is useful to scan in the background on the image as black.

Gray balance The three RGB colors are used to scan the document. The blue and yellow colors become prominent. This parameter is used for applications such as scanning the squares on graph paper.

This setting can only be specified for the CSX300/510/530/550 model.

Automatic Despeckling

..... If you enable this option, speckles of the specified size will be removed from the image while the document is being scanned in.

Speckle Size Set the size of speckles that are to be removed by automatic despeckling. (1 to 30 pixels, in 1-pixel increments)

Automatic Deskew If you enable this option, any skewed image will be corrected if the scanner gets scanned-in image data from a skewed document.

The automatic deskew operates up to $\pm 7.1^\circ$.



In automatic deskew "the tip of the paper" is detected, and the correction angle is calculated. If "the tip of the paper" can not be detected properly because of the paper, automatic deskew might not be able to give the expected results.

When Output is Halftones

Halftones If you selected Halftones for Output, select the method of halftone processing here.

- **Dither 4 x 4**
Halftone processing with a 4 x 4 dot matrix pattern.
- **Dither 4 x 8**
Halftone processing with a 4 x 8 dot matrix pattern.
- **Dither 8 x 8**
Halftone processing with a 8 x 8 dot matrix pattern.

Error Diffusion Photographs are scanned in with a more natural appearance.

Intensity Adjusts the overall brightness level. The higher the Intensity value, the whiter (fainter) the overall image appears.

White Level All pixels whiter than the setting will be scanned in as white.

The smaller the setting, the larger the effect. For example, this is useful to scan in the background on the image as white.

Black Level All pixels blacker than the setting will be scanned in as black.

The smaller the setting, the larger the effect. For example, this is useful to scan in the background on the image as black.

Gray balance The three RGB colors are used to scan the document. The blue and yellow colors become prominent. This parameter is used for applications such as scanning the squares on graph paper.

This setting can only be specified for the CSX300/510/530/550 model.

Automatic Despeckling

..... If you enable this option, speckles of the specified size will be removed from the image while the document is being scanned in.

Speckle Size Set the size of speckles that are to be removed by automatic despeckling. (1 to 30 pixels, in 1-pixel increments)

Automatic Deskew If you enable this option, any skewed image will be corrected if the scanner gets scanned-in image data from a skewed document.

The automatic deskew operates up to $\pm 7.1^\circ$.



In automatic deskew "the tip of the paper" is detected, and the correction angle is calculated. If "the tip of the paper" can not be detected properly because of the paper, automatic deskew might not be able to give the expected results.

When Output is Grayscale

- Gamma** Used to adjust the gamma value. If you set a large value here, intermediate-level areas will be scanned in as bright images.
- Brightness** Specifies the image brightness. Increasing the specified value results in scanning as a brighter image.
- Contrast** Used to adjust the contrast of the image. If you set a large value here, the image will be scanned in with a high contrast.
- White Level** All pixels whiter than the setting will be scanned in as white.
The smaller the setting, the larger the effect. For example, this is useful to scan in the background on the image as white.

TIP 

When using the Preview button to preview the scanned image, if you click the  button and then the left mouse button in the ensuing Details window, the color at the cursor position becomes the White Level setting. At this time, when you drag and then release the mouse, the darkest color in the enclosed area becomes the White Level setting.

- Black Level** All pixels blacker than the setting will be scanned in as black.
The smaller the setting, the larger the effect. For example, this is useful to scan in the background on the image as black.

TIP 

When using the Preview button to preview the scanned image, if you click the  button and then the left mouse button in the ensuing Details window, the color at the cursor position becomes the Black Level setting. At this time, when you drag and then release the mouse, the lightest color in the enclosed area becomes the Black Level setting.

- Gray balance** The three RGB colors are used to scan the document. The blue and yellow colors become prominent. This parameter is used for applications such as scanning the squares on graph paper.
This setting can only be specified for the CSX300/510/530/550 model.
- Edge Sharpening** To sharpen the boundary between the background and the data, enable this parameter. If you want to perform high resolution scanning or if background speckles increase, disable this parameter.
- Automatic Despeckling** If you enable this option, speckles of the specified size will be removed from the image while the document is being scanned in.
- Automatic Deskew** If you enable this option, any skewed image will be corrected if the scanner gets scanned-in image data from a skewed document.
The automatic deskew operates up to $\pm 7.1^\circ$.

Checkpoint 

In automatic deskew "the tip of the paper" is detected, and the correction angle is calculated. If "the tip of the paper" can not be detected properly because of the paper, automatic deskew might not be able to give the expected results.

When Output is 8-bit Color (Standard)

- Color Space** Specify the color space.
This setting can only be specified for the CSX510/530/550 model.
- **sRGB**
Scan using the RGB color space.
 - **Adobe RGB**
Scan using the Adobe RGB color space.
- Reduction Method** Specify the method used to subject the image to eight-bit color depth reduction.
- **Closest Match**
Data is scanned in as an eight-bit color image through the scanner.
 - **Error Diffusion**
Data is scanned in as a 24-bit color image through the scanner.
The image is subjected to color depth reduction so that the color is viewed more naturally.
- RGB** Used to change Gamma, Brightness, Contrast, White Point and Black Point to RGB elements. If RGB is selected, the red, green, and blue elements change simultaneously.
- Gamma** Used to adjust the gamma value. If you set a large value here, intermediate-level areas will be scanned in as bright images.
- Brightness** Specifies the image brightness. Increasing the specified value results in scanning as a brighter image.
- Contrast** Used to adjust the contrast of the image. If you set a large value here, the image will be scanned in with a high contrast.
- White Point** The parts of the image that are closer to white than the specified value will be scanned in as white. The effect that can be expected is to make the background white. The smaller the setting, the greater the effect.

TIP 

When using the Preview button to preview the scanned image, if you click the  button and then the left mouse button in the ensuing Details window, the color at the cursor position becomes the White Point setting. At this time, when you drag and then release the mouse, the darkest color in the enclosed area becomes the White Point setting.

- Black Point** The parts of the image that are closer to black than the specified value will be scanned in as black. The effect that can be expected is to make the data black. The larger the setting, the greater the effect.

TIP 

When using the Preview button to preview the scanned image, if you click the  button and then the left mouse button in the ensuing Details window, the color at the cursor position becomes the Black Point setting. At this time, when you drag and then release the mouse, the lightest color in the enclosed area becomes the Black Point setting.

Moiré Pattern Removal Radius

- This specifies the size of the radius for moiré pattern removal.
If you specify 0, moiré pattern removal processing will not be performed.

Moiré Pattern Removal Strength

..... This specifies the processing strength for moiré pattern removal.
If you specify a large value, processing will be performed to a large extent.



The above settings cannot be specified if the Color Reduction Method is Closest Match.

Crease Reduction Threshold Level

..... To reduce the effects of creases on documents, specify the threshold level at which you want images to be processed for crease reduction.

Crease Reduction Intensity

..... To reduce the effects of creases on documents, specify the degree of crease reduction. The larger the specified value, the greater the crease reduction. Specifying 0 disables crease reduction.



The above settings cannot be specified if the Color Reduction Method is Closest Match.

Modify Color After Scanning

..... If this setting is enabled, the Modify Color window is displayed after the document has been scanned and color reduction performed.



For the Modify Color window setting procedure, refer to “4.7.12 Modify Color”.

Specify Color Modification Using a File

..... This specifies a file to which Modify Color settings were saved.
If this setting is enabled, the Modify Color window is not displayed, and the colors are modified automatically.

Edge Sharpening To sharpen the boundary between the background and the data, enable this parameter. If you want to perform high resolution scanning or if background speckles increase, disable this parameter.



The above settings cannot be specified if the Color Reduction Method is Closest Match.

Express Color processing is performed at the scanner to enable highspeed data transfer. If the image to be scanned in is a large image, the scanning speed is increased. If this setting is turned off, color processing is not performed at the scanner.

This setting cannot be specified for the CSX300/510/530/550 model.



The above setting cannot be specified if the Color Reduction Method is Closest Match.

Moiré Reduction To suppress moiré patterns, documents are read from the scanner at high resolution.



The above setting cannot be specified if the Color Reduction Method is Closest Match.

Automatic Despeckling

..... If you enable this option, speckles of the specified size will be removed from the image while the document is being scanned in.

Automatic Deskew If you enable this option, any skewed image will be corrected if the scanner gets scanned-in image data from a skewed document.

The automatic deskew operates up to $\pm 7.1^\circ$.



In automatic deskew "the tip of the paper" is detected, and the correction angle is calculated. If "the tip of the paper" can not be detected properly because of the paper, automatic deskew might not be able to give the expected results.

When Output is 8-bit Color (Optimized)

Color Space Specify the color space.

This setting can only be specified for the CSX510/530/550 model.

- **sRGB**

Scan using the RGB color space.

- **Adobe RGB**

Scan using the Adobe RGB color space.

Reduction Method Specify the method used to subject the image to eight-bit color depth reduction.

- **Closest Match**

Data is scanned in as a 24-bit color image through the scanner.

The image is subjected to eight-bit color depth reduction so that the color is optimized for the majority of documents.

- **For Maps/Drawings**

Data is scanned in as a 24-bit color image through the scanner.

The image is subjected to the color depth reduction suitable for cases where the number of colors in use is small (e.g., maps, drawings).

Particularly, if 8 or a lower number is specified for the number of colors, the image will be subjected to a special process so that the necessary colors will remain.

Number of Colors Specify the number of colors used for color depth reduction.

Saving the Palette After Scanning

..... Saves the palette created after the document has been scanned and color reduction performed. The saved palette can be used in the 8-bit color (Palette) scan mode. However, the results will not be the same as those obtained in 8-bit color (Optimized) mode.

RGB When you have changed the Gamma, Brightness, Contrast, White Point or Black Point value, this function changes the red, green and blue components at the same time.

Gamma Used to adjust the gamma value. If you set a large value here, intermediate-level areas will be scanned in as bright images.

Brightness Specifies the image brightness. Increasing the specified value results in scanning as a brighter image.

Contrast Used to adjust the contrast of the image. If you set a large value here, the image will be scanned in with a high contrast.

White Point The parts of the image that are closer to white than the specified value will

be scanned in as white. The effect that can be expected is to make the background white. The smaller the setting, the greater the effect.

TIP 

When using the Preview button to preview the scanned image, if you click the  button and then the left mouse button in the ensuing Details window, the color at the cursor position becomes the White Point setting. At this time, when you drag and then release the mouse, the darkest color in the enclosed area becomes the White Point setting.

Black Point The parts of the image that are closer to black than the specified value will be scanned in as black. The effect that can be expected is to make the data black. The larger the setting, the greater the effect.

TIP 

When using the Preview button to preview the scanned image, if you click the  button and then the left mouse button in the ensuing Details window, the color at the cursor position becomes the Black Point setting. At this time, when you drag and then release the mouse, the lightest color in the enclosed area becomes the Black Point setting.

Moiré Pattern Removal Radius

..... This specifies the size of the radius for moiré pattern removal.
If you specify 0, moiré pattern removal processing will not be performed.

Moiré Pattern Removal Strength

..... This specifies the processing strength for moiré pattern removal.
If you specify a large value, processing will be performed to a large extent.

Crease Reduction Threshold Level

..... To reduce the effects of creases on documents, specify the threshold level at which you want images to be processed for crease reduction.

Crease Reduction Intensity

..... To reduce the effects of creases on documents, specify the degree of crease reduction. The larger the specified value, the greater the crease reduction. Specifying 0 disables crease reduction.

Modify Color After Scanning

..... If this setting is enabled, the Modify Color window is displayed after the document has been scanned and color reduction performed.

Checkpoint 

For the Modify Color window setting procedure, refer to “4.7.12 Modify Color”.

Specify Color Modification Using a File

..... This specifies a file to which Modify Color settings were saved.
If this setting is enabled, the Modify Color window is not displayed, and the colors are modified automatically.

Edge Sharpening To sharpen the boundary between the background and the data, enable this parameter. If you want to perform high resolution scanning or if background speckles increase, disable this parameter.

Express Color processing is performed at the scanner to enable highspeed data transfer. If the image to be scanned in is a large image, the scanning speed is increased. If this setting is turned off, color processing is not performed at the scanner.

This setting cannot be specified for the CSX300/510/530/550 model.

Moiré Reduction To suppress moiré patterns, documents are read from the scanner at high

resolution.

Automatic Despeckling

..... If you enable this option, speckles of the specified size will be removed from the image while the document is being scanned in.

Automatic Deskew If you enable this option, any skewed image will be corrected if the scanner gets scanned-in image data from a skewed document.

The automatic deskew operates up to $\pm 7.1^\circ$.



In automatic deskew "the tip of the paper" is detected, and the correction angle is calculated. If "the tip of the paper" can not be detected properly because of the paper, automatic deskew might not be able to give the expected results.

When output is 8-bit Color (Palette)

Color Space Specify the color space.

This setting can only be specified for the CSX510/530/550 model.

- **sRGB**

Scan using the RGB color space.

- **Adobe RGB**

Scan using the Adobe RGB color space.

Palette Selects the palette file for color reduction.

Edit Button Displays the Edit and Save Palette window to enable editing of the palette files.

RGB When you have changed the Gamma, Brightness, Contrast, White Point or Black Point value, this function changes the red, green and blue components at the same time.

Gamma Used to adjust the gamma value. If you set a large value here, intermediate-level areas will be scanned in as bright images.

Brightness Specifies the image brightness. Increasing the specified value results in scanning as a brighter image.

Contrast Used to adjust the contrast of the image. If you set a large value here, the image will be scanned in with a high contrast.

White Point The parts of the image that are closer to white than the specified value will be scanned in as white. The effect that can be expected is to make the background white. The smaller the setting, the greater the effect.



When using the Preview button to preview the scanned image, if you click the  button and then the left mouse button in the ensuing Details window, the color at the cursor position becomes the White Point setting. At this time, when you drag and then release the mouse, the darkest color in the enclosed area becomes the White Point setting.

Black Point The parts of the image that are closer to black than the specified value will be scanned in as black. The effect that can be expected is to make the data black. The larger the setting, the greater the effect.



When using the Preview button to preview the scanned image, if you click the  button and then the left mouse button in the ensuing Details window, the color at the cursor position becomes the

Black Point setting. At this time, when you drag and then release the mouse, the lightest color in the enclosed area becomes the Black Point setting.

Moiré Pattern Removal Radius

..... This specifies the size of the radius for moiré pattern removal.
 If you specify 0, moiré pattern removal processing will not be performed.

Moiré Pattern Removal Strength

..... This specifies the processing strength for moiré pattern removal.
 If you specify a large value, processing will be performed to a large extent.

Crease Reduction Threshold Level

..... To reduce the effects of creases on documents, specify the threshold level at which you want images to be processed for crease reduction.

Crease Reduction Intensity

..... To reduce the effects of creases on documents, specify the degree of crease reduction. The larger the specified value, the greater the crease reduction. Specifying 0 disables crease reduction.

Modify Color After Scanning

..... If this setting is enabled, the Modify Color window is displayed after the document has been scanned and color reduction performed.



For the Modify Color window setting procedure, refer to “4.7.12 Modify Color”.

Specify Color Modification Using Edge Sharpening

..... This specifies a file to which Modify Color settings were saved.
 If this setting is enabled, the Modify Color window is not displayed, and the colors are modified automatically.

Edge Sharpening To sharpen the boundary between the background and the data, enable this parameter. If you want to perform high resolution scanning or if background speckles increase, disable this parameter.

Express Color processing is performed at the scanner to enable highspeed data transfer. If the image to be scanned in is a large image, the scanning speed is increased. If this setting is turned off, color processing is not performed at the scanner.
 This setting cannot be specified for the CSX300/510/530/550 model.

Moiré Reduction To suppress moiré patterns, documents are read from the scanner at high resolution.

Automatic Despeckling

..... If you enable this option, speckles of the specified size will be removed from the image while the document is being scanned in.

Automatic Deskew If you enable this option, any skewed image will be corrected if the scanner gets scanned-in image data from a skewed document.
 The automatic deskew operates up to $\pm 7.1^\circ$.



In automatic deskew "the tip of the paper" is detected, and the correction angle is calculated. If "the tip of the paper" can not be detected properly because of the paper, automatic deskew might not be able to give the expected results.

When Output is 24-bit Color

- RGB** Used to change Gamma, Brightness, Contrast, White Point and Black Point to RGB elements. If RGB is selected, the red, green, and blue elements change simultaneously.
- Gamma** Used to adjust the gamma value. If you set a large value here, intermediate-level areas will be scanned in as bright images.
- Brightness** Specifies the image brightness. Increasing the specified value results in scanning as a brighter image.
- Contrast** Used to adjust the contrast of the image. If you set a large value here, the image will be scanned in with a high contrast.
- White Point** The parts of the image that are closer to white than the specified value will be scanned in as white. The effect that can be expected is to make the background white. The smaller the setting, the greater the effect.

TIP 

When using the Preview button to preview the scanned image, if you click the  button and then the left mouse button in the ensuing Details window, the color at the cursor position becomes the White Point setting. At this time, when you drag and then release the mouse, the darkest color in the enclosed area becomes the White Point setting.

- Black Point** The parts of the image that are closer to black than the specified value will be scanned in as black. The effect that can be expected is to make the data black. The larger the setting, the greater the effect.

TIP 

When using the Preview button to preview the scanned image, if you click the  button and then the left mouse button in the ensuing Details window, the color at the cursor position becomes the Black Point setting. At this time, when you drag and then release the mouse, the lightest color in the enclosed area becomes the Black Point setting.

Moiré Pattern Removal Radius

- This specifies the size of the radius for moiré pattern removal.
If you specify 0, moiré pattern removal processing will not be performed.

Moiré Pattern Removal Strength

- This specifies the processing strength for moiré pattern removal.
If you specify a large value, processing will be performed to a large extent.

Crease Reduction Threshold Level

- To reduce the effects of creases on documents, specify the threshold level at which you want images to be processed for crease reduction.

Crease Reduction Intensity

- To reduce the effects of creases on documents, specify the degree of crease reduction. The larger the specified value, the greater the crease reduction. Specifying 0 disables crease reduction.

Color Space

Specify the color space.
This setting can only be specified for the CSX510/530/550 model.

- **sRGB**
Scan using the RGB color space.
- **Adobe RGB**
Scan using the Adobe RGB color space.

Modify Color After Scanning

- If this setting is enabled, the Modify Color window is displayed after the

document has been scanned and color reduction performed.



For the Modify Color window setting procedure, refer to “4.7.12 Modify Color”.

Specify Color Modification Using a File

..... This specifies a file to which Modify Color settings were saved.

If this setting is enabled, the Modify Color window is not displayed, and the colors are modified automatically.

Edge Sharpening To sharpen the boundary between the background and the data, enable this parameter. If you want to perform high resolution scanning or if background speckles increase, disable this parameter.

Express Color processing is performed at the scanner to enable highspeed data transfer. If the image to be scanned in is a large image, the scanning speed is increased. If this setting is turned off, color processing is not performed at the scanner.

This setting cannot be specified for the CSX300/510/530/550 model.

Moiré Reduction To suppress moiré patterns, documents are read from the scanner at high resolution.

Automatic Despeckling

..... If you enable this option, speckles of the specified size will be removed from the image while the document is being scanned in.

Automatic Deskew If you enable this option, any skewed image will be corrected if the scanner gets scanned-in image data from a skewed document.

The automatic deskew operates up to $\pm 7.1^\circ$.



In automatic deskew "the tip of the paper" is detected, and the correction angle is calculated. If "the tip of the paper" can not be detected properly because of the paper, automatic deskew might not be able to give the expected results.

3.4.3 File tab

File Name Specify the file name of the image that is to be scanned in.

File Type In the pull-down menu, select the type of file to save.

Auto-Assign Filename

..... The file name is automatically generated during scanning.

Direct Output to a File

..... Image data is immediately stored in the file without displaying the image.

Save as 24-bit Color ... After the document is read, the data is automatically saved as 24-bit color data.



The file name is automatically generated when a number is appended to the right end of the file name that was saved using this setting. The automatically generated file name is the same as the previous file name except that the appended number is incremented by 1. The number is incremented until the maximum limit is reached, and then reverts to zeroes.

3.4.4 Options tab

Scan Speed To scan a soft (limp) document or reduce the load on the document, select **Low**. (Usually set to **Standard**). If you select **Low** for **Scan Speed**, the document moving speed and the scanning speeds for bilevel, halftone, and gray scale image data will be reduced.

Batch Scan If you enable this option, document scanning will operate continuously, thereby saving time. The documents submitted to batch scanning must be uniform in image quality so that it will not be necessary to adjust the scanning settings for each document.

TIP

When you enable **Batch Scan**, enable **Auto-Assign Filename** in the **File tab**.
Neither **Continuous Scan** nor **Manual Loading** is available.

Continuous Scan If you enable this parameter, document scanning will operate continuously without closing the Scan window.

TIP

When you enable **Continuous Scan**, enable **Auto-Assign Filename** in the **File tab**.
Batch Scan is not available.

Detecting the Front Edge of Document

..... If this parameter is enabled, the leading edge of the document is detected. If the detection operation is performed each time a document is scanned, the overall scanning efficiency is decreased but the leading edge of the document will be detected correctly.

If this parameter is disabled, the leading edge of the document is not detected. Eliminating the detection operation increases the overall scanning efficiency, but there may be a certain amount of blank space created at the leading edge of the data.

Moreover, if a document that is longer than the specified Paper Size is scanned, the data will be scanned in at the longer length.

Checkpoint

This function is effective when the **Batch Scan** function is enabled.

If batch scanning is performed when this function is disabled, the automatic detection function specified for Paper Size may not operate correctly if the document is not inserted correctly.

Furthermore, paper jams may occur more frequently. We recommend that this function always be enabled.

Manual Loading Enable this parameter if you want to scan in thin or large documents.

If you enable this parameter, documents will not be fed automatically. If you disable it, documents will be fed automatically.

Delay Time Required if document feed is initiated automatically. Set the delay time from when the document touches the sensor switch of the scanner to when the feed is actually initiated. (In 0.1-s increments). If, for example, you set "15" for the delay time, feed is initiated 1.5 seconds after the document touches the sensor switch.

Auto Eject This section lets you control how the document is to be moved after being scanned.

- **None**

The document is not ejected and stops at the position where scanning ends.

- **Eject to Back**

The document is ejected to the back of the scanner.

- **Front**

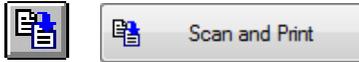
The document is fed to the front of the scanner.

- **Back**

The document is fed to the back of the scanner.

3.5 Scan and Print

Select the **Scan and Print** command from the **Scan** menu, or click the **Scan and Print** button in the **Scan Tools** sub-window, or click the **Scan and Print** button on the toolbar to output scanned data to a preset printer after scanning is completed.

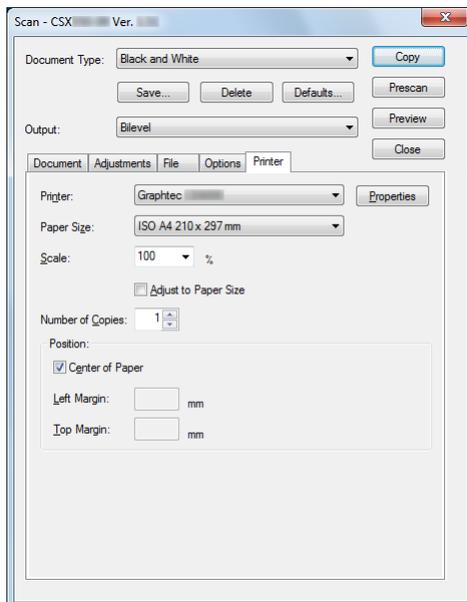


TIP

If you want to save the printed image to a file, click "Direct Output to File" on the **File** tab before scanning the document.

Click the printer tab to enter or modify printer settings, including printer selection.

3.5.1 Printer Tab



- Printer** Select the printer to which you want to output scanned data.
- Properties button** Shows the properties of the selected printer. For more information on printer setup, refer to the instruction manual provided with your printer.
- Paper Size** Specify the size of paper on which to output the scanned data.
- Scale** Specify a scale between 25% and 400%.
- Adjust to Paper Size** ... The scale is automatically set to match the paper size in which the scanned data is output.
- Number of Copies** Specify the number of copies you want to output. You can specify a value from 1 to 999.
- Center of Paper** The scanned data is output so that the center of the data coincides with the center of the printer print area.
- Left Margin** The scanned data is offset by the specified amount from the left margin of the paper selected for output.
- Top Margin** The scanned data is offset by the specified amount from the top of the paper selected for output.

3.6 Scanner Adjustment

You should set the adjustment features (**Distance Correction**, **Joint Fine-adjustment**, and **Trapezoidal Correction**) if you want to approximate the accuracy of the scanned-in drawing to that of the original. (Fine-tuning the accuracy, depending on the quality of the document.)

Usually this adjustment is unnecessary.

You can adjust the scanner by selecting the **Tools menu > Adjust Scanner**.

The settings that can be specified vary according to the scanner model.

3.6.1 Distance Correction

Corrects distances as appropriate for the type of document.

The setting may be within approximately $\pm 1\%$. It is effective until the scanner is powered off.

To use the **Distance Correction** function, you must first measure a vertical line drawn on the document using the following procedure:

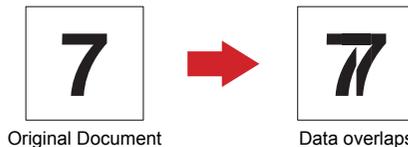
- (1) Select a document that contains one or more drawn vertical lines. Scan it in at 600 dpi in portrait orientation.
- (2) Measure the length of the vertical line on the document. Define it as x (**Distance Measured on Document**).
- (3) Using the **View menu > Relative Measure > Distance between Specified Points**, measure the length of the corresponding vertical line in the image data. Define it as y (**Distance Measured after Scanning**).
- (4) In the Scanner Adjustments window, click the **Distance Correction** button in **Adjustments**. The **Distance Correction** window appears.
- (5) Type in the **Distance Measured on Document x** and **Distance Measured after Scanning y** values. These values must be within the range of distance correction.
- (6) Click the **OK** button to calculate the corrections. Distance correction will take effect from the next document scanned.

3.6.2 Joint Fine-adjustment

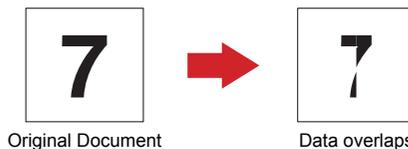
Graphtec scanners use multiple rows of sensors.

In rare cases, there may be one or two overlapping or missing pixels in the data at a joint between the rows of sensors.

Overlapped data



Missing data



In either of these cases, finely adjust the sensor-to-sensor joints using the following procedure:

- (1) In the **Scanner Adjustments** window, click the **Joint Fine-adjustment** button in **Adjustments** to open the **Joint Adjustment** window.
- (2) Finely adjust each of the joints.

For overlapping pixels in the data at a joint, set a negative value. For missing pixels, set a positive value.

Usually set 0 (0 is the factory default) for the joints.

- (3) Once you have completed the settings, click the **OK** button.

3.6.3 Trapezoidal Correction

Corrects fine deformations, or shifts, in the direction of feed caused by the scanner feeding mechanism.

If two lines of the same original length in the left and right areas, respectively, of a drawing are scanned in as lines of different lengths, you can adjust the lengths according to the longer line.

Checkpoint

This function is only effective when a document of the same document quality and of the same size as the document used for making the following settings are scanned in under the same conditions as for that document. (This function is usually set to off.) Even if it is off, image data can be scanned in with the accuracy guaranteed for the scanner. If you use the scanner after incorrect settings have been made using this function, the accuracy may be lowered.

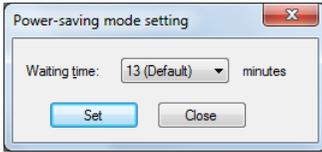
To turn off Trapezoidal Correction, select the Tools menu > Adjust Scanner and click the Trapezoidal Correction button in Adjustments. Then, in the Trapezoidal Correction window, set the Document width, Length of left side, or Length of right side to 0 (zero).

To use the **Trapezoidal Correction** function, you must first measure a rectangle drawn on a document using the following procedure:

- (1) Prepare a document of the same quality and of the same size as the drawing to be scanned in. It must contain the largest possible drawn rectangle (e.g., frame around the drawing). With **Trapezoidal Correction** off, perform scanning under the same conditions.
- (2) Select the **View** menu > **Relative Measure** > **Distance between Specified Points**, and measure the lengths of the left, right, and top sides.
- (3) In the **Scanner Adjustments** window, click the **Trapezoidal Correction** button in **Adjustments**. The **Trapezoidal Correction** window appears.
- (4) Type the lengths of the top, left, and right sides of the rectangle in **Document width**, **Length of left side**, and **Length of right side**, respectively.
- (5) Click the **OK** button. The scanner is set to correct the deformations, or shifts, that are caused by its feeding mechanism.

3.6.4 Power-saving mode setting

Set the wait time until the scanner is switched to the Power-saving mode.



Waiting time Select the **wait time** until the scanner is switched to the power-saving mode.

Set Set the selected **wait time** to the scanner. Wait a few seconds after clicking **Set** button. The setting is complete when the completion message appears.

Checkpoint 

This function is available only when using the CSX510/530/550 scanner with firmware version 1.50 or later.

The waiting time is used as a guideline, not a precise time.

TIP 

When the scanner is connected to the network, set long wait time as much as possible.

4. IMAGE DATA MANIPULATION

This chapter describes how to display and manipulate image data and perform basic editing functions using Scanning Master Pro Color.

This chapter consists the following sections:

- **Window Overview**

Provides an overview of the window functions.

- **Basic File Operations**

Describes the basic file operations such as opening an image file, saving an image file, and changing the file format.

- **Printing Image Data**

Describes how to print scanned-in image data.

- **Viewing the Image**

Describes how to vary the image view (e.g., scroll, zoom.)

- **Using the Editing Functions**

Describes how to erase part of an image and cancel the previous operations.

- **Using Page Functions**

Describes how to add, insert, and delete pages.

- **Other Image Editing Functions**

Describes how to remove speckles from the image, correct any image skew, and crop the outside of the frame. Also, describes how to set the extension of the default for a file format.

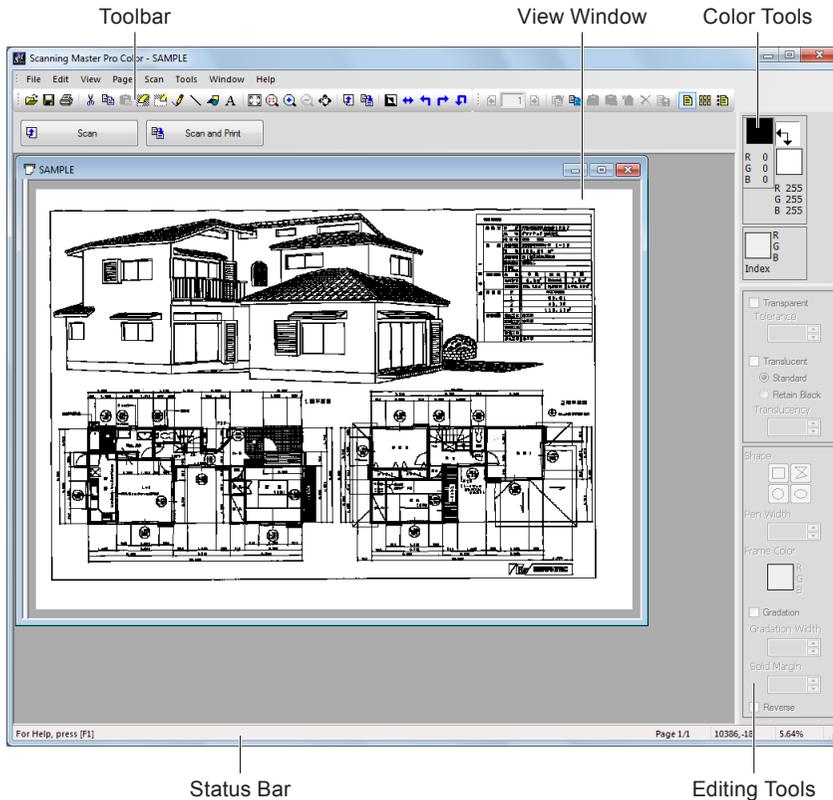
- **Image Measurement**

Details image measurement.

4.1 Window Overview

4.1.1 Starting the Scanner

- (1) Make sure that the scanner is connected to the computer and the power to it is off.
Then turn on the scanner.
- (2) Turn on the computer.
- (3) Windows starts up.
- (4) Locate the Scanning Master Pro Color icon. To do so, click the Start button and select Programs and the Scanning Master Pro Color folder in that order. The icon is located there.
- (5) Click the Scanning Master Pro Color icon.



4.1.2 Maximize the window

To maximize the work area, click the Maximize button at the middle of the top right corner of the window (i.e., the rectangle with a thick top bar).

4.1.3 *Toolbar*



The toolbar is located above the application window and just under the menu bar. On the toolbar, you can operate many tools used in Scanning Master Pro Color by clicking them with the mouse. To show or hide the toolbar, select the **View** menu > **Toolbar** command.

The above view of the toolbar shows the initial settings. It can be customized by selecting the **Tools** menu > **Customize** command (see Section 4.7, "Other Image Editing Functions" and Section 5.1, "Options Settings").

- Below is a brief description of the button functions:



Open

Opens an existing image file. Once the Open window appears, select the file you want to open.



Save

Saves the latest version of the on-screen image file, with the previous version overwritten. If you have not named the file yet, the Save As window appears.



Print

Prints the contents of the image file.



Cut

Cuts the area you selected and saves it in memory.



Copy

Copies the selection and saves it in memory.



Paste to Current Window

Pastes the data in memory to the cursor position.



Rubout

Rubs out part of the image with background color.



Erase Area

Paints the selection in background color.



Revise

Retouches the drawing in foreground color.



Line

Draws a line in the foreground color.



Fill

Fills in shapes.



Text

Adds text strings.



Fit

Displays the whole image so that it fits in the current window.



1:1

Displays the image as normal size, with one dot representing one pixel.



Zoom In

Zooms in on the image.



Zoom Out

Zooms out the image.



Move

Moves the displayed area of the image.



Scan

Displays the Scan window.



Scan and Print

Displays the Scan window and automatically outputs scanned data to the specified printer after scanning is completed.



Invert

Inverts the image color.



Mirror

Inverts the image on the vertical axis.



Rotate 90° CCW

Rotates the image 90 degrees counterclockwise.



Rotate 90° CW

Rotates the image 90 degrees clockwise.



Rotate 180°

Rotates the image 180 degrees.

- Below is a brief description of the other button functions:



Thumbnail View

Displays the saved images as thumbnails.



Search for files

Searches for files.



Page Setup

Displays the **Page Setup** window that lets you set the print document size, the page orientation, and the magnification.

**Undo**

Undoes the previous editing action and returns the image to the previous version.

**Redo**

Restores the last edit you undid with Undo.

**New Image**

Creates an image window in which you view the data contained in memory as a new image.

**Transparent Background**

With the background color as a transparent color, pastes the data in memory to the cursor position.

**Position Text Using Line**

Places text on a line.

**Extend Line**

Draws an extension line.

**Select Color**

Selects a color from the image for use as the drawing color.

**Bird's Eye**

Shows or hides the overview that is used, for example, for zooming in on the image.

**Zoom**

Displays a detailed view of a zoomed portion of the area that currently contains the cursor.

**Loupe**

Turns on or off the Loupe Mode in which the surroundings of the cursor position are zoomed.

**Image Info**

Displays the window that lists detailed information about the image.

**Measure**

Measures a relative point-to-point distance based on the current magnification and resolution.

**Load Settings 1 to 16**

Loads the existing scanner settings.

**Undo (tool)**

Undoes the previous raster action, such as despeckling, deskewing, cropping, or resizing. This operates only once for each action.

**Despeckle**

Removes remaining speckles from the background of the image.



Deskew
Corrects image skew.



4-point Correction
Corrects image distortion.



2-point Correction
Corrects image dimensions.



Crop Outside of Frame in A0-Landscape to B4-Landscape
Crops the outside of the frame in the size you specified.



Crop Outside of Frame in A0-Portrait to B4-Portrait
Crops the outside of the frame in the size you specified.



Crop Outside of Frame in User 1 to 4 Size
Crops the outside of the frame in the size you registered.



Crop Outside of Specified Frame
Crops the outside of the frame in the current size.



Crop Outside of Frame in Current Size
Crops the outside of the frame in the current size.



Resize
Resizes the on-screen image.



Link
Links two images.



Adjust (Not available for bilevel data)
Adjusts the image brightness and contrast.



Reduce Colors to Bilevel (Not available for bilevel data)
Converts the image to bilevel.



Grayscale (Not available for grayscale data)
Converts the image to grayscale.



Increase Colors to 8-bit Color (Available for bilevel and grayscale data only)
Converts the image to 8-bit color.



Reduce Colors to 8-bit Color (Available for 24-bit color data only)
Converts the image to 8-bit color.



Increase Colors to 24-bit Color (Not available for 24-bit color data)
Converts the image to 24-bit color.

**Select Area (Not available for bilevel data)**

Selects the area for performing Adjust, Smoothing, Enhance Edges, Delete Color, Modify Color, or Extract Color.

**Smoothing (Available for grayscale and 24-bit color data only)**

Averages pixel data values with those of nearby pixels.

**Enhance Edges (Available for grayscale and 24-bit color data only)**

Enhances the image data edges.

**Edit and Save Palette (Available for 8-bit color data only)**

Edits and saves the color palette.

**Delete Color (Available for 8-bit and 24-bit color data only)**

Deletes a specified color within the image data.

**Modify Color (Available for 8-bit and 24-bit color data only)**

Modifies a specified color within the image data.

**Extract Color (Available for 8-bit and 24-bit color data only)**

Extracts a specified color within the image data.

4.1.4 Scan Tools



The **Scan Tools** are normally displayed in the upper part of the application window, immediately below the toolbar.

To show or hide the **Scan Tools**, select the **View** menu > **Scan Tools** command.

For information on using Scan button, refer to Chapter 3.3, Scanning Procedure.

For information on using Scan and Print button, refer to Chapter 3.5, Scan and Print.

4.1.5 Page Toolbar

**Previous Page**

Displays the previous page of a multi-page image.

**Jump**

Displays a specified page of a multi-page image.

**Next Page**

Displays the next page of a multi-page image.



Cut Page

Cuts and stores the selected page of a multi-page image.



Copy Page

Copies and stores the selected page of a multi-page image.



Before

Inserts the stored page in front of the current image page.



After

Inserts the stored page after the current image page.



New Window

Creates a new image data window for the stored page.



Delete Page

Deletes the selected page of a multi-page image.



Save Page

Saves the current page of a multi-page image as a separate file.



Full Page View

Displays the image in page-by-page format.



Reduced Size View

Displays the image as reduced size images.



Page and Reduced Size View

Displays the current image together with reduced size images.

4.1.6 Editing Tools

Normal

When Extend Line is selected



The Editing tools are normally displayed on the right-hand side of the application window, directly beneath the Color Tools. Click the tool required for editing images within Scanning Master Pro Color.

To hide or display the Editing tools, select **Editing Tools** in the **View** menu.

The button functions are summarized below.

Pen Width

Sets the width of pixels used for Rubout, Revise, Line, and Extend Line in the Edit menu.

Frame Width

Specifies in pixels the width of the frame used for Fill in the Edit menu.

Frame Color

Specifies the color of the frame used for Fill in the Edit menu. Click this button to display the color selection window for grayscale or 8-bit color images. The colors available for the current image are shown, allowing the desired color to be selected. In the case of 24-bit color images, the color setting window is displayed, allowing any color to be specified. For bilevel monochrome, black and white are reversed.

Shape

Specifies the shape used for Cut, Copy, Erase Area, and Fill in the Edit menu.



Rectangle

Left-click two points. The area is defined by the rectangle containing them as opposite vertices.



Polygon

Define the vertices of the polygon by left-clicking. Double-click on the last vertex to determine the area.



Circle

Define the center of the circle by left-clicking. Move the mouse until a circle of the desired size is obtained. Left-click there again to determine the area.



Ellipse

Define the center of the ellipse by left-clicking. Move the mouse until an ellipse of the desired size is obtained. Left-click there again to determine the area.

Transparent

Available for the Revise, Line, Fill, and Extend Line functions (except for bilevel data).

When Transparent mode is on, the color specified as the background color is replaced by the foreground color. A tolerance can be set for the color to be replaced (i.e., for the background color).

TIP

Setting the allowable range to "0" replaces only the color specified as the background color.
 Setting the allowable range to "20" replaces those colors with RGB values differing from the background color by up to ± 20 .
 Setting the allowable range to "255" replaces all colors.

Tolerance

Specifies the allowable range of the background color used in Transparent mode.

Translucent

Available only when Fill is selected in 24-bit color. When Translucent mode is on, the foreground is filled semi-transparently. Setting a high translucency increases, and setting a low translucency decreases opacity. Translucency can be specified between levels of 0 and 100.

Translucency

Specifies the translucency used in Translucent mode.

Standard

Mixes the foreground and base colors according to translucency.

Retain Black

Mixes the foreground and base colors while retaining the dark colors.

Gradation

Fills objects using a gradation that grows lighter towards the center. This can only be specified when Translucent mode is selected in Fill.

Gradation Width

Specifies the fill width when using the gradation filling. Gradation is used to fill the distance of the width specified from the inside of the frame. Areas not within the gradation width will not be filled. Gradation is applied from the Translucency value specified to 100; Translucency can be specified between 0 and 100.

Solid Margin

Specifies the solid margin width when using gradation filling. The solid margin width within the gradation width is filled without using gradation, while the remainder of the gradation width is filled using gradation.

Reverse

Reverses the gradation direction when using gradation filling. Objects are filled using gradation that grows darker towards the center. Areas not within the gradation width will be filled using the Translucency value specified.

Type

Specifies the type of line for Extend Line on the Edit menu. This is only displayed when Extend Line is selected.

Height

Specifies the height in mm of Extend Line arrows on the Edit menu. This is only displayed when Extend Line is selected.

Width

Specifies the width in mm of Extend Line arrows on the Edit menu. This is only displayed when Extend Line is selected.

4.1.7 Status Bar



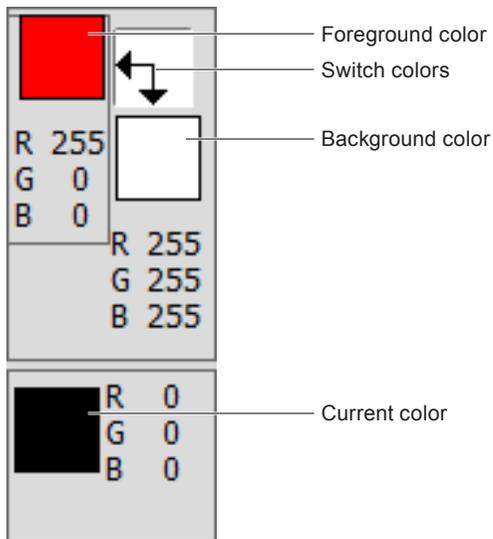
When you select a menu command or a button on the toolbar, the Status Bar displays a brief description of the command, the current page and the total number of pages, the cursor position, and the magnification ratio of the image data displayed.

To show or hide the Status Bar, select the **View** menu > **StatusBar** command.

While the Status Bar is on-screen, a check mark is located next to this command name.

The Status Bar is shown at the bottom of the Scanning Master Pro Color window.

4.1.8 Color Tools



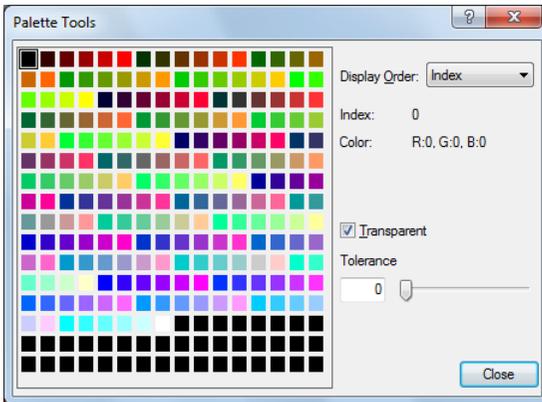
The Color Tools are normally displayed on the right-hand side of the application window.

These tools are used to specify the colors when editing in Scanning Master Pro Color.

The specified foreground and background colors are displayed, along with the color at the current mouse cursor position. If edit commands are in use, a frame is displayed around the foreground or background colors. The color enclosed in the frame is the color currently being edited. To hide or display the Color Tools, select the **Color Tools** command in the **View** menu. The button functions are summarized below.

- Foreground color** Specifies the foreground color used for **Revise**, **Line**, **Fill**, **Text**, and **Extend Line** in the Edit menu. Clicking this button for grayscale or 8-bit color images displays the **Select Color** window. Colors can be selected from among the available colors displayed for the current image. For 24-bit color images, the **Color** window will be displayed, allowing the desired color to be set.
- Background color** Specifies the background color to be pasted as the transparent background color used for **Revise**, **Line**, **Fill**, and **Extend Line** for Transparent mode in the Edit menu, as well as for **Deskew**, **4-point Correction**, **2-point Correction**, **Crop**, and Link in the Tools menu. Clicking this button for grayscale or 8-bit color images displays the **Select Color** window. Colors can be selected from among the available colors displayed for the current image. For 24-bit color images, the **Color** window will be displayed, allowing the desired color to be set.
- Switch colors** Clicking this button switches the foreground and background colors. This button should be used to change the foreground and background colors for bilevel images.
- Current color** Displays the color of the pixel at the current cursor position.

4.1.9 Palette Tools (for 8-bit color)



Sets the colors and transparent mode that may be used when editing in Scanning Master Pro Color. The Palette Tool Command on the **View** menu can be selected to display or hide the **Palette Tools** window.

The functions included are described below.

Display Order Changes the palette display order.

Index Displays the number of the color currently selected.

Color Displays the RGB value of the color currently selected.

Transparent Sets **Transparent** mode.

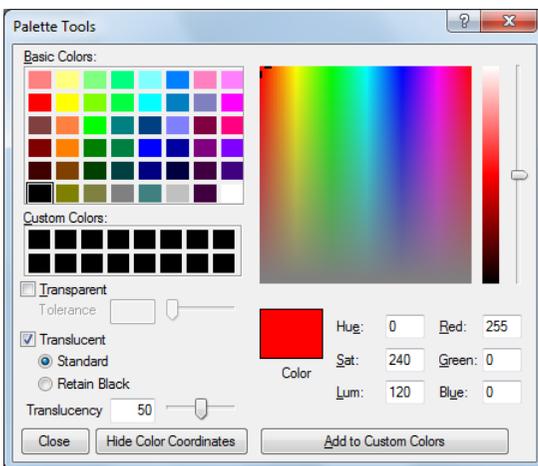
Tolerance Sets the tolerance for the background color used in **Transparent** mode.

Close Closes the **Palette Tools** window.

TIP 

For more information on Transparent mode, refer to Editing Tools on page 4-8.

4.1.10 Palette Tools (for 24-bit color)



Sets the colors, transparent mode, and translucent mode used when editing in Scanning Master Pro Color.

When editing commands are used, the color set in **Color** is applied to the current editing process. To undo color changes, select the **Undo** command on the **Edit** menu.

The **Palette Tool** command on the **View** menu can be selected to display or hide the **Palette Tools** window.

The functions included are described below.

Basic Colors Displays the basic colors that may be used.
Click on the basic color closest to that required, and then use the color matrix to define the desired color.

Custom Colors Displays colors that have been custom-defined.
To change a defined color, click on the color, and then click on Define Custom Colors. Once changed, click Add to Custom Colors.

Define Custom Colors
..... Click to display the color matrix, which permits the definition of colors as desired. To define a particular color, click inside the color matrix, and then click Add to Custom Colors.

Colors can be defined by entering values for Hue, Saturation, Luminosity, Red, Green, and Blue before clicking Add to Custom Colors.

Hide Color Coordinates
..... Click to hide the color matrix.

Color Displays the selected color in the color matrix and specified in Custom Colors.

Add to Custom Colors
..... Adds defined colors to Custom Colors.

Hue Specifies the hue of the color. When the hue is changed, the red, green, and blue values also change accordingly. Hue can be set between 0 and 239.

Saturation Specifies the saturation of the color. Saturation indicates the chroma of the color. The maximum value is 240. Increasing the value brings the color closer to a pure color.

Luminosity Specifies the luminosity of the color. Luminosity indicates the brightness of the color. It can be set between 0 (black) and 240 (white). If Saturation is set to 0, the luminosity specifies the grayscale brightness.

Red Specifies the amount of red included in the color. The desired color can be defined by mixing the red, green, and blue values.

Green Specifies the amount of green included in the color. The desired color can be defined by mixing the red, green, and blue values.

Blue Specifies the amount of blue included in the color. The desired color can be defined by mixing the red, green, and blue values.

Transparent Sets **Transparent** mode.

Tolerance Sets the tolerance for the background color used in **Transparent** mode.

Translucent Sets Translucent mode.

Translucency Sets the translucency used in **Translucent** mode.

Standard Sets the method used in **Translucent** mode to **Standard**.

Retain Black Sets the method used in **Translucent** mode to **Retain Black**.

Close Closes the Palette Tools window.



For more information on **Transparent mode** and **Translucent mode**, refer to “4.1.6 Editing Tools”.

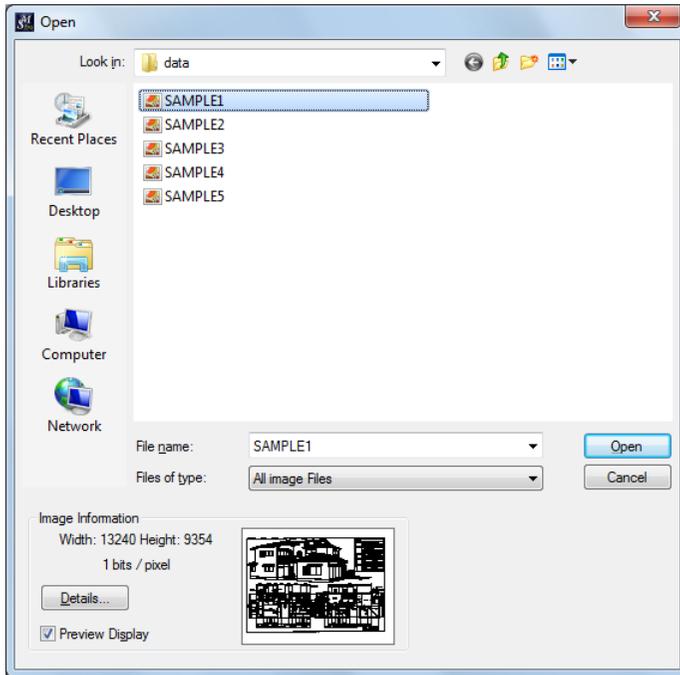
4.2 Basic File Operations

4.2.1 Opening an Image File

- (1) On the **Toolbar**, click the **Open** button, or select the **File** menu > **Open**.



The window used to open an image file appears.



- (2) Settings in the Open window

- (a) Specify the folder in which the image file is to be opened in the **Look in** pulldown list.
- (b) Using the **Files of type** list, you can restrict the file types listed in the **File name** list. To list all types of files, select "All Files" in the **Files of type** list. For raster files, the **Files of type** list only contains files with the extension you specified on the File Settings tab in Options.
- (c) **Image information** displays information (height, width, and bits per pixel) for the image file selected. Clicking the **Details** button displays detailed information for the image file selected. The **Preview** window can be displayed or hidden by checking or unchecking the **Preview Display** checkbox.

- (3) Opening a file

Either double-click the filename in the **File name** list, or click the filename in the **File name** list and then click the **Open** button with the desired file selected.

4.2.2 Saving an Image File

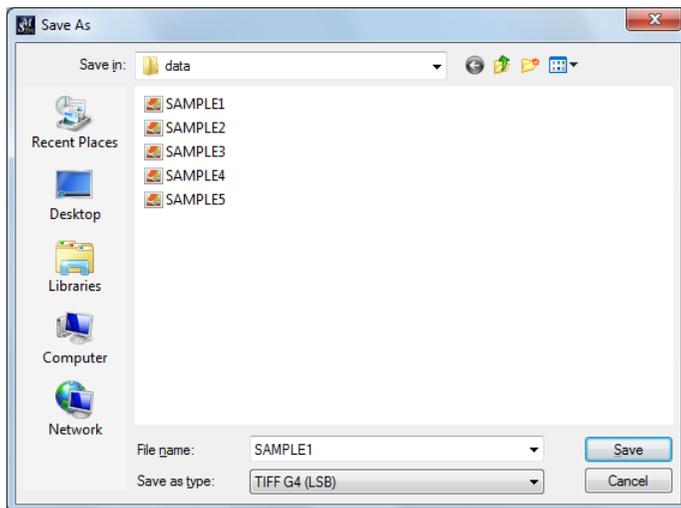
- (1) Select the window in which the image you want to save is on-screen.
- (2) On the toolbar, click the **Save** button, or select the **File** menu > **Save**.



4.2.3 Changing the File Name, Folder, or File Format

- (1) If you want to change the folder, file name, or file format before saving the file, select the window in which the image is on-screen.
- (2) Select the **File** menu > **Save As**.

The Save As window opens.



- (3) Settings in the **Save As** window.
 - (a) To save the image in a different file format, select the new format from the **Save as type** list. The extension of the new file format will change to the default character string. The default extension for the file format can be specified on the **Tools** menu > **Options** > **File Settings** tab.
 - (b) To save the image under a different file name, type the new name in the **File name** box. The file will be renamed.
 - (c) To save the image in a different folder or drive, set the **folder** and **drive** in the **Save in** pull-down list.
- (4) Click the **Save** button to save the file.



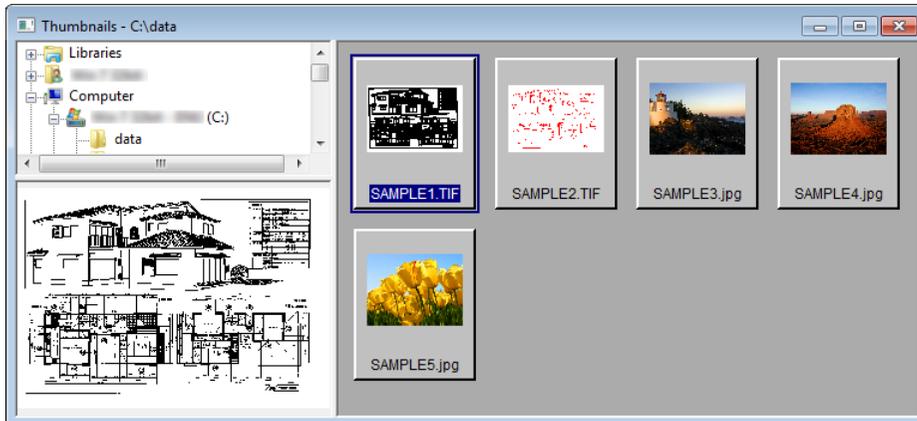
If Exif data (e.g. JPEGs taken using a digital camera) is opened and saved, information other than the image data (e.g. the photographic data) will not be saved.

4.2.4 Thumbnail View

On the Toolbar, click the **Thumbnail View** button, or select the **File** menu > **Thumbnail View**.



The Thumbnail view window opens.



The left-hand side of the Thumbnail view window is used for specifying the folder. Clicking a folder displays the thumbnails for images that can be opened in the right-hand window.

TIP

Colors will not be displayed correctly unless the screen colors are set to True Color (24 bit). Note that a thumbnail display file called "SMBROWSE.DB" will be created in the thumbnail display folder.

Depending on the image data within the folder, it may take some time for all the images to be displayed.

To change a folder, select the folder to be displayed from the folder list on the left.

Double-click the thumbnail displayed on the right to open the file. Thumbnail view method, size, and preview display on/off can be specified on the Options command Thumbnails tab in the Tools menu. Registering an application on the Options command Tools tab in the Tools menu allows the application to be launched by moving the mouse over the thumbnail in the Thumbnail view window and rightclicking, or by choosing it from the Tools menu.

It is possible to search within folders by selecting a folder from the folder list on the left-hand side and selecting the Search for Files command with the right mouse button.

The following menus are available in the Thumbnail view window.

File menu

Close Closes the Thumbnail view window.

Search of Files... Searches for files.

Update Thumbnails Refreshes the current folder thumbnail view.

Print Prints the selected image .

Page Setup... Sets the page layout and printer (plotter) selection and connection.

Image file menu

Copy Copies the selected file to a different folder.

Delete Deletes the selected file.

Move Moves the selected file to a different folder.

- Rename** Renames the selected file.
- Information** Displays information on the selected files.
- Open** Opens the selected file.

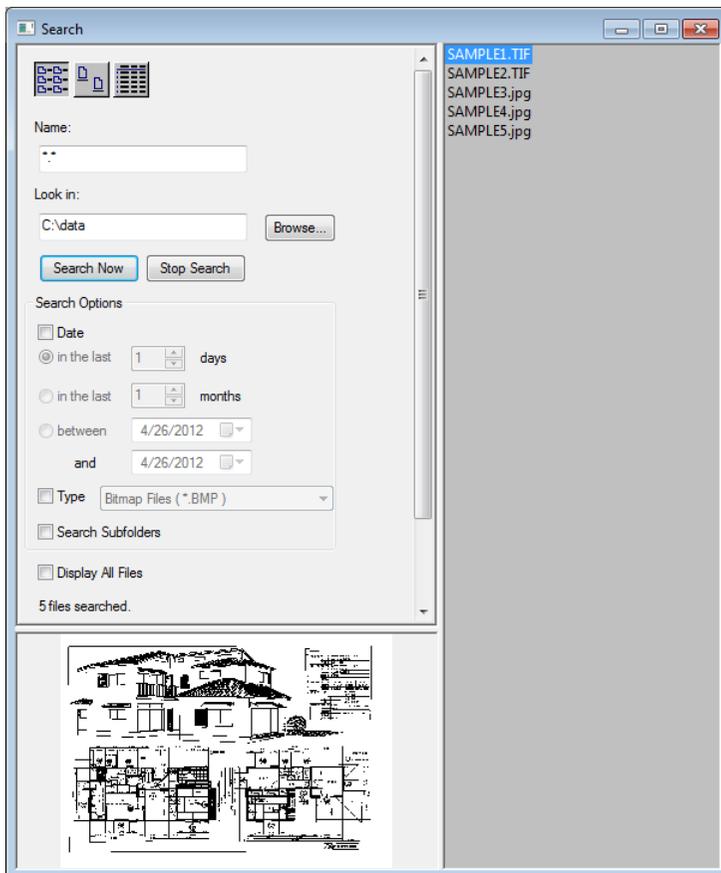
4.2.5 Search for Files

Searches for files

- (1) On the toolbar, click the **Search for Files** button or select the **File** menu > **Search for Files**.



- (2) The Search window appears.



- (3) Use the left-hand side of the Search window to specify the search conditions.

Name Enter the full name of the file to be searched for. When searching for a partial file name, enter “*”. For example, to find all files beginning with “scan”, enter “scan*”. To find a file named “scan0001.tif”, enter “scan0001.tif”. If nothing is entered, the results will be the same as searching for “*”.

Look In Specifies the drives, folders, or networks to be searched. Either click the Browse button or enter the location to be searched directly.

Search Options

Date Searches for files created or modified within a specified period. The period can be specified in a number of months or days, or from a specific date.

Type Searches for files in the specified format. File formats can be selected from among those supported by Scanning Master Pro Color. See page 1-1 for details.

Search Subfolders
 Searches within subfolders in the search location specified.

Display All Files
 Specifying this option displays file information in gray for those files searched which are not supported by Scanning Master Pro Color or which could not be loaded due to an error.

- (4) Click the Search Now button to search for files with format extensions supported by Scanning Master Pro Color with the conditions specified.
- (5) To cancel the search, either click the Stop Search button or press the ESC key.
- (6) Once searching is complete, the information for the images found is displayed in the right-hand side of the window. Left-click the image information to select the file and display the preview image in the bottom left of the window. Double-click to open the file.

The search results can be displayed using one of the following three methods.
 Select the method using the buttons at the top left of the search window.



View List Displays file names



View Thumbnails ... Displays image thumbnails



View Details Displays image information such as file name, size, and date modified

TIP

Colors will not be displayed correctly unless the screen is set to True Color (24-bit).

- Up to 256 files can be searched for at once.
 - Clicking on a column name in View Details sorts by that item.
 - The thumbnail display method and size can be specified on the Options command Thumbnails tab in the Tools menu.
 - Registering an application on the Options command Tools tab in the Tools menu allows the application to be launched by moving the mouse over the thumbnail in the Search window and right-clicking or by choosing it from the Tools menu.
 - The preview display can be switched on or off on the Options command Thumbnails tab in the Tools menu.
 - To cancel thumbnail generation, press the ESC key. To resume generating thumbnails, select the Update command in the File menu.
-

The following menus are available in the Search window.

File menu

Close Closes the Search window

Update Refreshes the current search results display; this resumes thumbnail generation if it was cancelled midway. To cancel refreshing of the search display, press the ESC key.

Print Prints the selected image

Page Setup Sets the page layout and selects the printer (or plotter) and connection

Image File menu

Copy Copies the selected file to a different folder

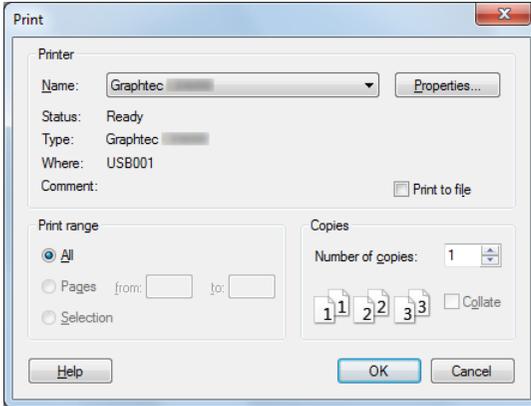
- Delete** Deletes the selected file
 - Move** Moves the selected file to a different folder
 - Rename** Renames the selected file
 - Information** Displays information for the selected file
 - Open** Opens the selected file
-

TIP 

Registering an application on the **Options** command **Tools** tab in the **Tools** menu allows the application to be launched by moving the mouse over the thumbnail in the **Thumbnail View** window and right-clicking or by choosing it from the **Tools** menu.

4.3 Printing Image Data

- (1) Open the window that contains the preview of the image to be printed.
- (2) On the toolbar, click the **Print** button, or select the **File** menu > **Print**.



The Print window opens. Complete all the settings, and click the OK button to initiate printing.

TIP

After selecting the File menu > Page Setup, you can set the document size, the print orientation, and the magnification. You should turn on Direct Output to Plotter in the Page Setup window, for example, if you want to output a long-length image on a Graphtec plotter or similar output equipment. Usually leave this check box off.

4.4 Viewing the Image

4.4.1 Scrolling the Image

If the image is scrollable, a scroll bar appears at both the right end and bottom. The scroll box in each scroll bar indicates the current position in the on-screen image. Using the mouse, you can scroll the image to move to the desired position in a hidden area.

Perform one of the following:

- Click the **Move** button on the toolbar, and then left-click on the image to drag it as desired.



- Select **Move** on the View menu, and then left-click on the image to drag it to the desired location.
- Press the <F3> key on the keyboard, and then left-click on the image to drag it to the desired location.
- Drag the horizontal or vertical scroll box.
- Click the scroll arrow at either end of a scroll bar.
- Click the scroll bar.
- Press the <←>, <→>, <↑>, or <↓> key on the keyboard.

4.4.2 Previewing the Whole Image

This function scales the on-screen image so that the whole image fits in the current window size.

Perform one of the following:

- On the toolbar, click the **Fit** button.



- Select the **View** menu > **Fit**.
- Press the <F2> key on the keyboard.

4.4.3 Viewing the Image at Pixel Level

This function displays the image at pixel level, associating one dot with one pixel on the screen. All the data can be displayed precisely.

Perform one of the following:

- Click the **1:1** button.



- Select the **View** menu > **1:1**.
- Press the <Ctrl> + <1> keys on the keyboard.

4.4.4 Zooming in on the Image

This function zooms in on the on-screen image, by a factor of 2 or 4, relative to the oneto-one view size.

- Select the **View** menu > **Zoom In**.

TIP

If you want to double the size of the image relative to the current one, click the **Zoom In** button once.



4.4.5 Zooming out the Image

This function zooms out the on-screen image, by a factor of 1/2, 1/4, 1/8, or 1/16, relative to the one-to-one view size.

- Select the **View** menu > **Zoom Out**.

TIP

If you want to zoom the image to half its current size, click the **Zoom Out** button once.



4.4.6 Bird's Eye Display

You can show or hide the Bird's Eye that is used to manipulate the on-screen image (for example, zooming in on the image).

- On the toolbar, click the **Bird's Eye** button.



TIP

You can show the **Bird's Eye** button by customizing the toolbar.

- Select the **View** menu > **Bird's Eye**.
- Press the <F6> key on the keyboard.

How to use the Bird's Eye Function

The Bird's Eye shows the overview of the on-screen image and what section of the overview is currently displayed in the on-screen image window.

In addition, you can control display of the on-screen image window through the Bird's Eye.

(1) Moving the display position

With the left mouse button, drag the view range in the overview to the desired position to display.

(2) Setting the display position and the magnification

With the right mouse button, drag the overview. Once the desired range to display the on-screen image window is obtained, release the button. To cancel setting of the view range, press the <ESC> key during drag.

4.4.7 Zoom Display

You can show or hide the Zoom function that is used to zoom the area located at the current cursor position.

- On the toolbar, click the **Zoom** button.



TIP

You can show the Zoom button by customizing the toolbar.

- Select the View menu > **Zoom**.
- Press the <F11> key on the keyboard.

How to use Zoom

Zoom displays the detailed view of a zoomed section in the area containing the current cursor position.

Setting the magnification

Left-click Zoom to make it active. Next, use the <+> key to zoom in on the view or the <-> key to zoom it out. For the magnification, you can select **1/16**, **1/8**, **1/4**, **1/2**, **1**, **2**, **4**, or **8**.

Loupe

You can turn on or off the Loupe Mode, which enables you to zoom in on the area around the cursor. If it is on, the view is zoomed in on while you are holding down the left mouse button in the image window. You can change the size and magnification for Loupe by using the Display Settings in the Tools menu > Options. In addition, you can change the magnification by pressing the <+> or <-> key while the image is currently zoomed in on.

- On the toolbar, click the **Loupe** button.



TIP

You can show the Loupe button by customizing the toolbar.

- Select the View menu > **Loupe**.
- Select the <F12> key on the keyboard.

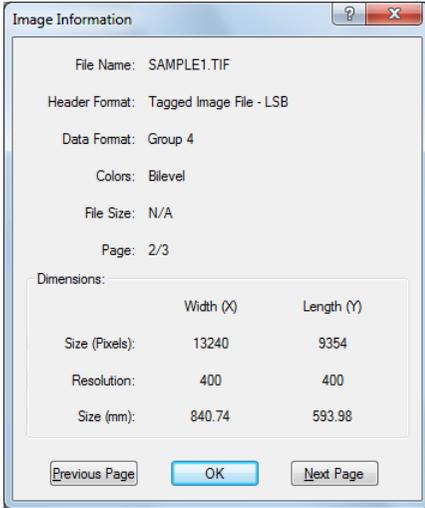
4.4.8 Image Info

You can display the window that lists detailed information about the on-screen image.

- On the toolbar, click the **Image Info** button.



- Select the **View** menu > **Image Info**.



For multi-page images

Previous Page button

.....Displays image information for the previous page.

Next Page buttonDisplays image information for the next page.

OK buttonDisplays the page corresponding to the image information displayed.

4.5 Using the Editing Functions

Image data can be edited easily using the function buttons on the Toolbar.



The cursor form varies depending on the particular command operation or function. When the cursor appears as a crosshair, the center of the cursor is the point specified by the cursor.

4.5.1 Cut

The data you selected from the on-screen image is cut and saved in memory. Once it is cut, the existing memory contents are replaced by the new cut data.

To cut a specific area from the image, take the following steps:

- (1) On the toolbar, click the **Cut** button, or select the **Edit** menu > **Cut**.



- (2) Use the **Cut** tool as described below to select the region to be erased. The previously selected point can be deleted by pressing the <ESC> key.
 - (a) **Rectangle** Click the left mouse button at two points. This selects a rectangle with the points at diagonally opposite corners.
 - (b) **Polygon** Click the left mouse button at the points corresponding to the vertexes of the polygon. (The polygon is always closed.) Doubleclick the final vertex on the region to complete the selection.
 - (c) **Circle or ellipse** Click the left mouse button at the center point of the region, and then move the mouse to specify the desired circle or ellipse size.
- (3) Modify and enter the position and size.

Move The mouse cursor changes to [ : **Move**] when placed within the selected range, allowing the position to be moved by pressing the left mouse button and dragging.

Resize The mouse cursor changes to [ : **Resize in horizontal/vertical direction**] when close to a corner handle in the selected range, allowing the size to be changed in the horizontal or vertical directions by pressing the left mouse button and dragging. If a polygon is selected, vertices can be deleted by pressing the right mouse button and selecting the vertices to be deleted from the menu displayed.

If a rectangle, circle, or ellipse is selected, the mouse cursor changes to [ : **Resize in vertical direction**] or [ : **Resize in horizontal direction**] when close to a frame line in the selected range, allowing the size to be changed in the vertical or horizontal directions by pressing the left mouse button and dragging.

If a polygon is selected, the mouse cursor changes to [ : **Add vertex**] when close to a frame line between vertices, allowing a vertex to be added by pressing the right mouse button and selecting Add Vertex from the menu displayed.

Enter Outside the selected range, the mouse cursor changes to the shape selected [], and is ready for selection of the first point (2) in the next cut operation. Upon selecting the first point of the next region, the size and position of the previous region are entered, and the contents within the

selected range are deleted and stored in the memory.

Editing operations can also be accessed by right-clicking on the image and selecting Enter from the menu that appears.

- (4) To quit using the **Cut** tool

To quit cutting, either click on the **Cut** button again on the Toolbar, or select **Cut** from the **Edit** menu. To quit during step (2), press the <ESC> key twice.

(Press the key once more than the number of points selected when using polygon)

TIP 

The **Cut Tool Shape (rectangle, polygon, circle, ellipse)** can be selected using the **Editing Tools**.
 The **background color** can be set using the **Color Tools**.

4.5.2 Copy

The data you selected from the on-screen image is copied and saved in memory. Once it is copied, the existing memory contents are replaced by the new copied data.

To copy a specific area from the image, take the following steps:

- (1) On the toolbar, click the **Copy** button, or select the **Edit** menu > **Copy**.



- (2) Use the Copy tool as described below to select the region to be erased. The previously selected point can be deleted by pressing the <ESC> key.

(a) **Rectangle** Click the left mouse button at two points. This selects a rectangle with the points at diagonally opposite corners.

(b) **Polygon** Click the left mouse button at the points corresponding to the vertexes of the polygon. (The polygon is always closed.)

Double-click the final vertex on the region to complete the selection.

(c) **Circle or ellipse**

..... Click the left mouse button at the center point of the region, and then move the mouse to specify the desired circle or ellipse size. Click the left mouse button again to complete the region selection.

- (3) Modify and enter the position and size.

Move The mouse cursor changes to [] : **Move**] when placed within the selected range, allowing the position to be moved by pressing the left mouse button and dragging.

Resize The mouse cursor changes to [] : **Resize in horizontal/vertical direction**] when close to a corner handle in the selected range, allowing the size to be changed in the horizontal or vertical directions by pressing the left mouse button and dragging. If a polygon is selected, vertices can be deleted by pressing the right mouse button and selecting the vertices to be deleted from the menu displayed.

If a rectangle, circle, or ellipse is selected, the mouse cursor changes to [] : **Resize in vertical direction**] or [] : **Resize in horizontal direction**] when close to a frame line in the selected range, allowing the size to be changed in the vertical or horizontal directions by pressing the left mouse button and dragging.

If a polygon is selected, the mouse cursor changes to [] : **Add vertex**] when close to a frame line between vertices, allowing a vertex to be added by pressing the right mouse button and selecting Add Vertex from the menu displayed.

Enter Outside the selected range, the mouse cursor changes to the shape selected [+ + + +], and is ready for selection of the first point (2) in the next copy operation. On selecting the first point of the next region, the size and position of the previous region are entered, and the contents within the selected range are saved.

Editing operations can also be accessed by right-clicking on the image and selecting Enter from the menu that appears.

- (4) To terminate use of the **Copy** tool

Click the **Copy** button on the toolbar again, or select **Edit > Copy** again. To quit during step (2), press the <ESC> key twice.

(Press the key once more than the number of points selected when using polygon)

TIP

The Copy Tool Shape (rectangle, polygon, circle, ellipse) can be selected using the Editing Tools.

4.5.3 Paste

This function pastes the memory contents to the on-screen image. If the memory contains no data, this command is not available. Scanning Master Pro Color allows you to use one of three paste functions, depending on the circumstances.

New Image

An on-screen image window is created with the memory contents as the new image data. Click the **New Image** button on the toolbar, or select the **Edit** menu > **Paste > New Image**.



TIP

When pasting polygonal, circular, or elliptical image data, the area around the image will be the background color set when the image was copied or cut.

Current window

Pastes the contents of the memory at the cursor position.

The procedure for pasting a cut or copied region onto an image is as follows.

- (1) To paste into a different window from the window in which the image was cut or copied, open the window in which the region is to be pasted.
- (2) Click the **Current Window** button on the Toolbar, or select **Current Window** from **Paste** in the **Edit** menu.



- (3) Hold down the left mouse button to display the image or region stored on the clipboard.
You may quit the procedure by pressing the <ESC> key.
- (4) Drag the contents of the clipboard to the desired location while holding down the left mouse button.
- (5) Release the mouse button to specify the paste location.
- (6) Modify and enter the position.

Move The mouse cursor changes to [ : **Move**] when placed within the selected range, allowing the position to be moved by pressing the left mouse button and dragging.

Enter Outside the selected range, the mouse cursor changes to a crosshair, and is ready for the next pasting operation (3). After the next pasting position (3) is selected, the previous pasting position is entered, and the contents of the clipboard are pasted onto the image.

Editing operations can also be accessed by right-clicking on the image and selecting **Enter** from the menu that appears.

(7) To exit Paste tool

To quit pasting in the current window, either click the **Current Window** button once more on the toolbar, or select **Current Window** from Paste in the **Edit** menu.

Transparent Background

The contents of the clipboard are pasted at the cursor position. Unlike the **Current View** command, the clipboard contents are pasted with a transparent background color.

The procedure for pasting a cut or copied region onto an image is as follows.

- (1) To paste into a different window from the window in which the image was cut or copied, open the window in which the region is to be pasted.
- (2) Click the **Transparent Background** button on the Toolbar, or select **Transparent Background** from **Paste** in the **Edit** menu.



(3) Hold down the left mouse button to display the image or region stored in the memory.

You may quit the procedure by pressing the <ESC> key.

- (4) Drag the contents of the clipboard to the desired location while holding down the left mouse button.
- (5) Release the mouse button to specify the paste location.
- (6) Modify and enter the position.

Move The mouse cursor changes to [ : **Move**] when placed within the selected range, and the position can be moved by pressing the left mouse button and dragging.

Enter Outside the selected range, the mouse cursor changes to a crosshair, and is ready for the next pasting operation (3). After the next pasting position (3) is selected, the previous pasting position is entered, and the contents of the clipboard are pasted onto the image.

Editing operations can also be accessed by right-clicking on the image and selecting **Enter** from the menu that appears.

(7) To exit Paste tool

To quit pasting with a transparent background, either click the **Transparent Background** button on the Toolbar, or select **Transparent Background** from **Paste** in the **Edit** menu.



The background color can be set using the Color Tools.

4.5.4 Extend Line

Draws an extended line on the image

- (1) Click the **Extend Line** button on the Toolbar or select **Extend Line** in the **Edit** menu.



- (2) Click with the left mouse button to enter the start point of the extended line.
- (3) Move to the intermediate or end point of the extended line and click with the left mouse button to enter. Previously selected points can be deleted by pressing the <ESC> key. Entering the intermediate or end point while pressing the <SHIFT> key draws a horizontal, vertical, or 45° diagonal line.
- (4) Modify and enter the position and size.

Move The mouse cursor changes to [ : **Move**] when placed close to the extended line, allowing the position to be moved by pressing the left mouse button and dragging.

Modify start point, intermediate point, or end point

..... The mouse cursor changes to [ : **Modify position**] when placed close to the start point, intermediate point, or end point handles, allowing the position to be moved by pressing the left mouse button and dragging.

Enter Away from the extended line, the mouse cursor changes to [ : **Extend Line**], and is ready for selecting the next extended line start position (2). After the next extended line start position is selected, the previous extended line size and position are entered.

Editing operations can also be accessed by right-clicking on the image and selecting Enter from the menu that appears.

- (5) To quit **Extend Line** drawing

Click the **Extend Line** button on the Toolbar again, or select **Extend Line** in the **Edit** menu. To quit during step (2), press the <ESC> key twice.

To quit during step (3), press the <ESC> key three times.



TIP

Transparent mode can be set using the Editing Tools.

The Extend Line type, size, and width can be specified using the Editing Tools.

The Extend Line color can be specified as the foreground color in Color Tools, or by using Select Color in the Edit menu.

4.5.5 Select Color

Selects a color from the image and sets it as the foreground color.

- (1) Click the **Select Color** button on the Toolbar or select **Select Color** in the **Edit** menu.



- (2) Move the mouse cursor over to the color to be selected, and click with the left button.
- (3) The selected color is assigned to the Foreground color button in Color Tools.
- (4) To quit Select Color

Click the **Select Color** button on the Toolbar again, or select **Select Color** in the **Edit** menu.



4.5.6 Rubout

The desired area is erased in a manner similar to rubbing out with an eraser on the document.

- (1) Click the **Rubout** button on the Toolbar or select **Rubout** in the **Edit** menu.



- (2) Press and hold down the left mouse button to drag the **Rubout** tool and erase the image.
- (3) To terminate use of the **Rubout** tool

Click the **Rubout** button on the Toolbar again, or select **Rubout** in the **Edit** menu.



TIP

The Rubout tool width can be specified using the Editing Tools. The area erased will be in the color specified as the background color.

4.5.7 Erase area

Specify the region on the image to be erased as a rectangle, polygon, circle, or ellipse.

- (1) Click the **Erase Area** button on the Toolbar, or select **Erase Area** in the **Edit** menu.



- (2) Use the **Erase Area** tool as described below to select the region to be erased. The previously selected point can be deleted by pressing the <ESC> key.
 - (a) **Rectangle** Click the left mouse button at two points. This selects a rectangle with the points at diagonally opposite corners.
 - (b) **Polygon** Click the left mouse button at the points corresponding to the vertexes of the polygon. (The polygon is always closed.)
Double-click the final vertex on the region to complete the selection.
 - (c) **Circle or ellipse**
..... Click the left mouse button at the center point of the region, and then move the mouse to specify the desired circle or ellipse size. Click the left mouse button again to complete the region selection.
- (3) Modify and enter the position and size.

Move The mouse cursor changes to [↔] : **Move**] when placed within the selected range, allowing the position to be moved by pressing the left mouse button and dragging.

Resize The mouse cursor changes to [↔] : **Resize in horizontal/vertical direction**] when close to a corner handle in the selected range, allowing the size to be changed in the horizontal or vertical directions by pressing the left mouse button and dragging. If a polygon is selected, vertices can be deleted by pressing the right mouse button and selecting the vertices to be deleted from the menu displayed.

If a rectangle, circle, or ellipse is selected, the mouse cursor changes to [↕] : **Resize in vertical direction**] or [↔] : **Resize in horizontal direction**] when close to a frame line in the selected range, allowing the size to be changed in the vertical or horizontal directions by pressing the left mouse button and dragging.

If a polygon is selected, the mouse cursor changes to [●⁺ : **Add vertex**] when close to a frame line between vertices, allowing a vertex to be added by pressing the right mouse button and selecting Add Vertex from the menu displayed.

Enter Outside the selected range, the mouse cursor changes to the selected shape [+□ +○ +○ +Σ], and is ready for selection of the first point (2) in the next Erase area operation. After the first point of the next region is selected, the size and position of the previous region are entered. The contents enclosed in the selected area will be erased.

Editing operations can also be accessed by right-clicking on the image and selecting Enter from the menu that appears.

- (4) To terminate use of the **Erase Area** tool

Click the **Erase Area** button on the Toolbar again, or select **Erase Area** in the **Edit** menu. To quit during step (2), press the <ESC> key twice.

(Press the key once more than the number of points selected when using polygon)

TIP 

The **Erase Area** tool shape (rectangle, polygon, circle, ellipse) can be selected using the **Editing Tools**. The erased area will be in the specified background color.

4.5.8 *Revise*

You can retouch the on-screen image in a manner similar to using a pencil on the document.

- (1) Click the **Revise** button on the Toolbar or select **Revise** in the **Edit** menu.



- (2) Press and hold down the left mouse button to drag the **Revise** Tool and retouch the image.
 (3) To terminate use of the **Revise** tool

Click the **Revise** button on the toolbar again, or select **Revise** in the **Edit** menu.



TIP 

Transparent mode can be set using the **Editing Tools**.
 The **Revise** tool color can be specified as the foreground color in **Color Tools** or by **Select Color** in the **Edit** menu. The **Revise** tool width can be specified using the **Editing Tools**.

4.5.9 *Line*

Draws a straight line on the image

- (1) Click the **Line** button on the Toolbar or select **Line** in the **Edit** menu.



- (2) Click with the left mouse button to enter the start point of the line, move to the end point of the line, and click with the left mouse button again to enter. The previously selected point can be deleted by pressing the <ESC> key. Entering the second point while pressing the <SHIFT> key draws a horizontal, vertical, or 45° diagonal line.
 (3) Modify and enter the position and size.

Move The mouse cursor changes to [↔] : **Move**] when placed close to the line, allowing the position to be moved by pressing the left mouse button and dragging.

Modify start and end points

..... The mouse cursor changes to [↔] : **Modify position**] when placed close to the start or end point handles, allowing the position to be moved by pressing the left mouse button and dragging.

Enter Away from the line, the mouse cursor changes to [↔] : **Line**], and is ready for selecting the next line start position (2). After the next line start position is selected, the previous line size and position are entered.

Editing operations can also be accessed by right-clicking on the image and selecting Enter from the menu that appears.

(4) To terminate use of the **Line** tool

Click the **Line** button on the Toolbar again, or select **Line** in the **Edit** menu. To quit during step (2), press the <ESC> key twice.



TIP

Transparent mode can be set using the Editing Tools. The Line color can be specified as the foreground color in Color Tools, or by using Select Color in the Edit menu. The Line tool width can be specified using the Editing Tools.

4.5.10 Fill

Fills shapes on the image

(1) Click the **Fill** button on the Toolbar, or select **Fill** in the **Edit** menu.



(2) Use the **Fill** tool as described below to select the region. The previously selected point can be deleted by pressing the <ESC> key.

(a) **Rectangle** Click the left mouse button at two points. This selects a rectangle with the points at diagonally opposite corners.

(b) **Polygon** Click the left mouse button at the points corresponding to the vertexes of the polygon. (The polygon is always closed.)

Double-click the final vertex on the region to complete the selection.

(c) **Circle or ellipse**

..... Click the left mouse button at the center point of the region, and then move the mouse to specify the desired circle or ellipse size. Click the left mouse button again to complete the region selection.

(3) Modify and enter the position and size.

Move The mouse cursor changes to [↔] : **Move**] when placed within the selected range, allowing the position to be moved by pressing the left mouse button and dragging.

Resize The mouse cursor changes to [↔] : **Resize in horizontal/vertical direction**] when close to a corner handle in the selected range, allowing the size to be changed in the horizontal or vertical directions by pressing the left mouse button and dragging. If a polygon is selected, vertices can be deleted by pressing the right mouse button and selecting the vertices to be deleted from the menu displayed.

If a rectangle, circle, or ellipse is selected, the mouse cursor changes to [↑↓ : **Resize in vertical direction**] or [←→ : **Resize in horizontal direction**] when close to a frame line in the selected range, allowing the size to be changed in the vertical or horizontal directions by pressing the left mouse button and dragging.

If a polygon is selected, the mouse cursor changes to [●+ : **Add vertex**] when close to a frame line between vertices, allowing a vertex to be added by pressing the right mouse button and selecting Add Vertex from the menu displayed.

Set Frame Uses the Edit tool to specify the width and color of the frame used to indicate the range of filled shapes. Set the frame width to zero if a frame is not required.

Enter Outside the selected range, the mouse cursor changes to the shape selected [+ □ + ○ + ○ + ✕], and is ready for selection of the first point (2) in the next copy operation. After the first point of the next region is selected, the size and position of the previous region are entered, and the region selected is filled.

Editing operations can also be accessed by right-clicking on the image and selecting Enter from the menu that appears.

(4) To terminate use of the **Fill** tool

Click the **Fill** button on the Toolbar again, or select **Fill** in the **Edit** menu. To quit during step (2), press the <ESC> key twice.

(Press the key once more than the number of points selected when using polygon)

TIP 

Transparent mode can be set using the Editing Tools.

For 24-bit color, Translucent mode can also be set using the Editing Tools.

The filled shape color can be specified as the foreground color in Color Tools, or by using Select Color in the Edit menu. Gradation can be set using the Edit tool if Translucent mode is specified.

The filled shape (rectangle, polygon, circle, ellipse) can be selected using the Editing Tools.

4.5.11 Text

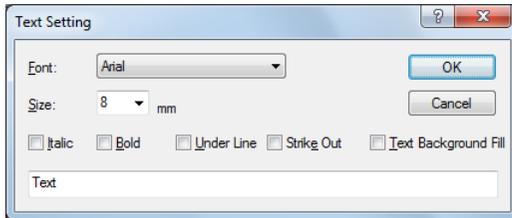
Standard

Adds text strings to the image.

- (1) Click the **Text** button on the Toolbar or select **Text** in the **Edit** menu.



- (2) The **Text Setting** window will be displayed. Enter the text, set the font and size, and then click the **OK** button.



- Italic** specifies italic text
- Bold** specifies bold text
- Under Line** specifies underlined text
- Strike Out** specifies struck out text
- Text Background Fill**
..... specifies shading around the text

- (3) The text entered will be displayed to the right of the cursor. Specify the start point of the text string by clicking with the left mouse button.
- (4) Specify the angle of the text string by clicking with the left mouse button. Entering the second point while pressing the **<SHIFT>** key creates a horizontal, vertical, or 45° diagonal text string.
- (5) Modify and enter the text string size and position.

- Move** The mouse cursor changes to [] : **Move**] when placed within the text box, allowing the position to be moved by pressing the left mouse button and dragging.
- Resize** The mouse cursor changes to [] : **Resize in horizontal/vertical direction**] when close to one of the four corner handles on the text box, allowing the size to be changed in the horizontal/vertical direction by pressing the left mouse button and dragging. Pressing the **<SHIFT>** or **<Ctrl>** keys while resizing maintains the image's original aspect ratio. The mouse cursor changes to [] : **Resize in vertical direction**] or [] : **Resize in horizontal direction**] when close to handles on the text box, allowing the size to be changed in either the horizontal or vertical direction by pressing the left mouse button and dragging.
- Modify angle** The mouse cursor changes to [] : **Modify angle**] when close to the bottom right handle on the text box, allowing the angle to be changed by pressing the left mouse button and dragging. Pressing the **<SHIFT>** key while modifying the angle sets the angle horizontally, vertically, or at 45°.
- Enter** Away from the text box, the mouse cursor changes to [] : **Text**], and clicking the left mouse button enters the text size and position.

Editing operations can also be accessed by right-clicking on the image and selecting Enter from the menu that appears.

- (6) This completes the text entry process and displays the **Text Setting** window again.

(7) To terminate text entry, click the **Cancel** button in the **Text Setting** window.

TIP

The text color can be specified as the foreground color in **Color Tools**, or by using select **Color** in the **Edit** menu.

The shading color can be specified by the background color button in **Color Tools**.

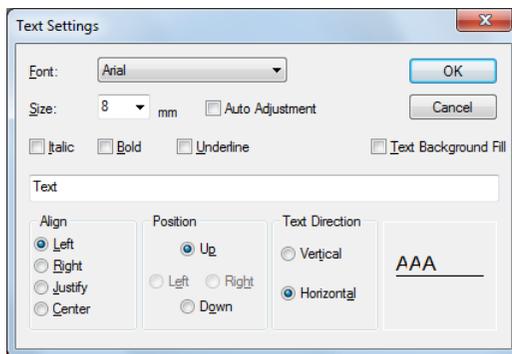
Position Text Using Line

Places text on a line in the image.

(1) On the toolbar, click the **Position Text Using Line** button or select the **Edit** menu > **Position Text Using Line**.



(2) The mouse cursor changes to [+ ↖ : **Line input**] and draws a solid line at the position for the text. Press the left mouse button and enter the desired coordinates. Doubleclick once the coordinates have been entered.



(3) The **Text Setup** window appears. Enter the text and set the font, size, and alignment before clicking the **OK** button.

Auto Adjustment ..Automatically sets the text size. The text size is adjusted so that the text is arranged uniformly on the line specified.

Italic Specifies italic text.

Bold Specifies bold text.

Underline Specifies underlined text.

Text Background Fill

..... Specifies shading around the text

Align Specifies the text alignment on the line. Left-justified, right-justified, even, and centered can be selected. These are disabled when Auto Adjustment of the text size is specified.

Position .. Specifies the text position in relation to the line. Left or Right can be selected if vertical text is selected in Text Direction. Above or Below can be selected if horizontal text is selected in Text Direction.

Text Direction Specifies the text direction.

(4) Adjust and finalize the text position

Move The mouse cursor changes to [● + : **Add vertex**] when close to the line on which the text is positioned. Pressing the left mouse button here changes the cursor to [↖ : **Move**], allowing the text to be moved by dragging. The text can also be dragged by pressing the left mouse button when the cursor changes to [↖ : **Move**] in the text range.

Resize The mouse cursor changes to [↖ : **Resize**] when close to a vertex handle on the line on which the text is positioned. The vertex can be moved here by pressing the left mouse button and dragging. Depressing the Shift key while dragging changes the line to horizontal, vertical, or 45°.

Similarly, vertices can be deleted by pressing the right mouse button and selecting **Delete Vertex** from the menu displayed. The mouse cursor changes to [●+ : **Add vertex**] when close to the line, allowing a vertex to be added by pressing the right mouse button and selecting **Add Vertex** from the menu displayed.

Change Text Attributes

..... Press the ESC key to return to the Set Text window. Change the text, font, size, and position before pressing the **OK** button.

Confirm Edit The mouse cursor changes to [+ \ : **Line input**] when it is away from the text, allowing the text position to be confirmed by pressing the left mouse button. Editing can also be confirmed by pressing the right mouse button on the image and selecting **Confirm Edit** from the menu displayed.

- (5) Once the text has been entered using the procedure described above, repeat step (2) to select the first point for entering the next solid line.
- (6) To exit text input, press the **Cancel** button on the **Text Settings** window. The text color can be specified using the Color Tools foreground color or the Select Color command in the **Edit** menu. The shading color can be specified using the Color Tools background color.

4.5.12 Undo Edit Function

Cancels the function previously performed. Cancels the previous change when resizing or changing position. Returns the user to editing status if editing has been specified.

Click the **Undo** button on the Toolbar, or select **Undo** in the **Edit** menu.



Undo in the **Edit** menu is not available once the image has been saved or if tool operations have been performed.

TIP 

The Undo button can be displayed by customizing the Toolbar.

4.5.13 Redo Undo Edit

Restores the previous editing operation canceled by Undo.

If Redo is selected after an edit is corrected with the **Undo** button, the editing is specified.

Click the **Redo** button on the Toolbar or select Redo in the Edit menu.



TIP 

The Redo button can be displayed by customizing the Toolbar.

4.6 Using Page Functions

With TIFF multi-page data, pages can be added, inserted, and deleted.

4.6.1 Previous Page

Displays the previous page of a multi-page image.

- Click the **Previous Page** button on the Page toolbar or select **Previous Page** on the **Page** menu.



4.6.2 Next Page

Displays the next page of a multi-page image.

- Click the **Next Page** button on the Page toolbar or select Next Page on the **Page** menu.



4.6.3 First Page

Displays the first page of a multi-page image.

- Select **First Page** on the **Page** menu or select **Jump**, check the **First Page** in the **Page Jump** window, and press the **OK** button.

4.6.4 Last Page

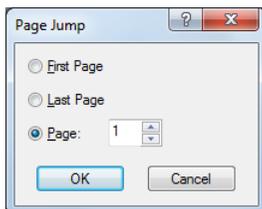
Displays the last page of a multi-page image.

- Select **Last Page** on the **Page** menu or select **Jump**, check the **Last Page** in the **Page Jump** window, and press the **OK** button.

4.6.5 Jump

Displays the specified page of a multi-page image.

- Select **Jump** on the **Page** menu.
- The **Page Jump** window will be displayed.



- Specify the page to jump to, and then press the **OK** button.

4.6.6 Cut

Cuts and stores the selected page of a multi-page image.

- Select the page to be cut, and click the **Cut Page** button on the Page toolbar or select **Cut** on the **Page** menu.



TIP

Certain pages cannot be cut.

4.6.7 Copy

Copies and stores the selected page of a multi-page image.

- Select the page to be copied, and click the **Copy Page** button on the Page toolbar or select **Copy** on the **Page** menu.



4.6.8 Paste

Pastes stored pages that have been cut or copied into an image that can be saved as a multi-page image. This command is not available if no data is stored in the memory.

Pages can be pasted in one of the following three ways.

Before

Pastes the stored page in front of the current page.

- Click the **Before** button on the Page toolbar or select **Before** in **Paste** on the **Page** menu.



After

Pastes the stored page after the current page.

- Click the **After** button on the Page toolbar or select **After** in **Paste** on the **Page** menu.



New window

Creates a new image data window for the stored page.

- Click the **New Window** button on the Page toolbar or select **New Window** in **Paste** on the **Page** menu.



4.6.9 Delete

Deletes the selected page of a multi-page image.

- Click the **Delete Page** button on the Page toolbar or select **Delete** on the **Page** menu.



TIP

Certain pages cannot be deleted.
Note that deleted pages cannot be restored.

4.6.10 Save

Saves the current page of a multi-page image as a separate file. This command cannot be used when multiple pages are selected.

- Click the **Save** button on the Page toolbar or select **Save** on the **Page** menu.



- The **Save As** window will be displayed. Enter the required file name and click on the **Save** button.

4.6.11 Insert

Inserts pages in front of the current page in images that can be saved as multi-page images. Pages can be inserted in one of the two following ways.

From scanner

Inserts an image scanned from the scanner in front of the current page.

- Select **From scanner** in **Insert** on the **Page** menu.
- The **Scan** window will be displayed. Set the options before scanning the image.

From file

Inserts an image from a previously saved image file in front of the current page.

- Select **From file** in **Insert** on the **Page** menu.
- The **Open** window will be displayed. Select the file to be inserted.

4.6.12 Add

Adds pages after the current page in images that can be saved as multi-page images.

Pages can be added in one of the two following ways.

From scanner

Adds an image scanned from the scanner after the current page.

- Select **From scanner** in **Add** on the **Page** menu.
- The **Scan** window will be displayed. Set the options before scanning the image.

From file

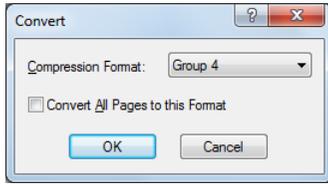
Adds an image from a previously saved image file after the current page.

- Select **From file** in **Add** on the **Page** menu.
- The **Open** window will be displayed. Select the file to be added.

4.6.13 Convert

Converts the current compression format for multi-page images.

- Click the **Convert** button on the Page toolbar or select **Convert** in the **Page** menu.
- The following **Convert** window will be displayed.



- Select the compression format to be converted, and press the **OK** button.
- To convert all pages to the specified compression format, specify “**Convert All Pages to this Format**,” and press the **OK** button.

TIP

Pages with image data that is incompatible with the compression format will not be converted even when “Convert All Pages to this Format” is specified.

4.6.14 View

Full Page View

Displays the image in page by page format.

- Click the **Full Page View** button on the **Page** toolbar.



Reduced Size View

Displays the image as a reduced size image.

- Click the **Reduced Size View** button on the **Page** toolbar.



Page and Reduced Size View

Displays the current image together with a reduced size image.

- Click the **Page and Reduced Size** button on the **Page** toolbar.



4.7 Other Image Editing Functions

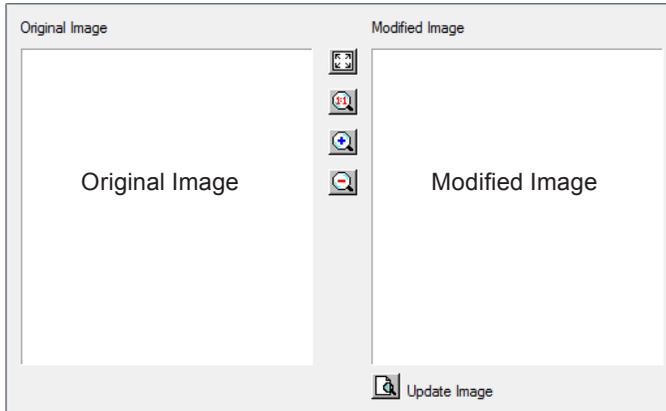
Various editing functions can be used from the Tools menu.



The Crop and Skew correction buttons can be displayed by customizing the Toolbar.

4.7.1 Preview display

Preview display for Enhance Edges and Color Controls on the **Tools** menu.



Fit button

Enlarges or reduces the image to display the entire image within the current window size



1:1 button

Displays the image at one dot per pixel



Zoom In button

Displays the image at twice its current size



Zoom Out button

Displays the image at half its current size



Update Image button

Refreshes the image to the current settings after making the specified changes.



To display a range on the image, right-click and drag to create a square area.

When the mouse button is released, the image in the range specified will be displayed in the current window.

To scroll the image, left-click and drag the Original Image box or Modified Image box with the mouse. The image scrolls in the direction in which the mouse is moved until the mouse button is released.

4.7.2 Crop

You can easily crop any sections protruding from the defined rectangular area.

A0-Landscape to B4-Portrait

If you select this menu item, the frame defining the document size you selected will be shown. The image in this frame will be clipped. Once you define the area to be clipped, left-click to delete the sections outside the frame.

On the toolbar, click the **A0-Landscape to B4-Landscape** or **A0-Portrait to B4-Portrait** button. Alternatively, select the **Tools** menu > **Crop** > **A0-Landscape to B4-Portrait**.



User 1 to 4

To use this function, you must register the size of the area to clip.

On the toolbar, click one of the **User 1 to 4** buttons, or select the **Tools** menu > **Crop** > one of the **User 1 to 4** sizes.



Set Region

To define the area to clip, take the following steps: Left-click in the desired position to define the start position. Next move the mouse until the desired area is obtained. Leftclick to define the area to clip.

On the toolbar, click the **Set Region** button, or select the **Tools** menu > **Crop** > **Set Region**.



Move

If you need to move the on-screen image to any position without resizing it, you can use this function. The steps of the procedure are the same as for **A0-Landscape to B4-Portrait**.

On the toolbar, click the **Current Size** button, or select the **Tools** menu > **Crop** > **Move**.



The crop reference point can be changed within the **General** tab in **Options** in the **Tools** menu.

Similarly, the home point can be changed in the sequence “Center” → “Upper Left” → “Lower Left” → “Lower Right” → “Upper Right” → “Center” by pressing the **Home** key while selected.

TIP

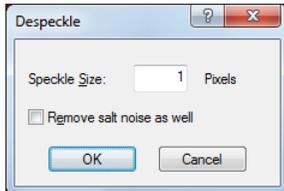
If you want to scroll the area during setting, use the <←>, <→>, <↑>, or <↓> key on the keyboard. Pressing the <ESC> key cancels the settings.

4.7.3 Despeckling

Any remaining speckles are removed from the background of the on-screen image.

- (1) On the toolbar, click the **Despeckle** button, or select the **Tools** menu > **Despeckle**.

The Despeckle window appears.



- (2) Set the speckle size in the Despeckle window.
- (3) Click the OK button.

Checkpoint

Checking the "Remove salt noise as well" box enables white speckles on a black background to be removed as well.

4.7.4 Deskew

When the scanner has scanned in a skewed document, the skewed on-screen image can be corrected.

Deskew by setting the angle

- (1) On the toolbar, click the **Deskew** button, or select the **Tools** menu > **Deskew**.



For bilevel data only



For all other data



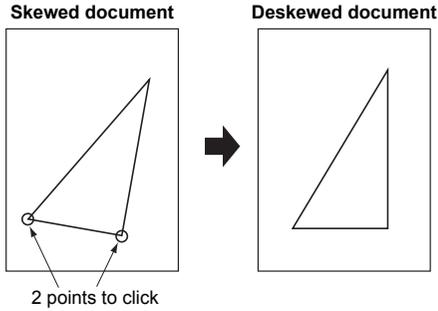
- (2) Type the new angle in the Deskew window.
- (3) Click the OK button.

Deskew by line

- (1) On the toolbar, click the **Deskew** button, or select the **Tools** menu > **Deskew**.



- (2) Click the Set Angle button in the Deskew window.
- (3) Click on the two points that define the skewed image. (They must be on the horizontal reference line for the document.)



- (4) The Deskew window reappears. Click the OK button.

Deskew by reading the angle (for bilevel data only)

- (1) On the toolbar, click the **Deskew** button, or select the **Tools** menu > **Deskew**.



- (2) Click **Angle Reading** in the **Deskew** window.
- (3) The skew angle is automatically read from the active window. The skew is sensed in the top to bottom direction.
- (4) The skew angle is displayed in the **Deskew** window.
- (5) If the skew angle is within ± 7.1 degrees, click the **OK** button. Otherwise the image cannot be deskewed.

4.7.5 4-point Correction

Four points on the image are corrected to form a rectangle.

- (1) On the toolbar, click the **4-point Correction** button, or select the **Tools** menu > **4-point Correction**.



- (2) Specify four points counterclockwise starting from the lower left.
- (3) Once the fourth point is specified, a window will be displayed for specifying the rectangle's reference points, width, and length.

	Pixels	mm	mm
Reference Point X:	300	19.05	19.05
Reference Point Y:	8879	563.82	563.82
Width:	12064	766.07	766.07
Length:	8184	519.69	519.69

Crop Outside The Reference Frame

OK Cancel

- (4) Enter the reference points (X, Y), width and length, and then click the **OK** button.

Reference Point X

..... Sets new reference point X in the specified units

Reference Point Y

..... Sets new reference point Y in the specified units

Width Sets a new width in the specified units

Length Sets a new length in the specified units
 Crop Outside The Reference Frame
 Crops around the reference frame after correction; the image will be resized to the reference frame size.

TIP

Areas with no data will be filled with the background color after correction. The background color can be specified using the Color Tools background color.

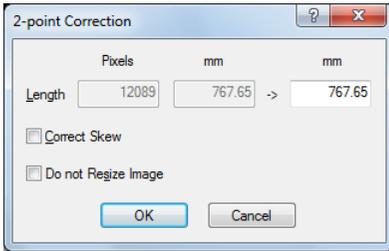
4.7.6 2-point Correction

Corrects image dimensions. The image is resized using the center point as a datum so that the distance between two points on the image match the distance specified.

- (1) On the toolbar, click the **2-point Correction** button or select the **Tools** menu > **2-point Correction**.



- (2) Specify two points on the image.



- (3) Once the second point is specified, the length specification window appears.
- (4) Set the length and click the **OK** button.

Length Sets a new length in the specified unit.

Correct Skew Corrects skew using the line connecting the two points specified as a datum. Skew is corrected vertically if the line is close to the vertical, and horizontally if it is close to the horizontal.

Do Not Resize Image

..... Corrects the distance without resizing the image. If the new length is longer than the current length, data beyond the image size will be deleted.

TIP

Areas with no data will be filled with the background color after correction. The background color can be specified using the Color Tools background color.

4.7.7 *Resize*

Resizes the on-screen image.

- (1) Click the **Resize** button on the Toolbar or select **Resize** in the **Tools** menu to display the **Resize** window.



- (2) Specify the new size in the **Resize** window.

When Pixel has been selected as the Specification Method

The screenshot shows the 'Resize' dialog box with the following settings:

- Specification Method:** Pixel
- Paper Size:** (empty dropdown)
- Size:**

	Pixels	Pixel
Current Width:	13240	13240
Current Length:	9354	9354
New Width:	26480	26480
New Length:	18708	18708
- Fix the Aspect Ratio
- Buttons:** OK, Cancel

Specify the **New Width** and **New Height** for the new size as pixel units.

When Paper Size has been selected as the Specification Method

The screenshot shows the 'Resize' dialog box with the following settings:

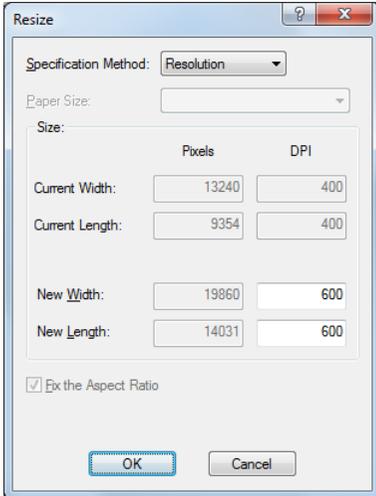
- Specification Method:** Paper Size
- Paper Size:** ISO A0 Landscape
- Size:**

	Pixels	mm
Current Width:	13240	840.8
Current Length:	9354	594.0
New Width:	18724	1189.0
New Length:	13244	841.0
- Fix the Aspect Ratio
- Buttons:** OK, Cancel

Select the new size from the options in **Paper Size**.

If you select **User Size**, you can specify the **New Width** and **New Height** in millimeter units.

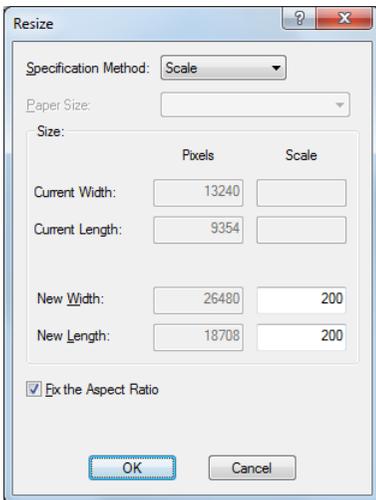
When Resolution has been selected as the Specification Method



You can specify a new resolution for either the **New Width** or **New Height** (both settings will be the same).

In this case, **Fix the Aspect Ratio** will be enabled.

When Scale has been selected as the Specification Method



Specify a Scale value for **New Width** and **New Height**.

(3) Click the **OK** button.

4.7.8 Link

Links two images

On the toolbar, click the **Link** button, or select the **Tools** menu > **Link**.

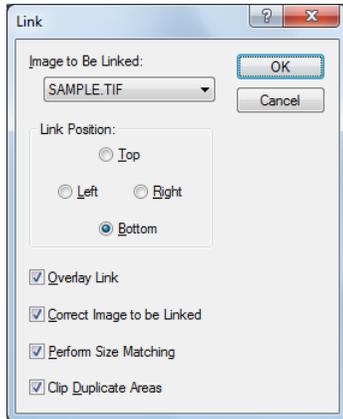


Image to be Linked

..... Specifies the image to be linked with the current image. Images with different numbers of bits/pixel cannot be specified.

Link Position Specify the link position in relation to the current image.

Overlay Link Links two images by overlaying one image on another. When using this function, pressing the OK button selects the base point specification mode. In base point specification mode, the current image and the image to be linked are displayed.

Specify the base points for each. For details on how to specify the base points, see "Specifying base points".

When the images overlap, the image to be linked takes priority.

If "Overlay Link" is selected, "Correct Image to be Linked" can be selected.

Correct Image to be Linked

..... This function can only be selected when "Overlay Link" is specified.

Use it to correct the size and skew of the image to be linked to match the current image.

Perform Size Matching

..... Can only be selected when **Correct Image to be Linked** is specified.

Specifies whether to match the size to the current image and correct the size of the image to be linked. This should normally be selected.

Clip Duplicate Areas

..... Can only be selected when Overlay Link is specified. Clips the image to be linked along a straight line passing through the base point before linking.

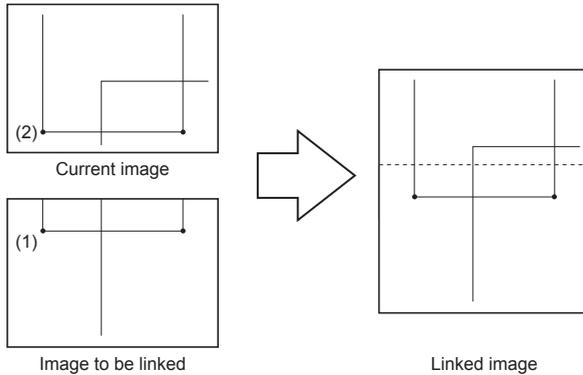
When this is specified, the line passing through the base point will form the alignment line for the image.

Specifying base points

When “Correct Image to be Linked” is not specified

Specify one pair of base points. The images are linked so that the two points coincide.

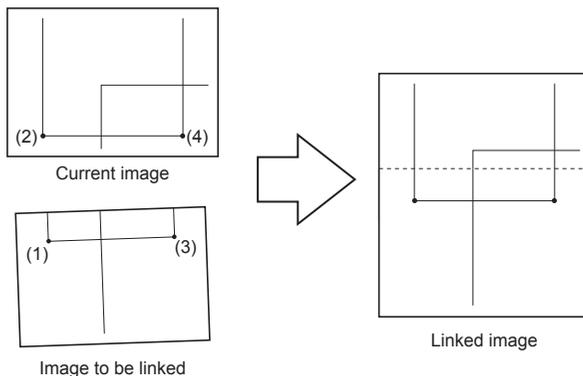
The base points are specified as shown below. In (1) to (2), a frame will be displayed for reference on the image for specifying the points.



- (1) Specify the base point on the image to be linked.
- (2) Specify the overlapping base point on the current image.
- (3) Select “Yes” to confirm the selection.

When “Correct Image to be Linked” is specified

Specify two pairs of base points. The relative positions of the four specified points are used to correct the size and skew of the image to be linked before merging. The base points are specified as shown below. In (1) to (4), a frame will be displayed for reference on the image for specifying the points.



- (1) Specify the first base point on the image to be linked.
- (2) Specify the overlapping base point on the current image.
- (3) Specify the second base point on the image to be linked.
- (4) Specify the second overlapping base point while checking that the outline of the image to be linked is properly displayed.
- (5) Select “Yes” to confirm the selection.

* In (4), the range in which the point can be specified is limited as follows.

- The difference in angle between the line connecting the points specified in (1) and (3) and the line connecting the points specified in (2) and (4) must be within $\pm 7.1^\circ$.
- In addition, the height and width of the image to be linked must be at least 32 pixels after correction.
- The magnification of the image to be linked must not exceed 255 times proportional to the

length.

Finally, the outline of the image to be linked after correction will be displayed for reference when the mouse cursor is within the range for specifying points.

- * If the resizing magnification value will be more than 2 or less than 1/2, a cautionary note will be displayed along with the confirmation message in (5). If there are no problems, selecting "Yes" links the image.

TIP

You can link already opened images. The colors of the linked image may change if a grayscale and 8-bit color image are linked, or if two 8-bit color images are linked.

If you want to specify "Overlay Link" you have to delete the non-required parts of the image to be linked using the crop function.

4.7.9 Select Area

Selects the area used in Smoothing, Enhance Edges, Adjust, Delete Color, Modify Color, and Extract Color. If an area is selected using this command, only data inside the area will be modified. When an area is selected using this command, other commands cannot be selected from the Tools menu.

To select the area, perform the following:

- (1) Either click the **Select Area** button from the toolbar, or select the **Select Area** command on the **Tools** menu.



- (2) Next, use the Select Area tools described below to select a region.

Pressing the <ESC> key deletes the previously selected point.

- (a) For the Rectangle tool, left-click on two points to select a rectangular area with the points forming diagonally opposite corners.
- (b) For the Polygon tool, left-click on points corresponding to polygon vertices. (The polygon is always enclosed.) Double-click on the final vertex to end the areaselection process.
- (c) For the Circle or Ellipse tool, left-click on the center of the region to be selected, and move the mouse to specify the desired circle or ellipse size. Click once again to end the area-selection process.

- (3) Modify position and size.

Move The mouse cursor changes to [] : **Move**] when placed in the center of the selected area. Left-clicking and dragging allows the position of the selected area to be moved.

Change size The mouse cursor changes to [] : **Resize in horizontal/vertical direction**] when close to a corner handle in the selected range, allowing the size to be changed in the horizontal or vertical directions by pressing the left mouse button and dragging. If a polygon is selected, vertices can be deleted by pressing the right mouse button and selecting the vertices to be deleted from the menu displayed.

If a rectangle, circle, or ellipse is selected, the mouse cursor changes to [] : **Resize in vertical direction**] or [] : **Resize in horizontal direction**] when close to a frame line in the selected range, allowing the size to be changed in the vertical or horizontal directions by pressing the left mouse button and dragging.

If a polygon is selected, the mouse cursor changes to [] : **Add vertex**] when close to a frame line between vertices, allowing a vertex to be added by pressing the right mouse button and selecting Add Vertex from the menu displayed.

(4) Use tool commands.

Only Smoothing, Enhance Edges, Adjust, Delete Color, Modify Color, and Extract Color can be used.

(5) To exit area selection.

To quit the Select Area process, click the **Select Area** button on the toolbar once again, or select the **Select Area** command from the **Tools** menu. To quit in step 2 described above, press the <ESC> key twice. (Press the key once more than the number of points selected when using polygon)

TIP 

This command cannot be used for bilevel data.

The **Select Area** tool shape (rectangle, polygon, circle, ellipse) can be selected in **Editing Tools**.

The **Adjust** command cannot be selected if an area is selected for 8-bit color data.

When an area is selected for 8-bit color data, the **Modified Color** in **Modify Color** and **Extract Color** can only be changed to the colors of the image palette. Colors in the **Modified Color** list may not exist in the current palette if settings are loaded for an image with a different palette. If this occurs, the **Modified Color** will be replaced by the closest color in the palette.

4.7.10 Smoothing

Smooths the image

On the toolbar, click the **Smoothing** button, or select the **Tools** menu > **Smoothing**.



Smoothing is executed.

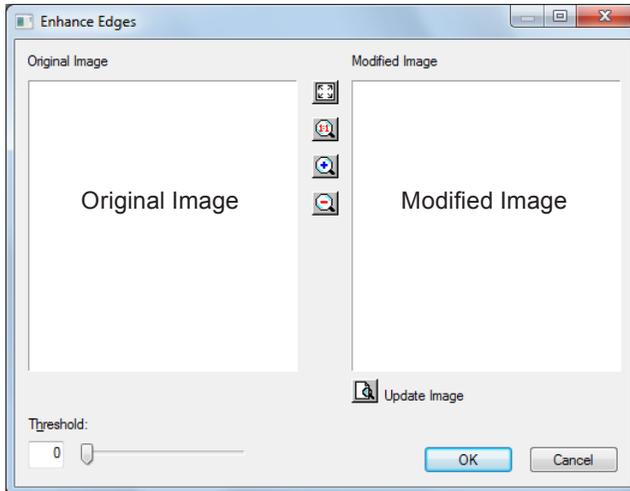
TIP 

This command can only be used for grayscale and 24-bit color data.

4.7.11 Enhance Edges

Enhances the image edges

On the toolbar, click the **Enhance Edges** button, or select the **Tools** menu > **Enhance Edges**.



Threshold Edge enhancement is applied to pixels whose difference with surrounding pixels exceeds the threshold value. Set a high threshold to avoid background noise. If the threshold is set to 0, edge enhancement is applied to all pixels.

TIP

For details regarding the **Original Image** and **Modified Image** boxes, refer to “4.7.1 Preview display”. This command can only be used for grayscale and 24-bit color data.

4.7.12 Color Controls

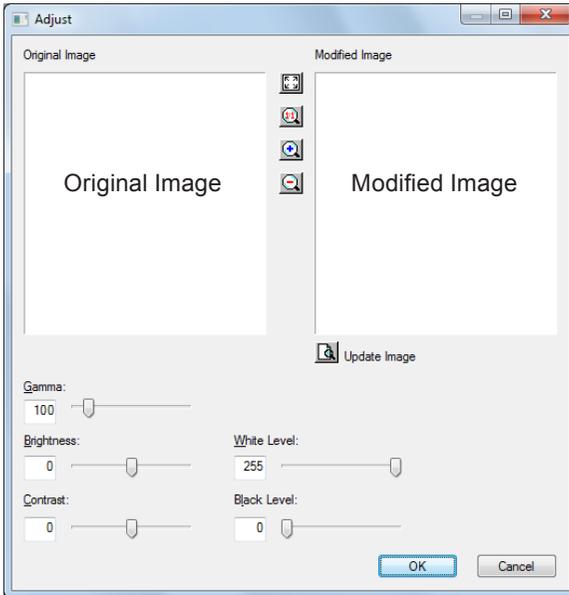
Adjust

Varies the image brightness and contrast.

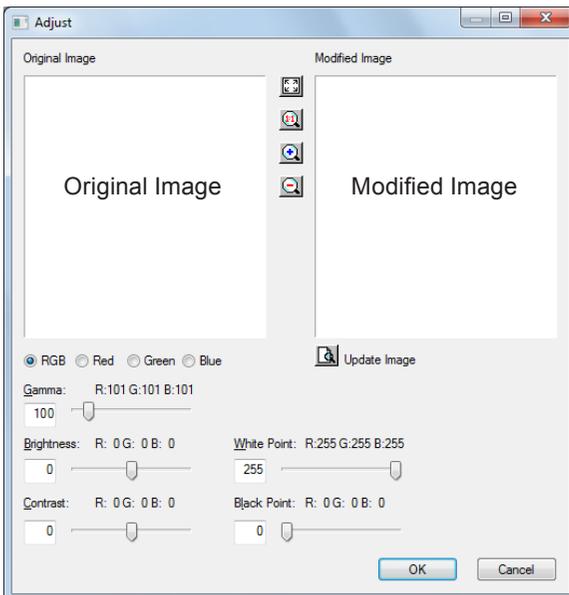
On the toolbar, click the **Adjust** button, or select the **Tools** menu > **Color Controls** > **Adjust**.



Grayscale



8-bit/24-bit color



Gamma Adjusts the gamma setting. Increasing the setting increases the brightness of the mid-range areas of the image.

Brightness Specifies the brightness level. Drag the slider to the right to increase the brightness, and to the left to reduce the brightness.

Contrast Specifies the contrast level. Drag the slider to the right to increase the contrast and image sharpness, and to the left to reduce the image contrast and clarity.

White Level (grayscale only)

..... Converts pixels that are whiter than the specified value to white. This function is effective in creating white backgrounds.

Decreasing the setting increases the effect, but image data will be lost for areas whiter than the specified value.

Black Level (grayscale only)

..... Converts pixels that are blacker than the specified value to black. This function is effective in creating black foregrounds.

Increasing the setting increases the effect, but image data will be lost for areas blacker than the specified value.

White Point (8-bit/24-bit color)

..... Converts the parts of the image that are closer to white than the specified value to white. This function is effective for converting backgrounds into white. Decreasing the setting increases the effect.

Black Point (8-bit/24-bit color)

..... Converts the parts of the image that are closer to black than the specified value to black. This function is effective for converting data on the image into black. Increasing the setting increases the effect.

TIP

- For details regarding the **Original Image** and **Modified Image** boxes, refer to “4.7.1 Preview display”.
- This command cannot be used for bilevel data.
- If the data is color, values can be changed to their red, green, and blue components; make selection using the buttons over the gamma settings for the component to be changed. If RGB is selected, the red, green, and blue components are all changed simultaneously.

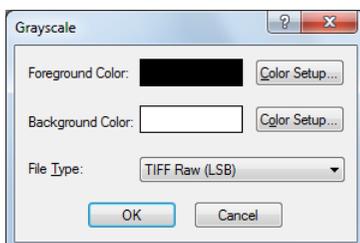
Grayscale

Changes bilevel, 8-bit color, and 24-bit color images to grayscale images.

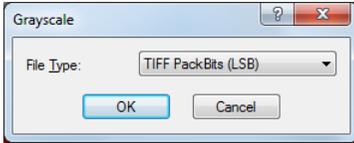
On the toolbar, click the **Grayscale** button, or select the **Tools** menu > **Color Controls** > **Grayscale**.



Bilevel



8-bit/24-bit color



Foreground Color

..... Specifies the foreground color for conversion to grayscale.

Background Color

..... Specifies the background color for conversion to grayscale.

File Type Specifies the file type for conversion to grayscale.



This command cannot be used for grayscale data.

Edit and Save Palette

Edits and saves the image palette.

On the toolbar, click the **Edit and Save Palette** button, or select the **Tools** menu > **Color Controls** > **Edit and Save Palette**.



Display Order Changes the palette display order.

Save Palette button

..... Saves the current palette as a file. The saved file can be used when scanning from a scanner, or for **Palette** in **Tools** > **Color Controls** > **Reduce Colors** > **8-bit Color** > **Palette**.

To replace a color, select the color to be changed. Pressing the Shift or Ctrl keys while clicking enables selection of multiple colors. Click the **Set Color** button or double-click on the color to be changed. The **Color** window will be displayed. Set the color in the **Color** window, and press the **OK** button to return to the **Edit and Save Palette** window.

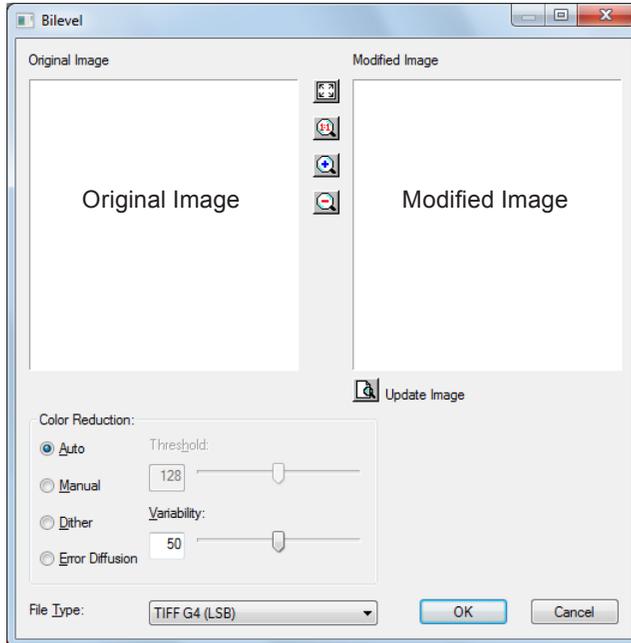


This command can only be used with 8-bit color data. When the palette is edited, the colors displayed in the image are also changed accordingly.

Reduce Colors - Bilevel

Changes grayscale or color images to bilevel images.

On the toolbar, click the **Reduce to Bilevel** button, or select the **Tools** menu > **Color Controls** > **Reduce Colors** > **Bilevel**.



- Auto Calculates the most suitable threshold value for each area while converting the data to bilevel format.
- Manual Converts the data to bilevel format at one threshold value for the entire area.
- Dither Sets conversion to bilevel using a dither pattern
- Error Diffusion Sets conversion to bilevel using an error diffusion method
- Threshold Sets the threshold value for manual bilevel conversion
- Variability Specifies whether to convert to black or white for automatic bilevel conversion. To make the image blacker, reduce the value, and to make the image whiter, raise the value.
- File Type Specifies the file type for bilevel conversion.

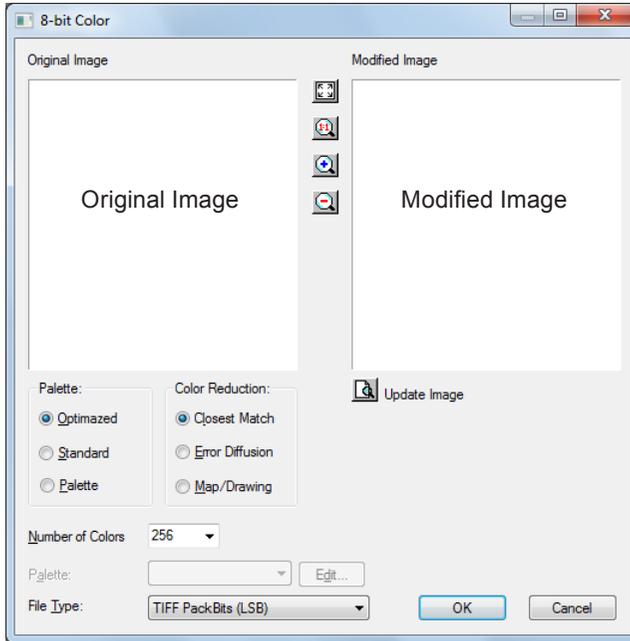
TIP

- For details regarding the Original Image and Modified Image boxes, refer to “4.7.1 Preview display”.
- This command can only be used for grayscale and color data.

Reduce Colors - 8-bit Color

Changes 24-bit color images to 8-bit color images.

On the toolbar, click the **Reduce to 8-bit Color** button, or select the **Tools** menu > **Color Controls** > **Reduce Colors** > **8-bit Color**.



Palette

Select the palette used for color reduction.

- Optimized** Creates the optimum palette from the original image
- Standard** Uses a standard balanced palette
- Palette** Uses the specified palette.

Color Reduction Method

Select the method for color reduction. Some items may not be available depending on the palette used.

- Closest Match** Replaces the original pixel colors with the colors on the palette with the closest RGB values.
- Error Diffusion** Uses an error diffusion method to replace the original pixel colors with a palette color for a more natural appearance.
- Map/Drawing (for Optimized only)** Reduces colors using a special method for maps and other drawings that use a small number of colors. A special processing method ensures that the required colors are retained, especially when fewer than eight colors are specified.
- Number of Colors (for Optimized only)** Specifies the number of colors used between 3 and 256 when reducing colors.
- Palette (for Palette only)** Specifies the palette used in color reduction.

File Type Specifies the file type for 8-bit color conversion.

TIP 

- This command can only be used for 24-bit color data.
- For details regarding the Original Image and Modified Image boxes, refer to “4.7.1 Preview display”.

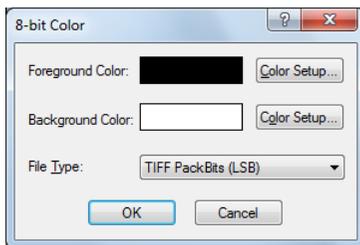
Increase Colors - 8-bit Color

Converts bilevel or grayscale images to 8-bit color images.

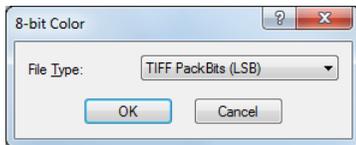
On the toolbar, click the **Increase to 8-bit Color** button, or select the **Tools** menu > **Color Controls** > **Increase Colors** > **8-bit Color**.



Bilevel



Grayscale



Foreground Color

..... Specifies the foreground color for conversion to 8-bit color.

Background Color

..... Specifies the background color for conversion to 8-bit color.

File Type Specifies the file type for conversion to 8-bit color.

TIP 

This command can only be used for bilevel and grayscale data. The display itself will not change when a bilevel or grayscale data image is converted to 8-bit color, although functions that can be edited will change. If a grayscale image is converted to 8-bit color and saved without changing the palette, the image will be treated as a grayscale image the next time it is opened.

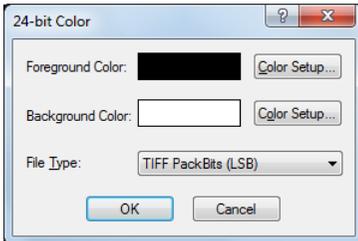
Increase Colors - 24-bit Color

Converts bilevel, grayscale, or 8-bit color images to 24-bit color images.

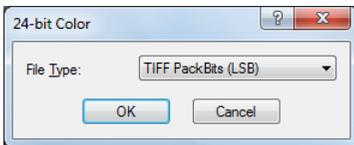
On the toolbar, click the **Increase to 24-bit Color** button, or select the **Tools** menu > **Color Controls** > **Increase Colors** > **24-bit Color**.



Bilevel



Grayscale and 8-bit color



Foreground Color

..... Specifies the foreground color for conversion to 24-bit color.

Background Color

..... Specifies the background color for conversion to 24-bit color.

File Type Specifies the file type for conversion to 24-bit color.

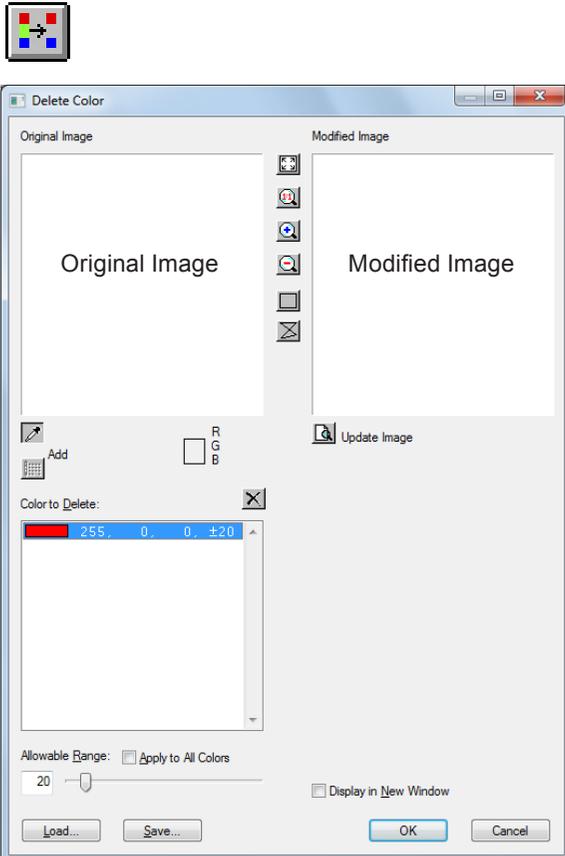
TIP

This command cannot be used for 24-bit color data. The display itself will not change when an image is converted to 24-bit color, although functions that can be edited will change.

4.7.13 Delete Color

Deletes a specified color on the image.

Either click the **Delete Color** button on the toolbar or select **Delete Color** from the **Tools** menu to open the **Delete Color** window.



The procedure is as follows.

- (1) Click the **Add** button  and click the color to be deleted in the **Original Image** box. The color at the current mouse cursor position is displayed to the right of the **Add** button. To increase the region of a specified color, click the mouse button at the specified position and drag it. All the colors through which the mouse passes are added. For 8-bit color images, colors to be deleted can also be added from the palette by clicking the **Select from Palette** button . To add colors enclosed in a specified region, click the **Rectangle** button  or the **Polygon** button , and then left-click with the mouse in the **Original Image** box to create a region enclosing the colors to be deleted. When using the **Rectangle** button, click on two points to enclose a region. When using the **Polygon** button, double-click after selecting at least three points to close the selected region. The colors enclosed in this region will be added to the list. Up to 16 colors can be added to the list at once.
- (2) To increase the number of deleted colors, increase the **Allowable Range** or click the **Add** button  and click on the colors to be deleted in the **Original Image** box. To increase the region of a specified color, click the mouse button at the specified position and drag it. All the colors through which the mouse passes are added. To add colors enclosed in a specified region, click the **Rectangle** button  or the **Polygon** button , and then left-click

with the mouse in the **Original Image** box to create a region enclosing the colors to be deleted. When using the Rectangle button, click on two points to enclose a region. When using the Polygon button, doubleclick after selecting at least three points to close the selected region. The colors enclosed in this region will be added to the list. Up to 16 colors can be added to the list at once.

- (3) To modify a selected color, double-click the color to be modified to display the **Color** window, and modify the color.
- (4) To delete a color from the list, select the color from the list and click the **Delete** button  .
- (5) Click the **Update Image** button  . The **Modified Image** box is updated.
- (6) Repeat steps (1) to (5) until the desired image is obtained.
- (7) Click the **OK** button to close the window. If **Display in New Window** is selected, a new window is displayed here.

Allowable Range .. Specifies the allowable range of the colors to be deleted.

If set to 0, only the colors specified in the Color to Delete list will be changed to the background color.

If set to 20, colors with RGB values within a range of ± 20 from the colors specified in the Color to Delete list will be changed to the background color.

If set to 255, all the colors will be changed to the background color.

Apply to All Colors

..... Specifying this option applies Allowable Range changes to all the colors displayed in the Color to Delete list.

Display in New Window

..... Specifying this option displays the image in a new window without changing the current image.

Load button Loads settings from a previously saved file. The Load window appears, enabling selection of the file to be loaded.

Save button Saves the current settings to a file. The Save window appears, enabling assignment of a file name.

Saving the file in the Color folder within the folder in which Scanning Master Pro Color is installed permits selection of the file when loading from the scanner.

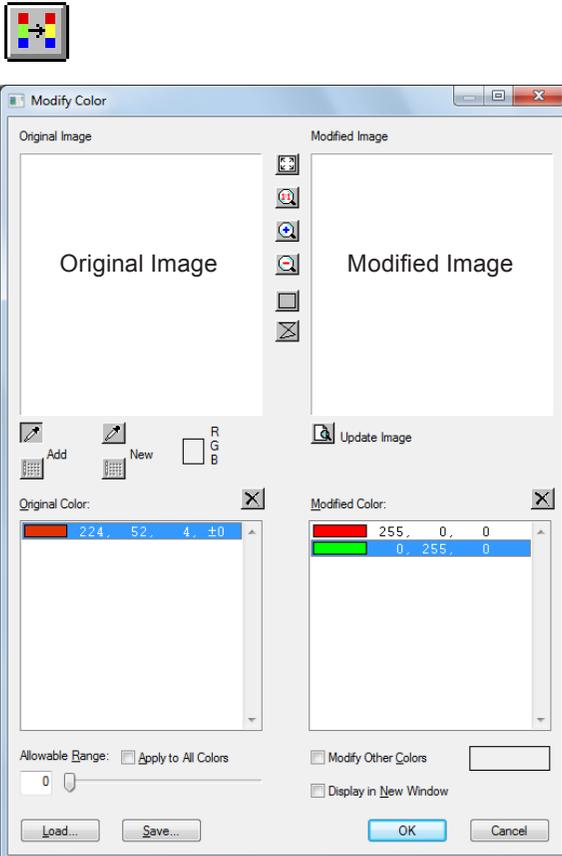
TIP 

- For details regarding the Original Image and Modified Image boxes, refer to “4.7.1 Preview display”.
 - This command can be used with color data.
-

4.7.14 *Modify Color*

Modifies a specified color on the image.

Either click the **Modify Color** button on the toolbar or select **Modify Color** from the **Tools** menu to open the **Modify Color** window.



The procedure is as follows.

- (1) Click the **New Color** button  and click the color to be modified in the **Original Image** box. The color at the current mouse cursor position is displayed to the right of the **Add** button. To increase the region of a specified color, click the mouse button at the specified position and drag it. All the colors through which the mouse passes are added. For 8-bit color images, colors to be modified can also be added from the palette by clicking the **Select from Palette** button . To add colors enclosed in a specified region, click the **Rectangle** button  or **Polygon** button , and then left-click with the mouse in the **Original Image** box to create a region enclosing the colors to be modified. When using the **Rectangle** button, click on two points to enclose a region. When using the **Polygon** button, double-click after selecting at least three points to close the selected region. The colors enclosed in this region will be added to the list. Up to 16 colors can be added to the list at once.
- (2) To add colors to modify, increase the **Allowable Range** or click the **Add** button  and click on the colors to be added in the **Original Image** box. To increase the region of a specified color, click the mouse button at the specified position and drag it. All the colors through which the mouse passes are added. To add colors enclosed in a specified region, click the **Rectangle** button  or the **Polygon** button , and then left-click with the mouse in the **Original Image** box to create a region enclosing the colors to be modified. When using the **Rectangle** button, click on two points

to enclose a region. When using the Polygon button, double-click after selecting at least three points to close the selected region. The colors enclosed in this region will be added to the list. Up to 16 colors can be added to the list at once.

- (3) To modify a selected color, double-click the color to be modified to display the **Color** window, and modify the color.

When an area is selected for 8-bit color data, the **Modified Color** can only be changed to colors in the current image palette. Double-clicking on the color to be modified displays the Select Color window, allowing the color to be selected from the palette.

- (4) To delete a color from the list, select the color from the list and click the **Delete** button  .
- (5) Click the **Update Image** button  . The Modified Image box is updated.
- (6) Repeat steps (1) to (5) until the desired image is obtained.
- (7) Click the **OK** button to close the window. If **Display in New Window** is selected, a new window is displayed here.

Allowable Range .. Specifies the allowable range of the colors to be modified.

If set to 0, only the colors specified in the **Original Color** list will be changed to the colors set in the **Modified Color** list.

If set to 20, colors with RGB values within a range of ± 20 from the colors specified in the **Original Color** list will be changed to the colors set in the **Modified Color** list.

If set to 255, all the colors will be changed to the colors set in the **Modified Color** list.

Apply to All Colors

..... Specifying this option applies Allowable Range changes to all the colors displayed in the **Original Color** list.

Modify Other Colors

..... Specifying this option changes all unselected colors to the same color. Clicking on an area with this color displays the Color window, enabling the new color to be set.

Display in New Window

..... Specifying this option displays the image in a new window without changing the current image.

Load button Loads settings from a previously saved file. The **Load** window appears, enabling selection of the file to be loaded.

Save button Saves the current settings to a file. The **Save** window appears, enabling assignment of a file name.

Saving the file in the Color folder within the folder in which Scanning Master Pro Color is installed permits selection of the file when loading from the scanner.

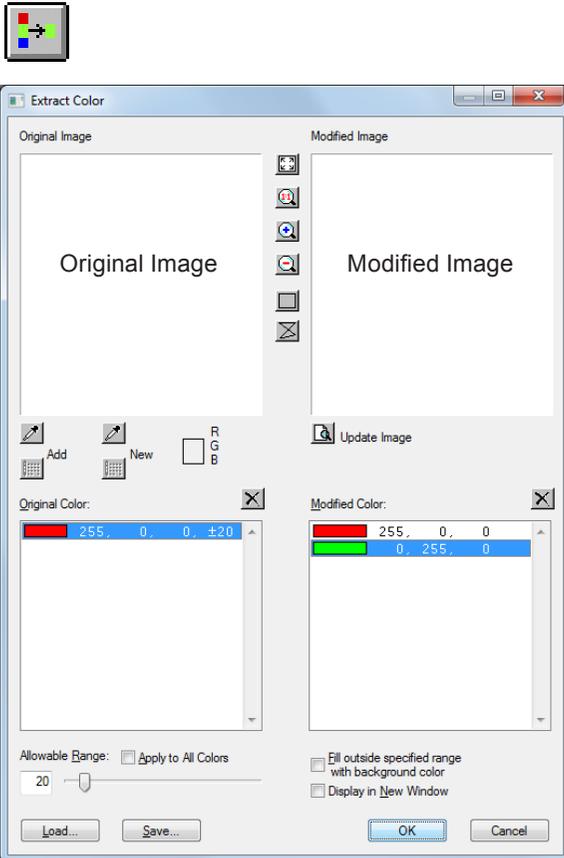
TIP 

- For details regarding the Original Image and Modified Image boxes, refer to “4.7.1 Preview display”.
 - This command can be used with color data.
 - When an area is selected for 8-bit color data, colors in the Modified Color list may not exist in the current palette if settings are loaded for an image with a different palette. If this occurs, the Modified Color will be replaced by the closest color in the palette.
-

4.7.15 Extract Color

Extracts a specified color from the image.

Either click the **Extract Color** button on the toolbar or select **Extract Color** from the **Tools** menu to open the Extract Color window.



The procedure is as follows.

- (1) Click the **Add** button  and click the color to be extracted in the **Original Image** box. The color at the current mouse cursor position is displayed to the right of the **Add** button. To increase the region of a specified color, click the mouse button at the specified position and drag it. All the colors through which the mouse passes are added. For 8-bit color images, new colors can also be added from the palette by clicking the **Select from Palette** button . To add colors enclosed in a specified region, click the **Rectangle** button  or **Polygon** button , and then left-click with the mouse in the **Original Image** box to create a region enclosing the colors to be extracted. When using the **Rectangle** button, click on two points to enclose a region. When using the **Polygon** button, double-click after selecting at least three points to close the selected region. The colors enclosed in this region will be added to the list. Up to 16 colors can be added to the list at once.
- (2) To add colors to extract, increase the **Allowable Range** or click the **Add** button  and click the colors to be added in the **Original Image** box. To increase the region of a specified color, click the mouse button at the specified position and drag it. All the colors through which the mouse passes are added. To add colors enclosed in a specified region, click the **Rectangle** button  or the **Polygon** button , and then left-click with the mouse in the **Original Image** box to create a

region enclosing the colors to be extracted. When using the Rectangle button, click on two points to enclose a region. When using the Polygon button, double-click after selecting at least three points to close the selected region. The colors enclosed in this region will be added to the list. Up to 16 colors can be added to the list at once.

- (3) To modify a selected color, double-click on the color to be modified to display the **Color** window, and modify the color.

When an area is selected for 8-bit color data, the **Modified Color** can only be changed to colors in the current image palette. Double-clicking on the color to be modified displays the Select Color window, allowing the color to be selected from the palette.

- (4) To delete a color from the list, select the color from the list and click the **Delete** button  .
- (5) Click the **Update Image** button  . The **Modified Image** box is updated.
- (6) Repeat steps (1) to (5) until the desired image is obtained.
- (7) Click the **OK** button to close the window. If **Display in New Window** is selected, a new window is displayed here.

Allowable Range .. Specifies the allowable range of the colors to be extracted.

If set to 0, only the colors specified in the **Original Color** list will be changed to the colors set in the **Modified Color** list.

If set to 20, colors with RGB values within a range of ± 20 from the colors specified in the **Original Color** list will be changed to the colors set in the **Modified Color** list.

If set to 255, all the colors will be changed to the colors set in the **Modified Color** list.

Apply to All Colors

..... Specifying this option applies Allowable Range changes to all the colors displayed in the **Original Color** list.

Fill outside specified

..... Specifying this option fills the entire area outside the specified range with background region using the background color. This option is only available color when an area has been selected.

Display in New Window

..... Specifying this option displays the image in a new window without changing the current image.

Load button Loads settings from a previously saved file. The **Load** window appears, enabling selection of the file to be loaded.

Save button Saves the current settings to a file. The **Save** window appears, enabling assignment of a file name.

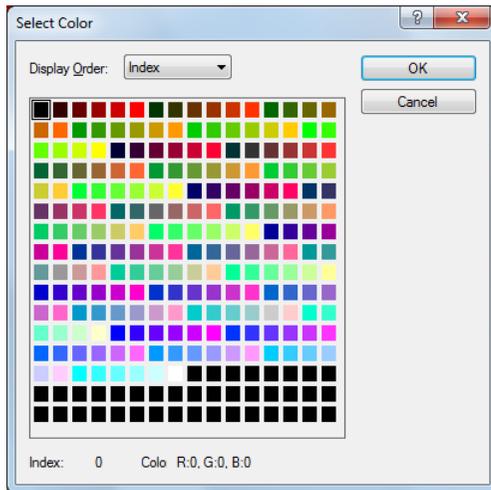
Saving the file in the Color folder within the folder in which Scanning Master Pro Color is installed allows it to be specified when loading from the scanner.

TIP 

- For details regarding the Original Image and Modified Image boxes, refer to “4.7.1 Preview display”.
 - This command can be used for color data.
 - Colors other than those extracted will become the background color.
 - When an area is selected for 8-bit color data, colors in the Modified Color list may not exist in the current palette if settings are loaded for an image with a different palette. If this occurs, the Modified Color will be replaced by the closest color in the palette.
-

4.7.16 Select Color

Clicking the **Select from Palette** button in Delete Color/Modify Color/Extract Color displays the **Select Color** window.



The procedure is as follows.

- (1) Click on the color to be selected. Multiple colors can be selected by pressing the <Shift> or <Ctrl> keys while clicking.
- (2) Click the **OK** button to close the window.

Display Order Changes the color display order. Colors can be displayed in order of index, brightness, or hue.

4.7.17 Inverting the Image

This function inverts the colors of the on-screen image.

Perform one of the following:

- On the toolbar, click the **Invert** button.



- Select the **Tools** menu > **Invert**.
- Press the <F8> key on the keyboard.

4.7.18 Mirroring the Image

This function mirrors the image on the vertical axis.

Perform one of the following:

- On the toolbar, click the **Mirror** button.



- Select the **Tools** menu > **Mirror**.

4.7.19 Rotating the Image

This function rotates the on-screen image 90 degrees clockwise or counterclockwise, or 180 degrees. Perform one of the following:

Rotating the image 90 degrees counterclockwise

- On the toolbar, click the **Rotate 90° CCW** button.



- Select the **Tools** menu > **Rotate 90° CCW**.
- Press the <F9> key on the keyboard.

Rotating the image 90 degrees clockwise

- On the toolbar, click the **Rotate 90° CW** button.



- Select the **Tools** menu > **Rotate 90° CW**.
- Press the <F10> key on the keyboard.

Rotating the image 180 degrees

- On the toolbar, click the **Rotate 180°** button.



- Select the **Tools** menu > **Rotate 180°**.

4.7.20 Undo

Resets the previous raster operation, including **Despeckle**, **Deskew**, **Crop**, and **Resize**.

Perform one of the following:

- Click the Undo button on the Toolbar or select **Undo** in the **Tools** menu.



- Select the **Tools** menu > **Undo**.

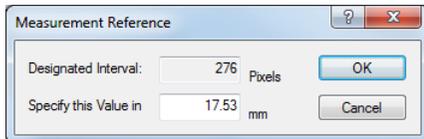
4.8 Image Measurement

This function measures a point-to-point distance based on the current magnification and resolution. If the reference unit length is known, relative measurement is enabled based on this length.

4.8.1 Setting the Unit Length

Set those new intervals between two points that are used for the reference. Use the following procedure:

- (1) Select the **View** menu > **Relative Measure** > **Measure Unit Setting**.
- (2) Click the two new points you want to use for the reference.
- (3) The **Measurement Reference** window appears.



- (4) In the **Measurement Reference** window, set the length of the designated interval.
- (5) If you want to cancel the settings, press the <ESC> key.

Checkpoint

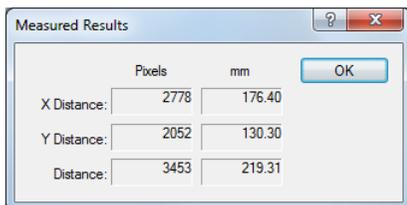
The scale you set in the **Measurement Reference** window will take effect only for calculation by the **Measure** command. It does not influence any other commands. If you have changed the data unit in the **Tools** menu > **Options** > **Unit Setup** perform the **Measure Unit Setting** once again.

4.8.2 Setting the Distance Between Specified Points

- (1) Select the **View** menu > **Relative Measure** > **Measure**.



- (2) Set the two points for which you want to perform relative measurement.
- (3) Once you set two points, the **relative distance** is calculated based on the interval you set in **Measure Unit Setting** and the **Measured Results** window appears.



- (4) If you want to cancel the settings, press the <ESC> key.

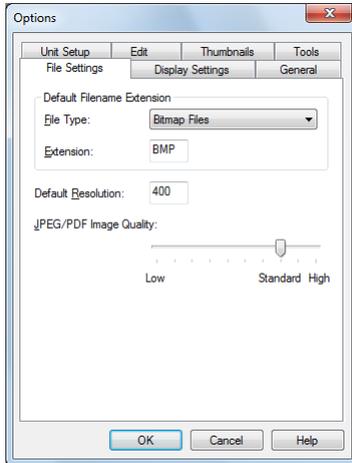
5. DESCRIPTIONS OF FUNCTIONS

This chapter details the View window functions and the Scanning Master Pro Color menus.

5.1 Options Settings

5.1.1 File Settings tab

Select **Options** in the **Tools** menu, and select the **File Settings** tab.



File Type Selects the file format to change the default extension.

Extension Sets the default extension for the file format.

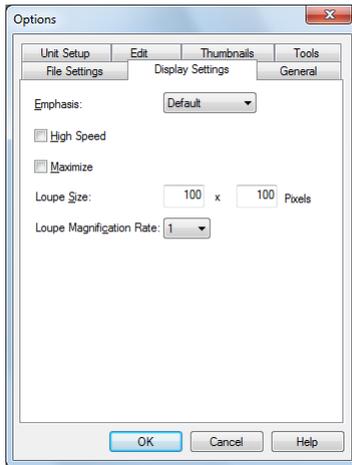
Default Resolution Specifies the resolution to be used when files with no resolution data are opened using **Open** in the **File** menu.

JPEG / PDF Image Quality

..... Specifies the image quality when a file is saved in JPEG / PDF format. A low image quality reduces the size of the file, but renders a coarser image.

5.1.2 Display Settings tab

Select **Options** in the **Tools** menu, and select the **Display Settings** tab.



Emphasis Specifies what pixels should be left when the image is zoomed out. This option will take effect for the file you will open next time or for the on-screen image you will scan in next time.

Default : For bilevel images, black pixels are emphasized. For any other images, no pixels are emphasized.

None : No pixels are emphasized.

Dark : For bilevel images, black pixels are emphasized. For any other images, pixels in dark color are emphasized.

Light : For bilevel images, white pixels are emphasized. For any other images, pixels in light color are emphasized.



Setting "Dark" or "Light" for non-bilevel images of small size may have no effect.

High Speed If you turn this option on, display-related operation (e.g., scroll) will speed up for the file you will open next time or the onscreen image you scan in next time through the scanner. (If the size of available memory space is small, selecting this option may have no effect.) In addition, this option will cause Edit Paste to show only the frame without dragging the image. Note that reading from a file or scanning through the scanner may slow down, because data for display is created when the file is being opened or scanned in.

Maximize Maximizes the default on-screen image.

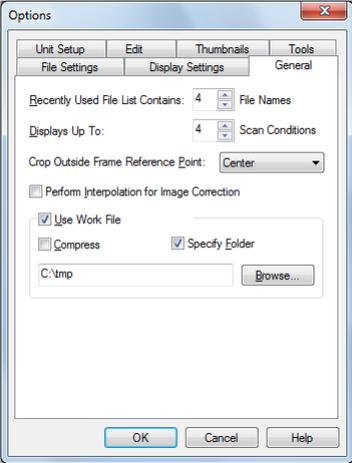
Loupe Size Sets the loupe size in 1-pixel increments in the range from 50 to 500 pixels.

Loupe Magnification Rate

..... Sets the magnification of the loupe. You can select 1, 2, 4, or 8 for the magnification. You can also change it by pressing the <+> or <-> **key** while the image is currently zoomed in on with the Loupe.

5.1.3 General tab

Select **Options** in the **Tools** menu, and select the **General** tab.



Recently Used File List

..... Sets the maximum number of the files listed at the bottom of Contains Up To the File menu. To enable the new setting, you must restart Scanning Master Pro Color.

Display Up To Sets the maximum number of the settings displayed in Save Conditions and Load Conditions in the Scan menu.

Crop Outside Frame ... Selects the position of the reference point when you specify Reference Point Crop Outside Frame.

Perform Interpolation for Image Correction

..... If this option is specified, interpolation is performed to smooth out the data when it is grayscale or color data, and deskew, link, 4-point correction or trapezoidal correction has been performed.

Use Work File If you turn this option on, you can save the scanned in onscreen image temporarily in the work file, thereby reducing the memory area used.

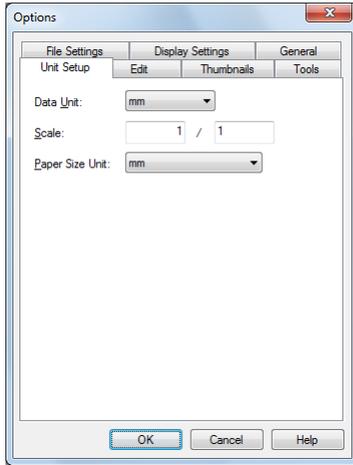
Compress If you turn this option on, the work file will be compressed. The disk area will be reduced although operation may slow down a little.

Specify Folder Turn this option on if you want to specify the folder in which the work file will be created. If you turn it off, the work file will be created in the temporary folder of the system.

Browse button When selecting the folder in which the work file will be created, you can click this button to display the window that lets you select it.

5.1.4 Unit Setup tab

Select **Options** in the **Tools** menu, and select the **Unit Setup** tab.



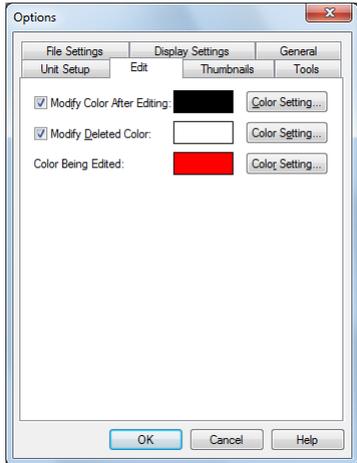
Data Unit Sets the unit used in Relative Measure, 2-point Correction, and 4-point Correction.

Scale Sets the scale used in Relative Measure, 2-point Correction, and 4-point Correction.

Paper Size Unit Sets the unit used for the paper size.

5.1.5 Edit tab

Select **Options** in the **Tools** menu, and select the **Edit** tab.



Modify Color After Editing

..... Specifying this option changes colors edited using the foreground color to the color specified in **Color Setting**.

Modify Deleted Color

..... Specifying this option changes colors erased by the background color to the color specified in **Color Setting**.

Color Being Edited Sets the color of frames used to specify areas, and text being edited.

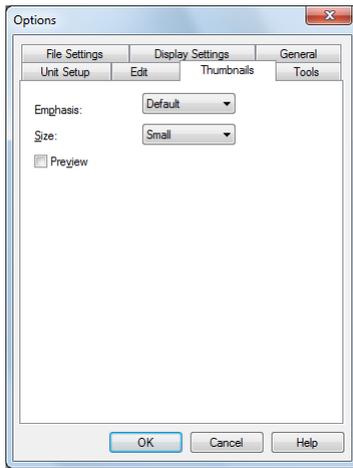
TIP 

The colors specified in “**Modify Color After Editing**” and “**Modify Deleted Color**” only apply to details that can be undone using “**Undo**” in the **Edit** menu.
The colors specified as the foreground and background colors will be applied in the actual data.

5.1.6 *Thumbnails tab*

Select **Options** in the **Tools** menu, and select the **Thumbnails** tab.

Specifies the method for displaying the Thumbnails and Search windows.



Emphasis Specifies the method for displaying the thumbnails. This option is available if folders have been moved or thumbnails have been updated.

Default : For bilevel images, black pixels are emphasized. For any other images, no pixels are emphasized.

None : No pixels are emphasized.

Dark : For bilevel images, black pixels are emphasized. For any other images, pixels in dark color are emphasized.

Light : For bilevel images, white pixels are emphasized. For any other images, pixels in light color are emphasized.

TIP 

Setting Dark or Light for small images other than bilevel images may have minimal effects on the image.

Size Sets the thumbnail size.

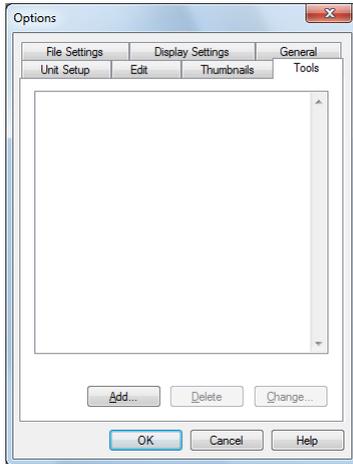
The thumbnail size can be set to Large/Medium/Small. This option is available if folders have been moved or thumbnails have been updated.

Preview If this option is checked a preview of the currently specified image is displayed at the lower left of the window.

5.1.7 Tools tab

Select Options in the Tools menu, and select the Tools tab.

Saves tools launched using Scanning Master Pro Color. Saved tools are displayed in the Tools menu in the Thumbnail window or when the user right-clicks on a thumbnail.

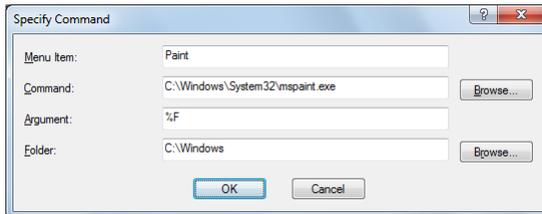


Add Saves a new tool.

Delete Deletes the selected tool.

Change Modifies the details saved for the selected tool.

Pressing the **Add** or **Change** button displays the **Specify command** window.



Menu Item Specifies the name of the tool to be saved.

Command Specifies the file name of the tool to be run.

Argument Specifies the argument used when the tool is launched. If %F is specified, the tool is launched with the currently selected image file name as the argument.

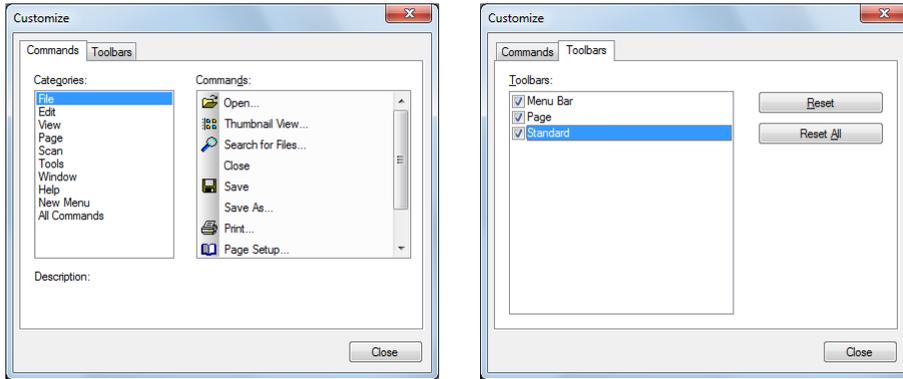
Folder Specifies the working folder.

TIP

Up to 16 tools can be saved.

5.1.8 Customize

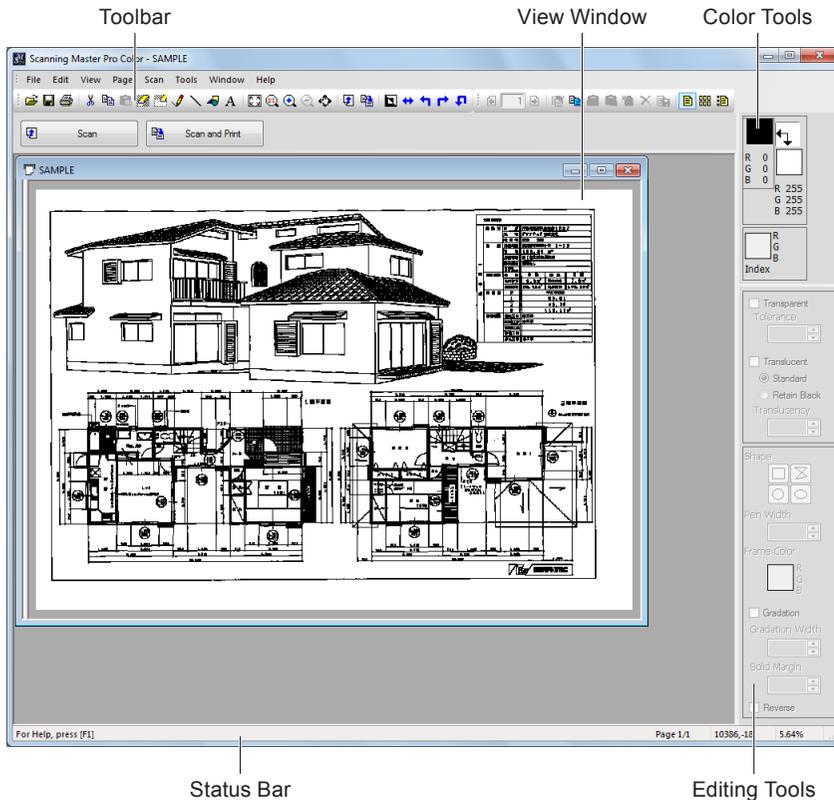
You can **add** a button to or delete it from the toolbar, or rearrange the buttons there. Add, remove and align for the button can be done by dragging and dropping



- Categories** Categories of the buttons to be used are displayed. The specified categories of the buttons are displayed in the Commands of the Customize screen.
- Commands** The buttons available to add in the **toolbar** are displayed. Add it to the **toolbar** by dragging and dropping.
- Toolbars** The **toolbar** to be used is displayed. Show/Hide of the **toolbar** can be switched by checking the **checkbox**.
- Reset** The button on the **toolbar** you specified is Initialized.
- Reset All** All the buttons on the **toolbar** are Initialized.

5.2 View Window

5.2.1 View Window



5.2.2 Toolbar

The Toolbar is located above the application window and just under the menu bar. On the toolbar, you can operate many tools used in Scanning Master Pro Color by clicking them with the mouse. To show or hide the toolbar, select the **View** menu > **Toolbar** command.

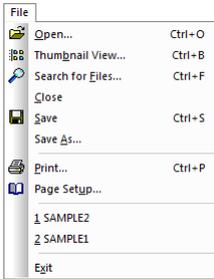
5.2.3 Status Bar

When you select a menu command or a button on the toolbar, the Status Bar gives information about the command (e.g., brief description).

To show or hide the Status Bar, select the **View** menu > **StatusBar** command.

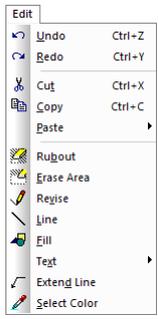
5.3 Menus

5.3.1 File Menu



- Open...** Opens an existing on-screen image.
- Thumbnail View...** Displays the saved images as thumbnails.
- Search for files** Searches for files.
- Close** Closes the currently open on-screen image.
- Save** Saves the latest version of the on-screen image file, with the previous version overwritten.
- Save As...** Saves the on-screen image under a new name.
- Print...** Prints the on-screen image.
- Page Setup...** Lets you set up the page layout and selection and connection of the printer (or plotter).
- File names 1,2,3,4,...** ... Opens a recently closed file.
- Exit** Exits Scanning Master Pro Color.

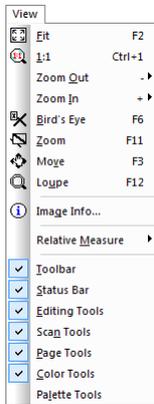
5.3.2 Edit Menu



- Undo** Undoes the last action.
- Redo** Redoes the action you undid with Undo.
- Cut** Cuts and saves the selection in memory.
- Copy** Copies and saves the selection in memory.
- Paste** Pastes the memory contents to the on-screen image.
- Rubout** Rubs out part of the on-screen image with the background color.
- Erase Area** Paints the specified area in background color.
- Revise** Retouches the on-screen image in foreground color.
- Line** Draws a line in foreground color.
- Fill** Draws a filled shape.
- Text** Adds text.
- Extend Line** Draws an extension line.
- Select Color** Selects a color from the image and sets it as the drawing color.

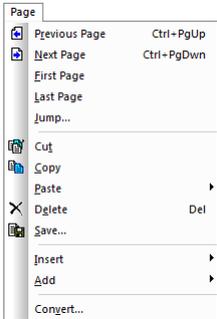
To quit during editing, press the <ESC> key.

5.3.3 View Menu



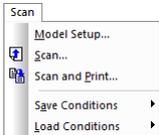
- Fit** Displays the whole on-screen image to fit it in the current window area.
- 1:1** Displays the on-screen image as Normal size, with one dot representing one pixel.
- Zoom Out** Zooms out the on-screen image.
- Zoom In** Zooms in on the on-screen image.
- Bird's Eye** Shows or hides the window containing the overview of the onscreen image.
- Zoom** Displays the detailed view of the zoomed section of the area at the current cursor position.
- Move** Moves the displayed area of the image.
- Loupe** Turns on or off the Loupe Mode, which enables you to zoom in on the area around the cursor.
- Image Info...** Displays the window that lists detailed information about the on-screen image.
- Relative Measure** Measures a relative distance on the on-screen image.
- Toolbar** Shows or hides the Toolbar.
- Status Bar** Shows or hides the Status Bar.
- Editing Tools** Shows or hides the Editing Tools.
- Page Tools** Shows or hides the Page toolbar.
- Color Tools** Shows or hides the Color Tools.
- Palette Tools** Shows or hides the Palette Tools.

5.3.4 Page menu



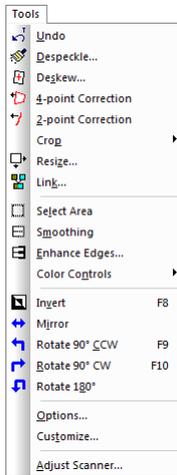
- Previous Page** Displays the previous page.
 - Next Page** Displays the next page.
 - First Page** Displays the first page.
 - Last Page** Displays the last page.
 - Jump...** Displays the specified page.
 - Cut** Cuts the selected page.
 - Copy** Copies the selected page.
 - Paste** Pastes the cut or copied page.
 - Delete** Deletes the current page.
 - Save...** Saves the current page as an image file.
 - Insert** Inserts an image in front of the current page.
 - Add** Adds an image after the current page.
 - Convert** Compresses the data for the current page.
- The page menu commands are only available for images compatible with multi-page format.

5.3.5 Scan Menu



- Model Setup...** Displays the window that lets you set the scanner model for scanning and set the SCSI ID.
- Scan...** Displays the Scan window.
- Save Conditions** Saves the current scanning settings.
- Load Conditions** Loads the existing scanning settings.

5.3.6 Tools Menu



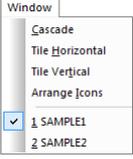
- Undo** Undoes the previous raster action.
- Despeckle...** Removes speckles from the background.
- Deskew..** Deskews an on-screen image.
- 4-point correction** Corrects distorted images.
- 2-point correction** Corrects image dimensions.
- Crop** Crops the outside of the defined area.
- Resize...** Displays the window that lets you resize data.
- Link** Links two images.
- Select Area*2** Selects the area for processing.
- Smoothing*1** Smooths the on-screen image.
- Enhance Edges*1** Enhances the edges of the image.
- Color Controls** Controls image colors.
- Invert** Color-inverts the on-screen image.
- Mirror** Inverts the on-screen image.
- Rotate 90°CCW** Rotates the on-screen image 90 degrees counterclockwise.
- Rotate 90°CW** Rotates the image 90 degrees clockwise.
- Rotate 180°** Rotates the image 180 degrees.
- Options...** Lets you set up the Scanning Master Pro Color defaults.
- Customize** Adds, deletes, or rearranges Toolbar buttons.
- Adjust Scanner...** Adjusts the scanner.

*1 Available only for grayscale and 24-bit color images.

*2 Not available for bilevel data.

5.3.7 Window Menu

The Window menu contains commands that control how two or more application windows are to be listed.



- Cascade** Cascades the windows.
- Tile Horizontal** Tiles the windows horizontally.
- Tile Vertical** Tiles the windows vertically.
- Arrange Icons** Arranges the icons at the bottom of the windows.
- Window Name 1,2, ...** .. Displays the window you clicked.

5.3.8 Help Menu



- Help Topics** Lists the Contents of the Help window.
- Support Information** .. Displays the Graphtec Corporation Web site.
- About...** Shows information about the application version.

5.4 File Formats

Scanning Master Pro Color handles all the following file formats, but compatible formats vary according to the type of image data.

- Bitmap** Saved as Windows bitmap data. The folder extension is BMP.
- Bitmap RLE** Saved as Windows RLE compressed format bitmap data. The folder extension is BMP.
- CAD Overlay ESP** This format is for CAD Overlay ESP data. The folder extension is RLC.



Resolution information cannot be added to the CAD Overlay ESP data at the time it is saved. When using Scanning Master Pro Color to save CAD Overlay ESP data, the image data is saved as is. To load existing CAD Overlay ESP image data from a file, or to save the data under a different file format, select the Tools menu > Options > File Settings tab and then save at the resolution specified for the Default Resolution setting.

TIFF Uncompressed MSB

..... TIFF format, Motorola Big Endian uncompressed format.
The default extension is .tif

TIFF Uncompressed LSB

..... TIFF format, Intel Little Endian uncompressed format.
The default extension is .tif

TIFF G4 MSB

..... TIFF format, Motorola Big Endian Group 4 MMR compressed format.
The default extension is .tif

TIFF G4 LSB

..... TIFF format, Intel Little Endian Group 4 MMR compressed format.
The default extension is .tif

TIFF Packbits MSB

..... TIFF format, Motorola Big Endian Packbits compressed format.
The default extension is .tif

TIFF Packbits LSB

..... TIFF format, Intel Little Endian Packbits compressed format.
The default extension is .tif

TIFF CCITT G3 MSB

..... TIFF format, Motorola Big Endian CCITT Group 3 compressed format.
The default extension is .tif

TIFF CCITT G3 LSB

..... TIFF format, Intel Little Endian CCITT Group 3 compressed format.
The default extension is .tif

TIFF G3 MSB

..... TIFF format, Motorola Big Endian Group 3 compressed format.
The default extension is .tif

TIFF G3 LSB

..... TIFF format, Intel Little Endian Group 3 compressed format.
The default extension is .tif

TIFF JPEG MSB

..... TIFF format, Motorola Big Endian JPEG compressed format.
The default extension is .tif

TIFF JPEG LSB

..... TIFF format, Intel Little Endian JPEG compressed format.
The default extension is .tif

CALS G4

..... CALS TYPE 1, Group 4 MMR compressed format.
The default extension is .cg4

PCX

..... PCX version 5 format.
The default extension is .pcx

Intergraph G4 Intergraph Group 4 MMR compressed format.

The default extension is .cit

Sun Raster Uncompressed

..... Sun Raster uncompressed format.

The default extension is .ras

Sun Raster Encode Sun Raster Encode format.

The default extension is .ras

JPEG Joint Photographic Experts Group compressed format.

The default extension is .jpg

PDF PDF (1.3) format files. The default extension is PDF.

Scanning Master Pro Color can save files in PDF format, but

PDF files cannot be opened or edited in Scanning Master Pro Color.



Data cannot be saved in the CAD Overlay ESP, TIFF JPEG, PCX, JPEG or PDF(Grayscale, 24-bit color) formats if the width or length of the document exceeds the dimensions given below.

Resolution (dpi)	100	200	300	400	600	800	1200	1600	1800	2400	3600	4800	9600
Length (mm)	16645	8322	5548	4161	2774	2080	1387	1040	924	693	462	346	173

5.4.1 File Format Compatibility

○ : Data can be read and saved

× : Data cannot be read or saved

△ : Data can be saved only

Bilevel data	Grayscale data	8-bit color data	24-bit color data	File format
○	○	○	○	Bitmap
×	○	○	×	Bitmap RLE
○	×	×	×	CAD Overlay ESP
○	○	○	○	TIFF Uncompressed MSB*
○	○	○	○	TIFF Uncompressed LSB*
○	×	×	×	TIFF G4 • MSB*
○	×	×	×	TIFF G4 • LSB*
○	○	○	○	TIFF Pack Bits • MSB*
○	○	○	○	TIFF Pack Bits • LSB*
○	×	×	×	TIFF CCITT G3 • MSB*
○	×	×	×	TIFF CCITT G3 • LSB*
○	×	×	×	TIFF G3 • MSB*
○	×	×	×	TIFF G3 • LSB*
×	○	×	○	TIFF JPEG • MSB*
×	○	×	○	TIFF JPEG • LSB*
○	×	×	×	CALS G4
○	○	○	○	PCX
○	×	×	×	INTERGRAPH G4
○	○	○	○	Sun Raster Uncompressed
○	○	○	×	Sun Raster Encode
×	○	×	○	JPEG
△	△	△	△	PDF

* The file formats are compliant with the multi-page.

INDEX

Sign

1:1	4-4
1:1 button	4-41
2-point Correction	4-6, 4-46
4-point Correction	4-6, 4-45

A

A0-Landscape to B4-Portrait	4-42
Add	4-39
Adjust	4-6, 4-54
Adjustments tab	3-10
After	4-8

B

Basic File Operations	4-14
Before	4-8
Bird's Eye	4-5
Bird's Eye Display	4-22

C

Circle	4-9
Color Controls	4-54
Color Tools	4-11
Compatible scanners and other devices	1-3
Convert	4-40
Copy	4-3, 4-26, 4-38
Copy Page	4-8
Crop	4-42
Crop Outside of Frame in A0-Landscape to B4-Landscape	4-6
Crop Outside of Frame in A0-Portrait to B4-Portrait	4-6
Crop Outside of Frame in Current Size	4-6
Crop Outside of Frame in User 1 to 4 Size	4-6
Crop Outside of Specified Frame	4-6
Customize	5-8
Cut	4-3, 4-25, 4-38
Cut Page	4-8

D

Delete	4-39
Delete Color	4-7, 4-61
Delete Page	4-8
Descriptions of Functions	5-1
Deskew	4-6, 4-43
Despeckle	4-5

Despeckling	4-43
Display Settings tab	5-2
Distance Between Specified Points	4-69
Distance Correction	3-24
Document Tab	3-8
Document Type	3-5

E

Edit and Save Palette	4-7, 4-56
Editing Functions	4-25, 4-41
Editing Tools	4-8
Edit Menu	5-11
Ellipse	4-9
Enhance Edges	4-7, 4-53
Erase Area	4-3, 4-30
Extend Line	4-5, 4-28
Extract Color	4-7, 4-65

F

Features	1-1
File Format, Changing	4-15
File Format Compatibility	5-18
File Formats	5-16
File Menu	5-10
File Name, Changing	4-15
File Settings tab	5-1
File tab	3-20
Fill	4-3, 4-32
First Page	4-37
Fit	4-4
Fit button	4-41
Folder, Changing	4-15
Full Page View	4-8

G

General tab	5-3
Grayscale	4-6, 4-55

H

Help Menu	5-15
How to use the Bird's Eye Function	4-22
How to use Zoom	4-23

I

Image Date Manipulation	4-1
-------------------------------	-----

Image Editing Functions (Other)..... 4-41
 Image Info 4-5, 4-24
 Image Measurement..... 4-69
 Increase Colors - 8-bit Color 4-59
 Increase Colors - 24-bit Color 4-60
 Increase Colors to 8-bit Color..... 4-6
 Increase Colors to 24-bit Color..... 4-6
 Insert 4-39
 Installing 2-1
 Invert 4-4
 Inverting the Image 4-67

J

Joint Fine-adjustment 3-24
 Jump 4-7, 4-37

L

Last Page 4-37
 Line 4-3, 4-31
 Link 4-6, 4-49
 Load Settings 1 to 16 4-5
 Loupe 4-5, 4-23

M

Maximize the window 4-2
 Measure 4-5
 Menus 5-10
 Mirror..... 4-4
 Mirroring the Image..... 4-67
 Modify Color 4-7, 4-63
 Move 4-4, 4-42

N

New Image 4-5
 New Window..... 4-8
 Next Page 4-7, 4-37

O

Open 4-3
 Opening an Image File 4-14
 Operations..... 3-1
 Options Settings 5-1
 Options tab 3-21

P

Page and Reduced Size View 4-8
 Page Functions 4-37

Page menu 5-13
 Page Setup 4-4
 Page Toolbar..... 4-7
 Palette Tools (for 8-bit color) 4-12
 Palette Tools (for 24-bit color) 4-12
 Paste..... 4-27, 4-38
 Paste to Current Window 4-3
 Polygon 4-9
 Position Text Using Line 4-5, 4-35
 Power-saving mode setting 3-26
 Preview Display..... 4-41
 Previewing the Whole Image 4-21
 Previous Page..... 4-7, 4-37
 Print..... 4-3
 Printer Tab..... 3-23
 Printing Image Data 4-20

R

Rectangle 4-9
 Redo 4-5
 Redo Undo Edit..... 4-36
 Reduce Colors - 8-bit Color 4-58
 Reduce Colors - Bilevel 4-57
 Reduce Colors to 8-bit Color 4-6
 Reduce Colors to Bilevel 4-6
 Reduced Size View..... 4-8
 Resize 4-6, 4-47
 Revise 4-3, 4-31
 Rotate 90° CCW 4-4, 4-68
 Rotate 90° CW 4-4, 4-68
 Rotate 180° 4-4, 4-68
 Rotating the Image 4-68
 Rubout..... 4-3, 4-30

S

Save 4-3, 4-39
 Save Page..... 4-8
 Saving an Image File 4-15
 Scan 4-4
 Scan and Print..... 3-23, 4-4
 Scan Menu 5-13
 Scanner Adjustment 3-24
 Scanning Master Pro Color Application 2-1
 Scanning Procedure 3-5
 Scan Settings 3-6
 Scan Tools 4-7
 Scrolling the Image..... 4-21
 Search for Files..... 4-4, 4-17

Select Area	4-7, 4-51	Zooming in on the Image	4-22
Select Color	4-5, 4-29, 4-67	Zooming out the Image	4-22
Set Region	4-42	Zoom Out	4-4
SETUP	2-1	Zoom Out Button	4-41
Smoothing	4-7, 4-52		
Starting the Scanner	4-2		
Status Bar	4-10		
System requirements	1-2		
T			
Text	4-3, 4-34		
Thumbnails tab	5-6		
Thumbnail View	4-4, 4-16		
Toolbar	4-3		
Tools Menu	5-14		
Tools tab	5-7		
Transparent Background	4-5		
Trapezoidal Correction	3-25		
TWAIN Input Device Settings	3-4		
U			
Undo	4-5, 4-68		
Undo Edit Function	4-36		
Unit Length	4-69		
Unit Setup tab	5-4		
Update Image button	4-41		
User 1 to 4	4-42		
V			
View	4-40		
View Details	4-18		
Viewing the Image	4-21		
Viewing the Image at Pixel Level	4-21		
View List	4-18		
View Menu	5-12		
View Thumbnails	4-18		
View Window	5-9		
W			
Window Menu	5-15		
Window Overview	4-2		
Z			
Zoom	4-5		
Zoom Display	4-23		
Zoom In	4-4		
Zoom In Button	4-41		

The specifications, etc., in this manual are subject to change without notice.

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