

Canon



CanoScan FS4000US Driver Software FilmGet FS User's Guide

Quick Start

To jump right into scanning

Chapter 1 to Chapter 4

To proceed at a more leisurely pace

You can start using your CanoScan scanner with either of these procedures!!

Appendix: Troubleshooting

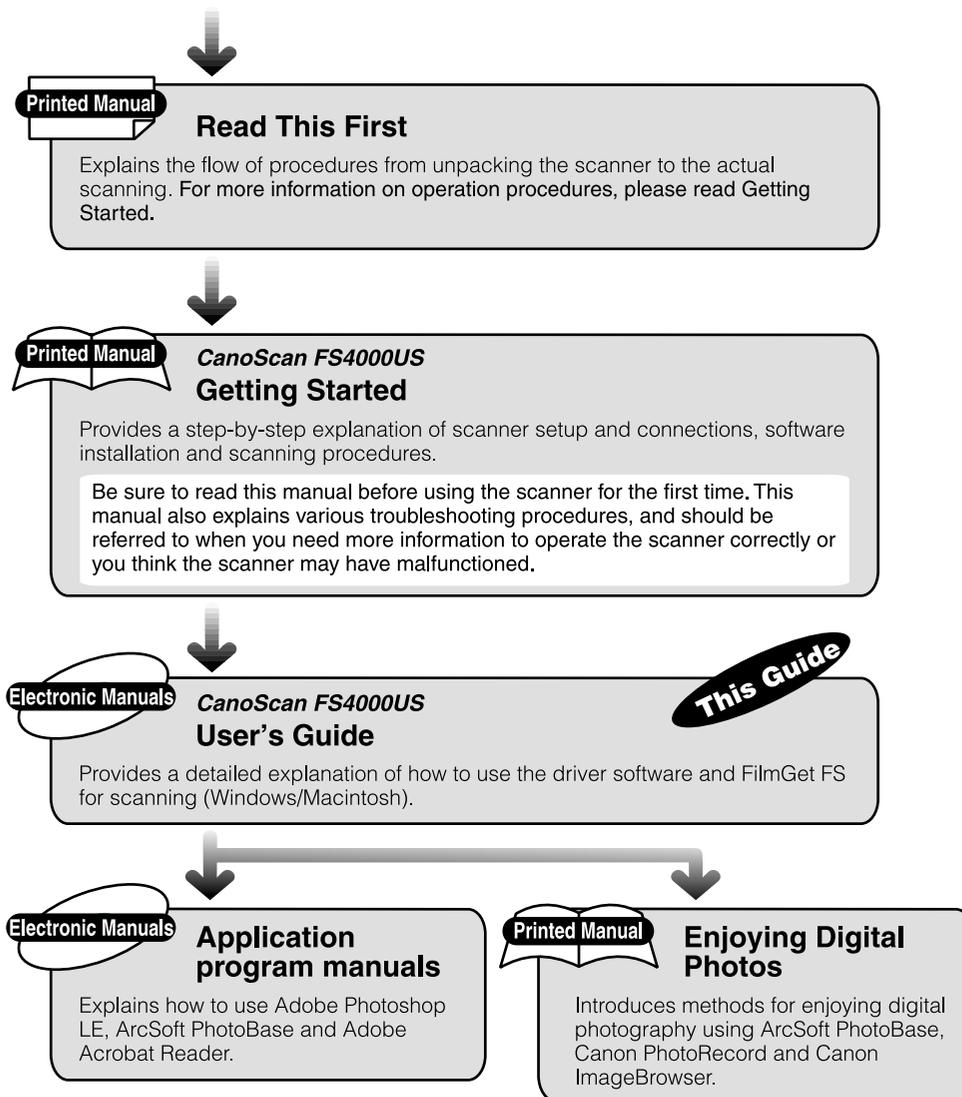
For problems during installation or use



How to Use the Manuals

The various CanoScan scanner manuals are used for the following purposes.

When you open the box



How to Use this Guide

This is the user's guide for FilmGet FS for Windows and FilmGet FS for Macintosh, the driver software for CanoScan FS4000US film scanners. Start the Windows version as a TWAIN driver from within TWAIN-compliant applications and the Macintosh version as the plug-in compliant driver software from within plug-in compatible applications.

This guide explains how to use FilmGet FS after starting the driver software from within the application program. (The operations after starting the driver software are nearly the same for both the Windows and Macintosh versions.) Please read this guide in conjunction with your Windows and Macintosh guides and the guides for individual TWAIN-compliant or plug-in compliant application programs.

Organization of the Guide

This user's guide is organized as follows.

Quick Start <To jump right into scanning>

This is a digest of the scanning procedures using FilmGet FS.
Read this to start using the scanner immediately.

Chapter 1 Before Scanning

An explanation of starting and exiting FilmGet FS, and an introduction of FilmGet FS window names and functions.

All users read this section.

Chapter 2 Scanning

A step-by-step explanation of scanning procedures using FilmGet FS.

All users read this section.

Chapter 3 Scanning Setup

An explanation of how to set the scan settings such as input resolution (how finely to read the image) and output target. Read this section as required.

Chapter 4 Adjusting Images

An explanation of how to adjust the coloring and brightness of preview images. Read this section as required.

Chapter 5 Other Functions

An explanation of the FilmGet FS menu items and settings. Read this section as required.

Appendices

Troubleshooting, glossary and index. Refer to these sections as required.

Symbols in this Guide

The following symbols are used to draw your attention to important topics throughout the guide.



This symbol introduces operating precautions and other critical information. Be sure to read these topics.



This symbol introduces supplementary information. Read these topics at your discretion.

Notation and Screen Samples

- Windows 98 Second Edition, Windows 2000 Professional and Windows Millennium Edition are referred to as Windows 98 SE, Windows 2000 and Windows Me, respectively. Also, unless otherwise specified, references to Windows in this guide include all of Windows 98, Windows 98 SE, Windows 2000 and Windows Me.
- Both FilmGet FS for Windows and FilmGet FS for Macintosh are referred to as FilmGet FS.
- Although the screen samples provided in this guide mostly show the Windows 98 version of FilmGet FS, the Macintosh version features a virtually identical user interface. Separate explanations are provided only for items requiring different procedures.
- Adobe Photoshop LE and Adobe Acrobat Reader are referred to as Photoshop LE and Acrobat Reader, respectively.

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FilmGet FS Features

● A Scanner Driver that Adjusts Images Too

FilmGet FS is the driver software for the CanoScan FS4000US scanner, and is equipped with a variety of image processing functions and input and output controls. The Windows version can be opened as a 32-bit TWAIN driver from within TWAIN-compliant application programs. The Macintosh version can be opened as a plug-in from within plug-in compliant application programs.

● Color Matching System Support (Windows: ColorGear, Macintosh: ColorSync)

This software supports color matching systems so that the colors read by the scanner are faithfully reproduced on your monitor without forcing you to perform any troublesome adjustments.

● Batch Scanning of Multiple Frames

Save time and effort by setting the color adjustment and resolution settings for individual frames and then scanning the selected frames in a single batch. You can scan up to six frames of 35 mm (135) film, four frames of slide-mounted film, or 40 frames of APS (IX240) film in a single batch.

- *APS film refers to APS standard film.*
APS is the abbreviation for Advanced Photo System.

● Dirt and Scratch Correction Function FARE

This software is equipped with the FARE (Film Automatic Retouching and Enhancement) dirt and scratch correction function. This function eliminates troublesome and time consuming cleaning and scratch retouching work by automatically identifying dirt and scratches on the film surface and correcting these defects to provide a clear image.

● Easy Scanning with Auto Settings

Settings for images that are to be used for specific purposes, such as for display on a monitor, for output to a printer or for transmission in a fax, can be set automatically. You are now free to scan without bothering with resolution and size settings.

● Tool Tips Provide Guidance

Guidance is always at hand when you position the mouse cursor over a button or tool. The tool tips provide useful information if you are unsure how to use an item.

● Common Windows and Macintosh User Interface

The Windows and Macintosh versions of FilmGet FS both share the same user-friendly window design and functions. You can switch between either platform without noticing the transition.

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QUICK START

For Those Who Prefer to Jump Right
into Scanning

Quick Start

This section provides the essentials of scanning with FilmGet FS. For those who prefer to jump right into scanning, simply follow the procedures below.

If you wish more information in a particular procedure, refer to the pages quoted for that topic.

1 Install the FilmGet FS software.

- Proceed directly to step 2 if you have already installed the FilmGet FS software according to the instructions in Getting Started.



See Getting Started p. 30.

- Connect the scanner to your computer and turn on the power. When the “Add New Hardware Wizard” screen appears, place the supplied “CanoScan Setup CD-ROM” into the CD-ROM drive and follow the instructions in the messages to install the software.



See Getting Started p. 50.

- (1) Place the supplied “CanoScan Setup CD-ROM” into the CD-ROM drive.
- (2) When CanoScan Setup Utility starts, select **[Install the Software]** and install Photoshop LE. Be sure to reboot your computer after installation is finished.
- (3) Start CanoScan Setup Utility again, select **[Install the Software]** and install FilmGet FS together with the supplied application program.

2 Start FilmGet FS.

Windows See p. 19.

- Start a TWAIN-compliant application program such as Photoshop LE, and start FilmGet FS using the menu item or button.

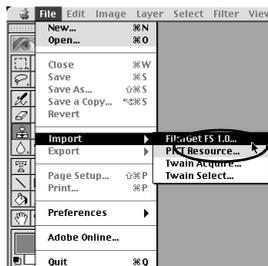


Main Window

When using Photoshop LE, click the **[File]** menu and select **[Import]** and **[TWAIN_32...]**.

Macintosh See p. 22.

- Start a plug-in-compliant application program such as Photoshop LE, and select FilmGet FS using the menu item or button.

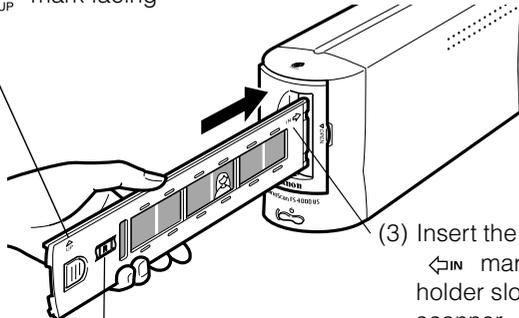


Main Window

When using Photoshop LE, click the **[File]** menu and select **[Import]** and **[FilmGet FS 1.0...]**.

3 Load the film. See p. 30.

- (1) Hold the film holder horizontally with the  mark facing upwards.

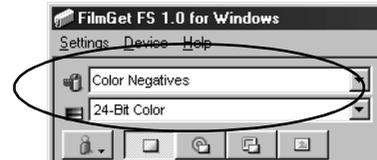


- (3) Insert the end with the  mark into the film holder slot of the scanner.

- (2) Check that the [R] mark can be seen properly from the right side.

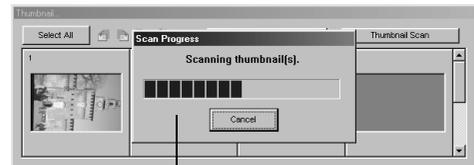
4 Set the film type and color mode. See pp. 33 to 35.

- (1) Click the main window to switch the window.
- (2) Select a film type (color/monochrome, negative/positive) that matches the film you are scanning.
- (3) Set the color mode (color, grayscale, or black and white).



5 Make a thumbnail scan of all the frames on the film. See p. 36.

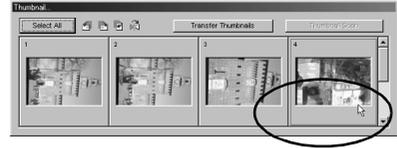
- (1) Click the **[Thumbnail...]** button in the main window to display the thumbnail window.
- (2) Click the **[Thumbnail Scan]** button in the thumbnail window.



The thumbnail scan progress bar will be displayed. Click the **[Cancel]** button if you wish to stop the thumbnail scan.

6 Select a frame you wish to scan. See pp. 37, 38.

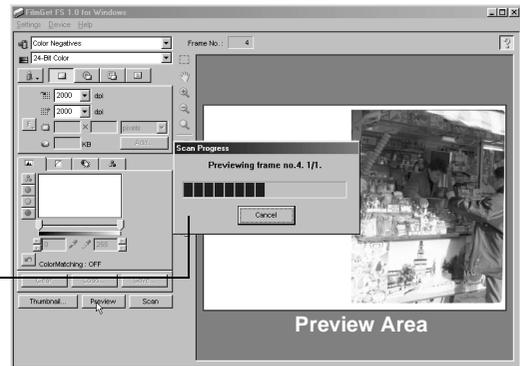
- Click a frame to select that frame. The selected frame will be displayed with a red border.
- If necessary, rotate or flip the frame to change the orientation.



7 Preview the image for the selected frame. See pp. 40, 41.

- Switch to the main window and click the **[Preview]** button.
- The image will be displayed in the preview area.
- For details on switching between the main window and the thumbnail window, see page 32.

The preview progress bar will be displayed. Click the **[Cancel]** button if you wish to stop the preview.

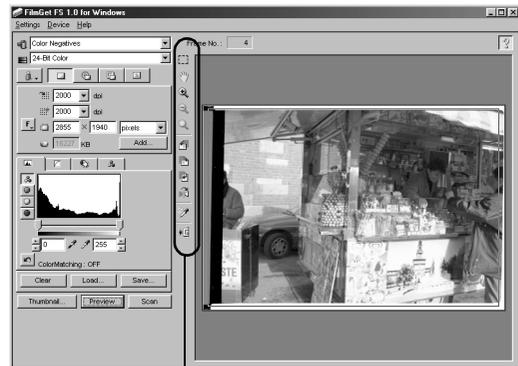


IMPORTANT

- You can only preview one frame at a time.

8 If necessary, adjust the preview image. See pp. 42 to 44.

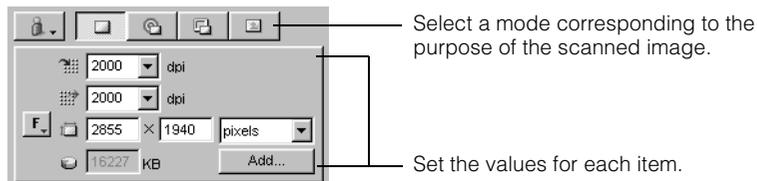
- If the preview image orientation and brightness are not to your satisfaction, adjust the images frame by frame using the toolbar in the preview area. You can zoom, rotate or flip the image, or perform auto retouching.



Toolbar

9 If necessary, set the scan settings. See p. 45.

- If the purpose is clear such as for printout or display on a monitor, set the resolution, output target and other settings for each frame using the scan setting section functions.
- If the purpose is undecided, scan at default settings. In this case the images are scanned with file mode settings (scanning settings for storage in files).



Scan Settings Section

10 If necessary, adjust the image brightness and coloring. See p. 46.

- If the preview image brightness and coloring are not to your satisfaction, adjust the images frame by frame using the image adjustment section functions.

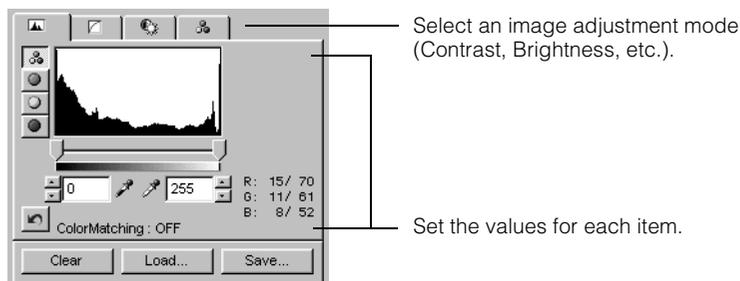


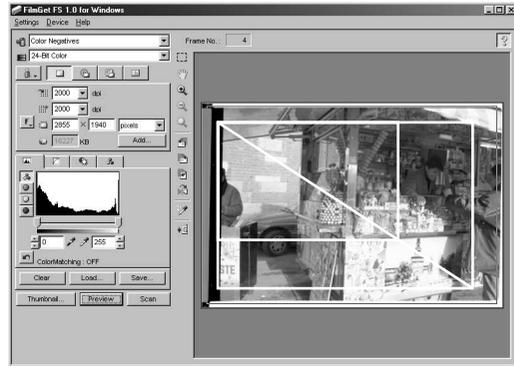
Image Adjustment Section



- When using the image adjustment section functions, remove the check from the "Use Color Matching" option in the **[Color Matching]** item of the **[Settings]** menu. See p. 89.

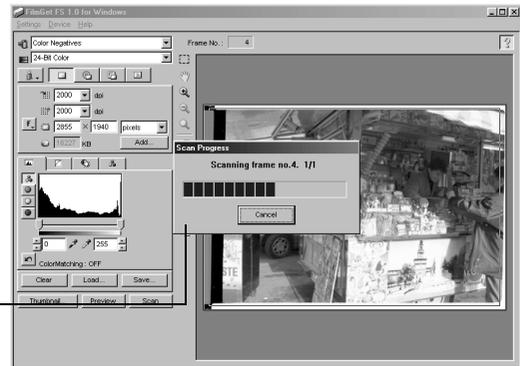
11 Select the scan area for each image. See pp. 47, 48.

- Drag the '+' shaped mouse cursor diagonally to select a scan area.



12 Initiate the final scan. See p. 49.

- Click the **[Scan]** button.
- Scanning is executed. The scanned image will not appear in the preview area, and will instead be transferred to the application program from which FilmGet FS was started.



The scan progress bar will be displayed. Click the **[Cancel]** button if you wish to stop the scan.



IMPORTANT

- To scan multiple frames in a batch, select the frames to be scanned beforehand at the thumbnail window.

13 Click the (close box) at the top right of the window to close the window.

- For the Macintosh version, click the  (close box) at the top left of the window to close the window.
- The scanned image will be displayed in the window of the application program from which FilmGet FS was started.

The scanned images of all the selected frames will be displayed.



14 Retouch the image as required. See the manual for your application program.

- Print or save the image to a disk with the application program from which FilmGet FS was started.

CHAPTER 1

Before Scanning

This section introduces procedures and main window and thumbnail window names and functions that you should be familiar with before actually using FilmGet FS.

All users read this section.

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Windows Setup

System Requirements

The computer you use to run FilmGet FS must meet the following minimum requirements. Check your computer and install FilmGet FS onto the hard disk drive.

Computer	USB connection: IBM PC-AT compatible computer with standard USB configuration SCSI connection: IBM PC-AT compatible computer with SCSI card installed
Operating System	Windows 98, Windows 98 SE, Windows 2000, Windows Me
CPU	Windows 98: Pentium 133 MHz or faster Windows 98 SE: Pentium 133 MHz or faster Windows 2000: Pentium 133 MHz or faster Windows Me: Pentium 150 MHz or faster
RAM	64 MB or more (128 MB or more recommended)
Display	High Color (16 bit) or better, 800 x 600 pixels or better
Interface	USB 1.1/SCSI II
Hard Disk Capacity	500 MB or more (1 GB or more recommended) available after installing the application program
CD-ROM Drive	Required
Required Application Program	Photoshop LE or other TWAIN-compliant application program

- FilmGet FS operation is not guaranteed on home-made or shop brand PCs.
- FilmGet FS is not compatible with NEC PC-9800/9821 series computers.
- Only one CanoScan scanner may be connected to a computer at a time.
- Please note that the system may become unstable because the computer's energy saving mode (sleep mode) is not supported.

Installing FilmGet FS

Install FilmGet FS according to the instructions in “2. Installing the Driver Software” of “Chapter 2 Using the Scanner with Windows” in Getting Started supplied with the scanner.

Starting and Exiting FilmGet FS

■ Starting FilmGet FS

FilmGet FS must be started from within a TWAIN-compliant application program. It cannot be started independently. Photoshop LE is used in the example below.

1 Start Photoshop LE.

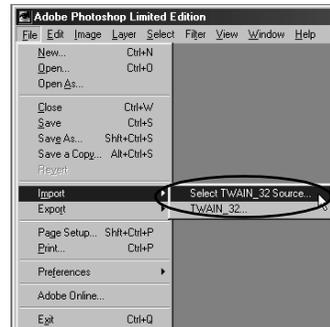
- If you are using a different TWAIN-compliant application program, start that program.



IMPORTANT

- When using Photoshop LE, you must increase the allotted memory in order to start FilmGet FS. For more information please see page 41 "Increasing the Memory Allocated to Photoshop LE" of Getting Started.

2 Click the [File] menu and select [Import] and [Select TWAIN_32 Source...].



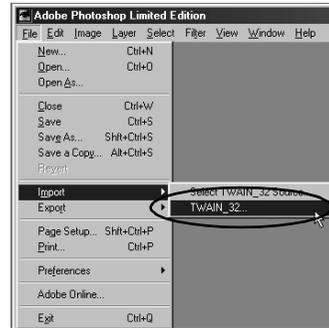
3 The Select Source dialog will be displayed. Select [Canon FilmGet FS 1.0 for Windows] from the list and click the [Select] button.



TIP

- The operations in steps 2 and 3 are not necessary if no driver software for other scanners or digital cameras has been installed.
- Once FilmGet FS has been selected, you do not need to reselect it as long as you do not disconnect the scanner or change the settings.

4 Click the [File] menu and select [Import] and [TWAIN_32...].



- FilmGet FS starts, and the main window and thumbnail window will be displayed.
- Scanning is performed using these windows.



Main Window

TIP

- Please refer to the manuals accompanying the individual software package for the procedures for starting FilmGet FS from within a TWAIN-compliant application program other than Photoshop LE.

■ **Exiting FilmGet FS**

1 Click the **✕** (close box) at the top right of the main window.

- The FilmGet FS windows will close.

TIP

- FilmGet FS will automatically close after scanning has finished when the "Close FilmGet FS after Acquire" option has been checked in the [Preferences...] item of the [Settings] menu. See p. 92.

Macintosh Setup

System Requirements

The computer you use to run FilmGet FS must meet the following minimum requirements. Check your computer and install FilmGet FS onto the hard disk drive.

Computer	USB connection: Macintosh with standard USB configuration SCSI connection: Macintosh with standard SCSI configuration or SCSI card installed
Operating System	Mac OS 8.6 - 9.1
CPU	Power PC G3 or greater
RAM	64 MB or more (128 MB or more recommended)
Display	32,000 colors or better, 800 x 600 pixels or better
Interface	USB 1.1/SCSI II
Hard Disk Capacity	500 MB or more (1 GB or more recommended) available after installing the application program
CD-ROM Drive	Required
Required Application Program	Photoshop LE or other plug-in compliant application program

- Operation is not guaranteed on Macintosh-compatible computers.
- Only one CanoScan scanner may be connected to a computer at a time.
- Please note that the system may become unstable because the computer's energy saving mode (sleep mode) is not supported.

Installing FilmGet FS

Install FilmGet FS according to the instructions in “1. Installing the Software” of “Chapter 3 Using the Scanner with a Macintosh” in Getting Started supplied with the scanner.

Starting and Exiting FilmGet FS

■ Starting FilmGet FS

FilmGet FS must be started from within a plug-in compliant application program. It cannot be started independently. Photoshop LE is used in the example below.

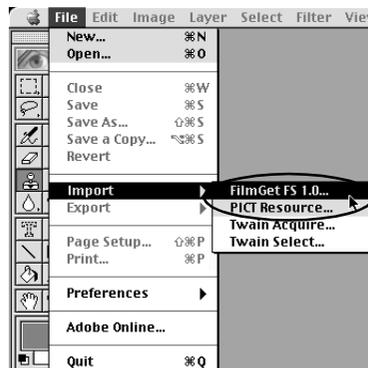


- When using Photoshop LE, you must increase the allotted memory in order to start FilmGet FS. For more information please see page 65 "Increasing the Memory Allocated to Photoshop LE" of Getting Started.

1 Start Photoshop LE.

- If you are using a different plug-in compliant application program, start that program.

2 Click the [File] menu and select [Import] and [FilmGet FS 1.0...].



- FilmGet FS starts, and the main window and thumbnail window will be displayed.
- Scanning is performed using these windows.



Main Window



- Please refer to the manuals accompanying the individual software package for the procedures for starting FilmGet FS from within a plug-in compliant application program other than Photoshop LE.

■ Exiting FilmGet FS

1 Click the  (close box) at the top left of the main window.

- The FilmGet FS windows will close.



- *FilmGet FS will automatically close after scanning has finished when the "Close FilmGet FS after Acquire" option has been checked in the **[Preferences...]** item. See p. 92.*

FilmGet FS Main Window

Main Window

The main window is displayed together with the thumbnail window (See p. 26) when FilmGet FS is started within the application program.

Image Adjustment Section

Adjusts the brightness and coloring of preview images.

Menu Bar

Contains the various commands and settings to control how FilmGet FS operates.

Scan Settings Section

Sets the resolution and output target settings according to the primary purpose of the scanned image.

Title Bar

Displays the window title. Click here and drag the window to change its position on the desktop.

Toolbar

Contains the tools for rotating, flipping and zooming the preview image.

Close Box

Closes FilmGet FS.

Show/Hide Tool Tips

Shows or hides the tool tips.

Scan Area Frame

The image within the area enclosed by this frame is scanned.

Preview Area

Displays the preview image for a single frame. Use this area to set the scan area and inspect adjustments to the image.

[Thumbnail...] button

Displays the thumbnail window (See p. 26) in front of the main window when it is hidden by the main window.

[Preview] button

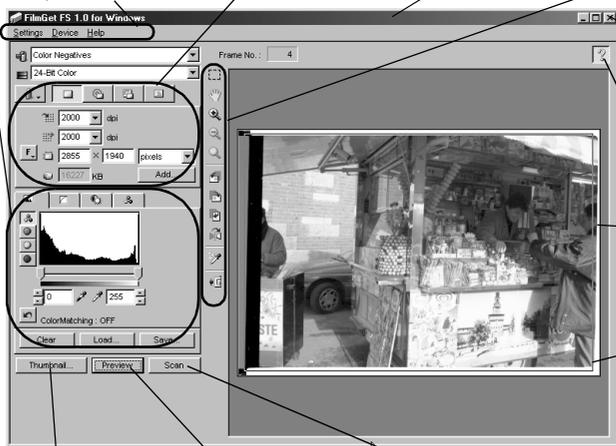
Initiates a preview scan and displays the images one at a time in the preview area.

[Scan] button

Initiates the final scan of all selected images and transfers the scanned images to the application program from which FilmGet FS was started.

Window Resizing

Click and drag anywhere along the right or bottom edges (Windows) or click and drag the lower right corner (Macintosh) to resize the window.



TIP

- Some items and buttons are grayed out and not available when a film holder is not inserted into the scanner.

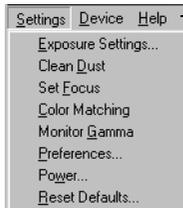
Main Windows **Macintosh**

The FilmGet FS main window is virtually indistinguishable between the Windows and Macintosh versions. The primary difference is the location of the close box. On the Macintosh version it is located at the top left corner of the window.

Close Box
Closes FilmGet FS.



Menu Bar in the Main Window



[Settings] menu

Sets the auto exposure, focus adjustment, and color matching system settings among others. See p. 86.



[Device] menu

Runs a scanner test or displays scanner information. See p. 96.



[Help] menu

Displays FilmGet FS help topics or software version data. See p. 96.

Toolbar in the Main Window



Selector Tool. See pp. 43, 47, 78.

Grab Tool. See p. 43.

Zoom In Tool. See p. 42.

Zoom Out Tool. See p. 42.

Zoom Reset Tool. See p. 42.

Rotate 90 Degrees Left Tool. See p. 43.

Rotate 90 Degrees Right Tool. See p. 43.

Rotate 180 Degrees Tool. See p. 43.

Flip Tool. See p. 43.

Auto Correct Tool. See p. 44.

Film Eject Tool. See p. 42.

FilmGet FS Thumbnail Window

Thumbnail Window

The thumbnail window is the window that appears when you click the **[Thumbnail...]** button in the main window (See p. 24). This window is displayed together with the main window when FilmGet FS is started within the application program.

[Select All] button

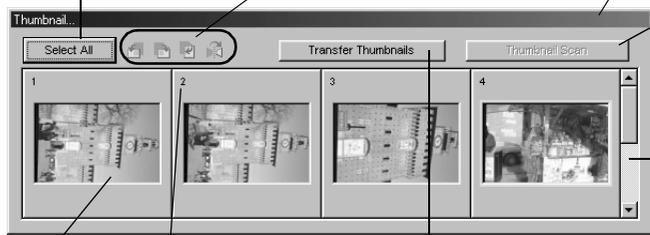
Selects all of the frames. When clicked, it changes to the **[Deselect All]** button.

Toolbar

Contains the tools for rotating or flipping the thumbnail images.

Title Bar

Click here and drag the window to change the window position on the desktop.



[Thumbnail Scan] button

Initiates a thumbnail scan of all frames and displays the thumbnail images.

Scroll Bar

Lets you scroll to view thumbnail images that are not currently displayed.

Frame

Frame No.

[Transfer Thumbnails] button

Transfers the selected thumbnail images to the application program.

Window Resizing

Make the window larger in order to display more frames at one time. Click and drag anywhere along the right or bottom edges (Windows) or click and drag the lower right corner (Macintosh) to resize the window.



- When a film holder is not inserted into the scanner, no frames will be displayed.

Toolbar in the Thumbnail Window



Flip Tool. See p. 38.

Rotate 180 Degrees Tool. See p. 38.

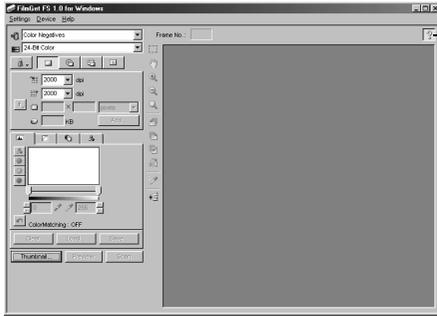
Rotate 90 Degrees Right Tool. See p. 38.

Rotate 90 Degrees Left Tool. See p. 38.

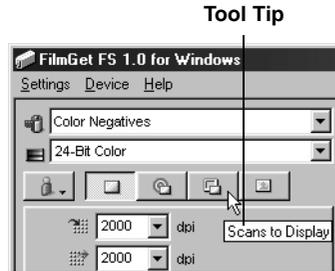
How to Find Help

Tool Tips

FilmGet FS is equipped with tool tips that explain the functions of the buttons and tools in the windows. When you click the  (Show/Hide Tool Tips) button, the button will change to the  button. In this state, positioning the mouse cursor over a button or tool will display the tool tip for that item. To hide the tool tips, click the  button again.



Show/Hide Tool Tips Button



Tool Tip

CHAPTER 2

Scanning

This section provides a step-by-step explanation of scanning operations using FilmGet FS, from loading the film to thumbnail scanning and preview scanning.

All users read this section.

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Scanning Procedures

Although scanning procedures vary for each color mode (color, grayscale or black and white), the basics are the same. Use the following procedures as a guideline. Each step is explained in greater detail on the referenced pages.

(1) Load the film. See p. 30.

Load the film into the film holder, then insert the film holder into the scanner.

(2) Select the film type. See p. 33.

Select a film type (color/monochrome, negative/positive) matching the film you are scanning.

(3) Set the color mode. See p. 34.

Select between **[24-Bit Color]** and **[42-Bit Color]** for the color mode, between **[8-Bit Grayscale]** and **[14-Bit Grayscale]** for the grayscale mode, and **[Black and White]** for the black and white mode.

(4) Check the images with a thumbnail scan. See p. 36.

Initiate a thumbnail scan of all the frames of the film loaded into the film holder, and check the thumbnail images.

(5) Select one or more frames. See p. 37.

(6) Adjust the thumbnail images. See p. 38.

If necessary, change the orientations of the thumbnail images by rotating or flipping the images with the tool buttons.

(7) Preview the images. See p. 40.

Preview the selected frames to make sure they are to your satisfaction.

(8) Determine the image size and resolution. See p. 45.

Set the resolution, output target and image size according to the purpose of the scanned image.

(9) Adjust the brightness and coloring. See p. 46.

If the preview images are not to your satisfaction, adjust the color balance and brightness of images scanned in color mode, the brightness of images scanned in grayscale mode and the threshold value of images scanned in black and white mode.

(10) Select the scan area. See p. 47.

Drag the mouse cursor to select the scan area if you wish to crop the image.

(11) Initiate the final scan. See p. 49.

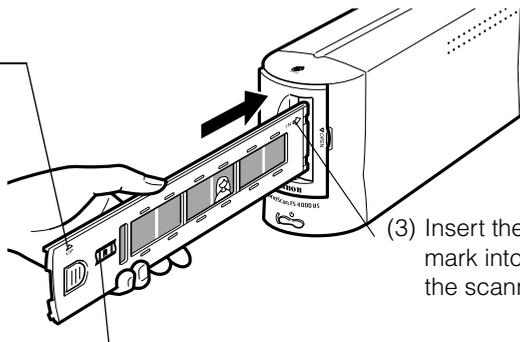
Scan all the selected frames and transfer the scanned images to the application program from which FilmGet FS was started. Use the application program to print or save the images.

Loading Film

Inserting the Film Holder

Load the film into the film holder and carefully insert the film holder straight into the film holder slot of the scanner. Once the film holder has been inserted past a certain point, it is automatically drawn into the scanner.

- (1) Hold the film holder horizontally with the  mark facing upwards.



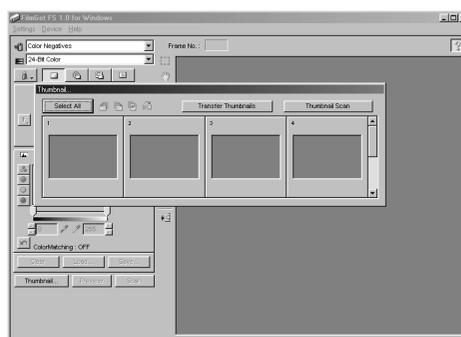
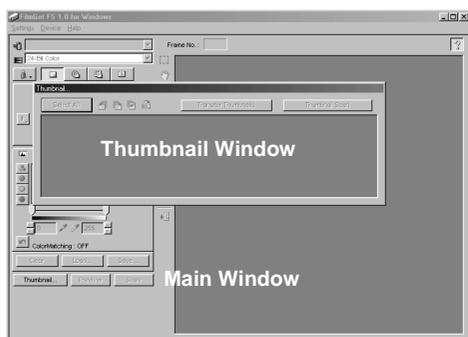
- (3) Insert the end with the  mark into the film holder slot of the scanner.

- (2) Check that the [R] mark can be seen properly from the right side.



- If the film holder is facing the wrong direction or tilted, you will not be able to insert it.
- For more information on loading film, see “Chapter 5 Setting the Film in Position” in *Getting Started*.

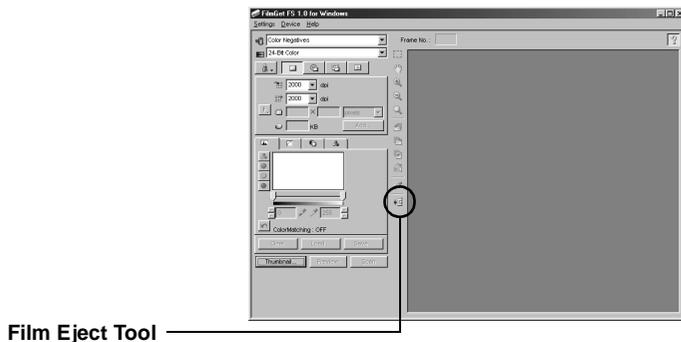
When the film holder is inserted into the scanner, frames and buttons will appear in the FilmGet FS thumbnail window.



- When you insert the film holder, calibration is performed automatically and the message “Calibrating...” will be displayed. This calibration is to teach the correct “white (reference color)” to the scanner in order to scan film with more accurate colors.
- Although it takes about one minute to complete the calibration operation the first time that the operation is performed after the scanner is turned on, subsequent calibration operations will be completed in about ten seconds.

Ejecting the Film Holder

To change the film or when scanning is finished, click the  film eject tool to eject the film holder. When you click the tool a confirmation dialog box will be displayed. Click **[Yes]** to automatically eject the film holder. The thumbnail and preview images will disappear from the screen at this time. If you click the film eject tool when no thumbnail or preview images are displayed, the film holder will be ejected without displaying the confirmation dialog box.



IMPORTANT

- If you click the  film eject tool while an IX240 film cartridge holder is inserted in the scanner, you will hear a winding sound and the power lamp will flash until the film has been wound back into the cartridge. Wait until the power lamp changes from flashing to lighted before removing the film cartridge holder from the scanner.

Switching between Windows

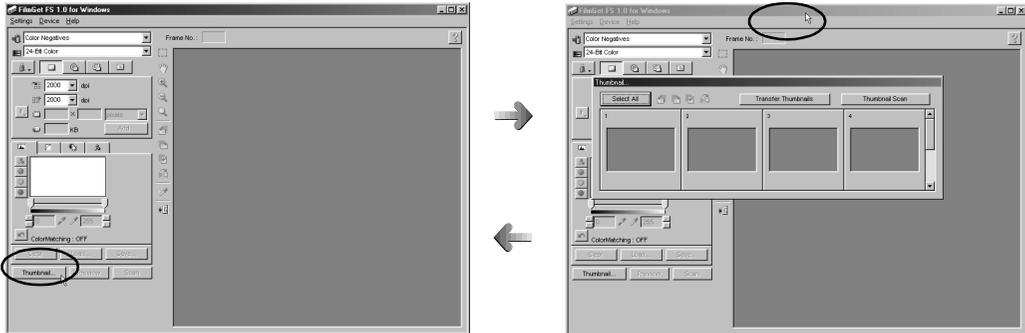
The thumbnail window remains open until you exit FilmGet FS, and can be switched with the main window.

Switching to the Main Window

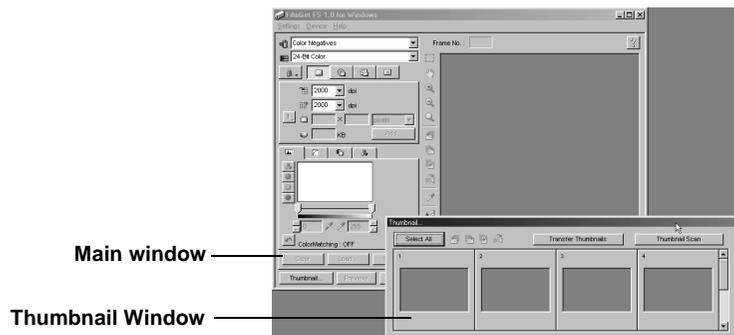
To switch to the main window, click the title bar of the main window.

Switching to the Thumbnail Window

To switch back to the thumbnail window, click the **[Thumbnail...]** button in the main window, or click the title bar of the thumbnail window (when it is not hidden by the main window).



When the thumbnail window is hidden by the main window, you can also resize or change the positions of the main window and the thumbnail window so that both windows are visible. See pp. 24, 26.

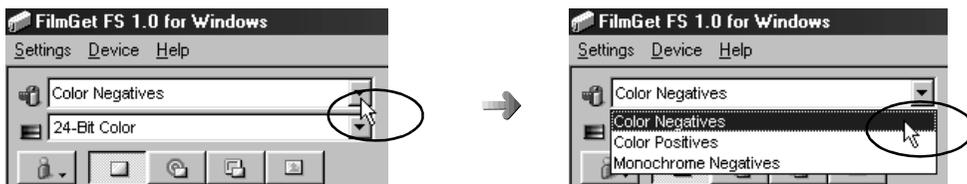


Selecting the Film Type

Select the appropriate film type (color/monochrome, negative/positive) for the film being scanned.

Film Type Setting

Click the  arrow button on the right side of the  (Film Type) box in the main window, and select the desired film type from the pull-down menu.

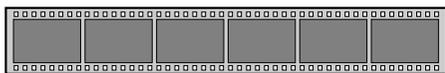


IMPORTANT

- The film type setting is grayed out and not available when a film holder is not inserted or when an IX240 film cartridge holder that does not contain a cartridge is inserted.

TIP

- The following film types are selected when a film holder is first inserted.
35 mm film strip holder: Color Negatives
Slide mount holder: Color Positives
When using an IX240 film cartridge holder, the loaded film type is automatically identified and the appropriate film type is selected.
However, if the same film holder is loaded again, the previously set film type will be selected.
- FilmGet FS can be used to scan sleeve, mount and cartridge film formats. For more information on film formats, please refer to "2. Film Basics" of "Chapter 5 Setting the Film in Position" in Getting Started.



Sleeve



Mount



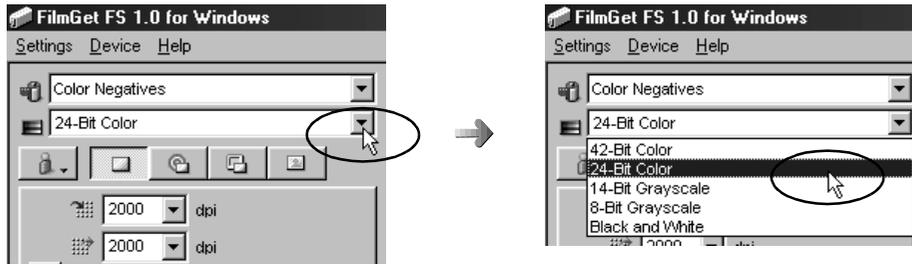
Cartridge
(IX240 film)

Setting the Color Mode

You can select between color, grayscale and black and white modes when selecting the color mode. Select a mode appropriate to the type of film and the purpose of the image.

Color Mode Setting

Click the  arrow button on the right side of the  (Color Mode) box in the main window, and select the desired color mode from the pull-down menu.



The selected mode will appear in the  (Color Mode) box when the pull-down menu closes. You may select from among the five modes of **[42-Bit Color]**, **[24-Bit Color]**, **[14-Bit Grayscale]**, **[8-Bit Grayscale]** and **[Black and White]**.

IMPORTANT

- The **[42-Bit Color]** and **[24-Bit Color]** options are grayed out and not available when a monochrome film type has been selected.
- The color mode setting is grayed out and not available when a film holder is not inserted or when an IX240 film cartridge holder that does not contain a cartridge is inserted.
- The color mode can also be set independently for frames with preview images (See p. 40).

Determining the Color Mode

You may select from among five color modes.

24-Bit Color	Select this setting to scan standard color films. The image is expressed in 256 tones (8 bits) per RGB (red, green and blue) channel.
42-Bit Color	Select this setting when a particularly high-quality color image is required. The image is expressed in 16,384 tones (14 bits) per RGB channel. The scanning time will be longer and the file will be larger than the corresponding 24-bit color file. This requires an application program such as Photoshop that supports 42-bit color.
8-Bit Grayscale	Select this setting for monochrome films or when a monochrome image is desired. The image is expressed in 256 tones (black, white and 254 gray shades).
14-Bit Grayscale	<p>Select this setting when a particularly high-quality grayscale image is required. The image is expressed in 16,384 tones (black, white and 16,382 gray shades). The file will be larger than the corresponding 8-bit grayscale file. This requires an application program such as Photoshop that supports 14-bit color.</p>  <p style="text-align: center;">Grayscale</p>
Black and White	<p>Images are expressed in two colors only: black and white. Light and dark areas of the image are expressed as either black or white according to the threshold value. The threshold value can be freely set.</p>  <p style="text-align: center;">Black and White</p>

Thumbnail Scanning

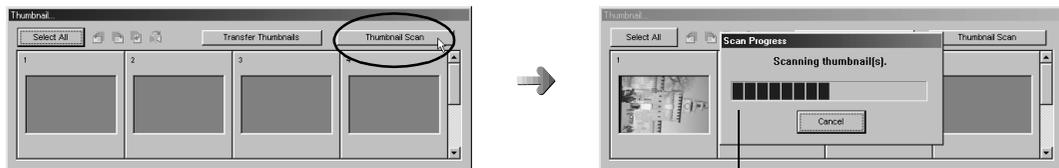
Once you have selected the film type and color mode, you should make a thumbnail scan of all the frames of the film loaded into the film holder.

Displaying the Thumbnail Window

When the thumbnail window is hidden, click the **[Thumbnail...]** button in the main window to display the thumbnail window.

Initiating a Thumbnail Scan

Click the **[Thumbnail Scan]** button in the thumbnail window. All the film frames will be scanned and the images displayed as thumbnail images (small images).



The thumbnail scan progress bar will be displayed. Click the **[Cancel]** button if you wish to stop the thumbnail scan.



- The scanner may take a few moments to respond to the **[Cancel]** button when it is clicked during thumbnail scanning.
- If the "Insufficient hard disk space" message or a similar message appears during the thumbnail scan, it means that your hard drive is too full to store the data for the thumbnail scan. Delete unnecessary files from the hard drive to free sufficient space and reinitiate the thumbnail scan.
- When all of the thumbnail images are displayed, the **[Thumbnail Scan]** button is grayed out and thumbnail scanning is not available.

Selecting Frames

Select the desired frames at the thumbnail window, and then switch to the main window for preview and final scanning.

Selecting/Deselecting All

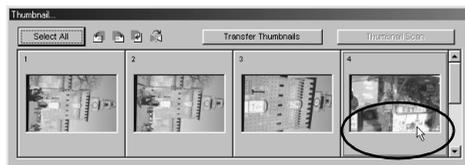
All frames are deselected when the thumbnail window is first displayed. Use the button at the top left of the thumbnail window to select and deselect all the frames at once.



- Click the **[Select All]** button to select all the frames. The borders around all the images will turn red, and the **[Select All]** button will change to the **[Deselect All]** button.
- Click the **[Deselect All]** button to deselect all the frames.

Selecting/Deselecting a Single Frame

- Click on a frame to select it. The border around the image will turn red.
- Click again on the frame to deselect it. The red border will disappear.



Rotating and Flipping Thumbnail Images

You can change the orientation of the scanned thumbnail images using the tool buttons.

Rotating and Flipping Images

Click the following tools to rotate or flip the images. When you click these tools, all the selected images will be rotated or flipped.

-  (Rotate 90 Degrees Left Tool)
Rotates the images 90 degrees counterclockwise.
-  (Rotate 90 Degrees Right Tool)
Rotates the images 90 degrees clockwise.
-  (Rotate 180 Degrees Tool)
Rotates the images 180 degrees.
-  (Flip Tool)
Flips the images from left to right.



- *When a preview image of the selected frame is displayed in the preview area, both the thumbnail image and preview image are rotated or flipped.*

Transferring Thumbnail Images to the Application Program

You can transfer all the thumbnail images at once to the application program. The transferred images can be printed out for use as an index print, or written to a CD-R together with the scanned images for use as an index.

Transferring Thumbnail Images

Click the **[Transfer Thumbnails]** button in the thumbnail window to transfer the thumbnail images for all the frames to the application program.

The transferred thumbnail images will appear as follows depending on the type of film holder that is inserted into the scanner.



35 mm Film Strip Holder



Slide Mount Holder



IX240 Film Cartridge Holder

15-frame film



25-frame film



40-frame film



TIP

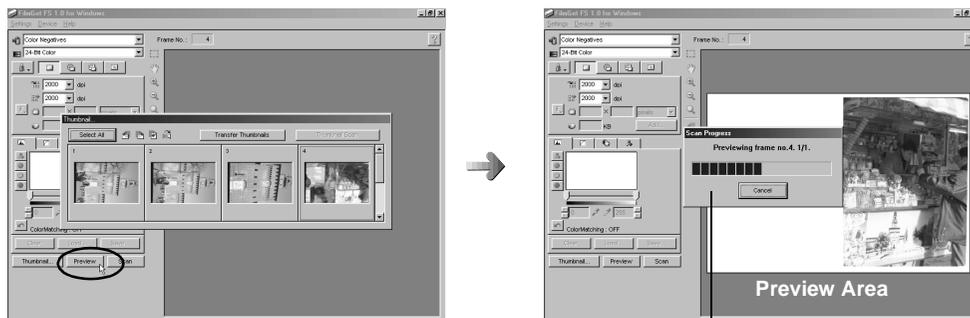
- If you have not yet initiated a thumbnail scan, a thumbnail scan will be automatically initiated and the images will then be transferred to the application program.

Previewing to Inspect the Images

Once you have selected and adjusted the frames in the thumbnail window, the next step is to switch to the main window and preview to inspect the images. You can only preview one frame at a time.

Previewing

Click the **[Preview]** button to initiate a preview scan of the selected frame. The preview image will appear in the preview area.



The preview progress bar will be displayed. Click the **[Cancel]** button if you wish to cancel the preview scan.

To preview other frames, switch to the thumbnail window, select another frame and repeat the preview procedure.

IMPORTANT

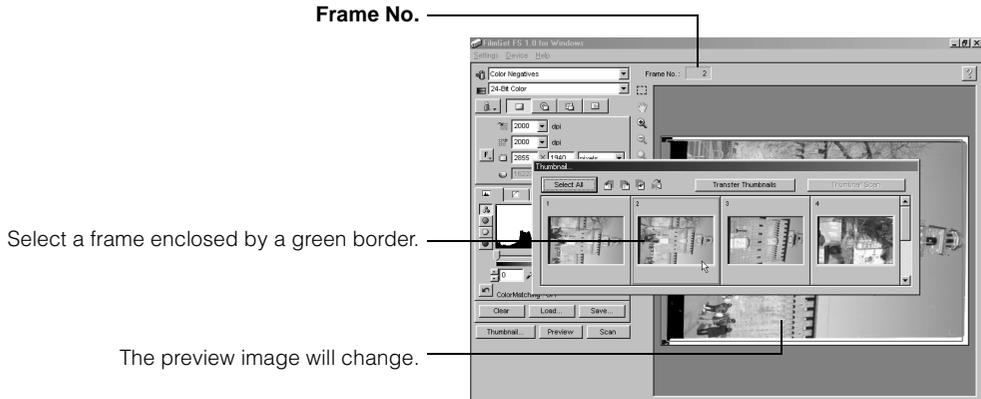
- Select one frame at the thumbnail window before previewing. If multiple frames are selected or if no frames are selected at the thumbnail window, the **[Preview]** button will be grayed out and previewing will not be available.
- If the "Insufficient hard disk space" message or a similar message appears during the preview scan, it means that your hard disk is too full to store the data for the preview scan. Delete unnecessary files from the hard disk to free sufficient space and reinitiate the preview scan.

TIP

- Adjustments, such as brightness (See p. 46), are reflected immediately in the preview image. Please note, however, that the preview scan is only an approximation of how the final scan will appear. The end result may differ slightly.
- If you resize the main window (See p. 24), the preview image size in the preview area is immediately changed to match the new window size.

Switching between Preview Images

Frames that have already been previewed will appear enclosed by a green border in the thumbnail window. If you select one of these previewed frames, the preview image for the selected frame will appear in the preview area. You can switch the preview image by selecting another frame. At this time the number of the selected frame will be displayed in the main window.



TIP

- When multiple frames are selected, a preview image will not be displayed in the preview area, and instead the "No image can be displayed because more than one frame is selected." message will appear.

Adjusting Preview Images

If the preview image is not to your satisfaction, you can use the toolbar to adjust the orientation, brightness and other settings. The procedures for zooming, rotating, flipping and auto correction are explained below. For information on adjusting the image brightness or coloring, please see page 71 “Chapter 4 Adjusting Images”.



- Please note that the toolbar is grayed out (except for the  film eject tool) when the preview area is empty. No tools can be selected until an image is previewed.

Zooming an Image for Verification

- Click the  zoom in tool to select it. The display will zoom in by a factor of 2 each time you click the tool on the preview image.



Scroll Bars

- Click the  zoom out tool to select it. The display will zoom out by a factor of 2 each time you click the tool on the preview image.
- Click the  zoom reset tool to restore the display to the default zoom setting.



- The  zoom in tool functions merely change the preview area display magnification, and do not affect the resolution or scan size (See pp. 53, 54) of the scanned image. The preview area may be zoomed up to two times to magnify the image by a factor of 400%.
- Scroll bars appear on the right and bottom edges of the preview area when it is zoomed. These scroll bars can be used to change the portion of the image appearing in the window.
- The  zoom out tool and  zoom reset tool are only activated when the preview image has been zoomed.

Moving an Image within the Preview Area

- When the image has been zoomed, click the  grab tool to change the mouse cursor into the  shape. Drag the grab tool over the image to shift the portion appearing within the preview area.
- To return the mouse cursor to the '+' shape, click the  selector tool.



- The  grab tool is only activated when the preview area has been zoomed in with the zoom in tool.

Rotating and Flipping Images

Click one of the tools below to rotate the preview area or flip the image within it.

-  (Rotate 90 Degrees Left Tool)
Rotates the entire preview area 90 degrees counterclockwise.
-  (Rotate 90 Degrees Right Tool)
Rotates the entire preview area 90 degrees clockwise.
-  (Rotate 180 Degrees Tool)
Rotates the entire preview area 180 degrees.
-  (Flip Tool)
Flips the image from left to right in the preview area.



- When a preview image is rotated or flipped, the corresponding thumbnail image is also rotated or flipped in the same manner.

Using Auto Correction on Images

- If the preview image is not to your satisfaction, click the  auto correct tool to automatically correct the highlights, shadows, brightness and coloring of the preview image to the optimal states.
- Click the **[Clear]** button to return the image to the original state.

Auto Correction Clear Button



- You cannot use the  auto correct tool when the "Use Color Matching" option is on. See p. 89, "Use Color Matching," for an explanation of switching the Use Color Matching option.

Adjusting the Scan Settings

For what purpose will the scanned images be used?
Will they be printed out? Or simply displayed on a monitor?

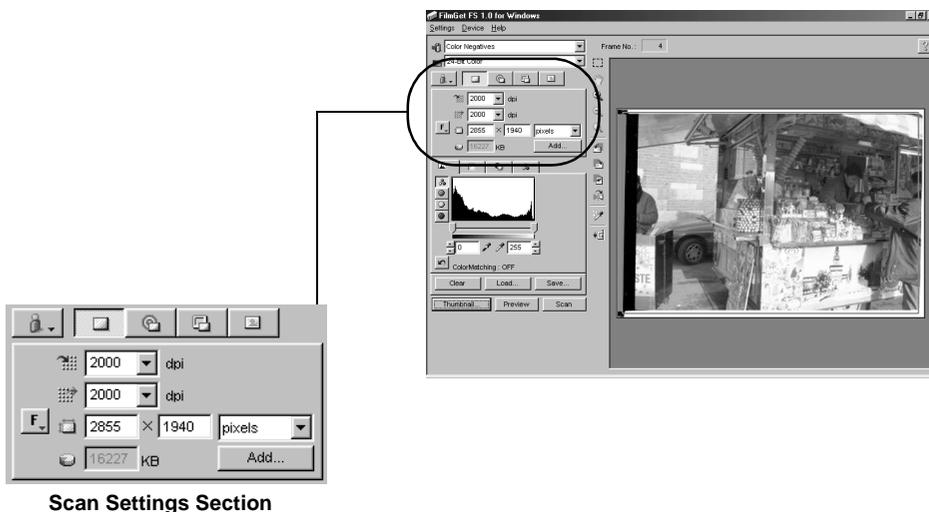
If the purpose is undecided, scan at default settings. When FilmGet FS is first installed, images are scanned with file mode settings (scanning settings for storage in files). See page 94 “Default Settings.”

If the purpose is clear, set the detailed settings by selecting the various modes in the scan settings section. You can set the scan settings independently for each frame, or you can set all the frames to the same conditions.



TIP

- See page 51 “Chapter 3 Adjusting the Scan Settings” for more information on setting the scan settings.



Scan Settings Section

Adjusting Brightness and Coloring

You can adjust the brightness and coloring of the preview image to your satisfaction by selecting the modes in the image adjustment section. These adjustments are performed on each frame individually.


TIP

- See page 71 "Chapter 4 Adjusting Images" for more information on adjusting the brightness and coloring.

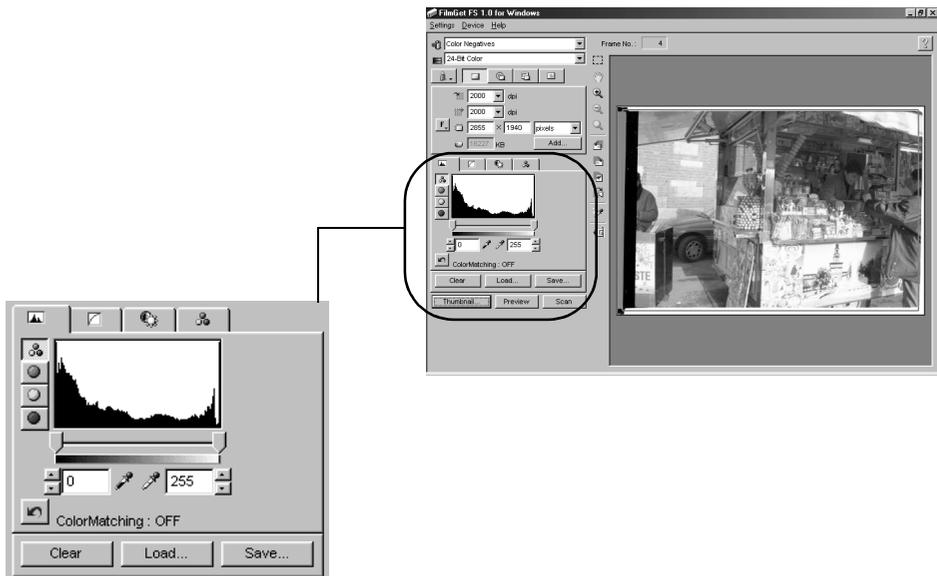


Image Adjustment Section

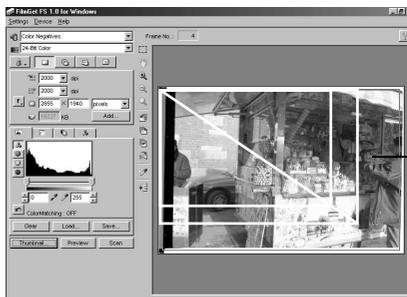
Selecting the Scan Area

A scan area selection frame will appear in the preview area. When FilmGet FS is first installed, the selected area is approximately 90% of the preview area. You can initiate the final scan without changing this selection frame.

To scan only the area you want, simply change the scan area selection frame to reselect the scan area. When you select a scan area, only that area is scanned and transferred to the application program from which FilmGet FS was started.

Selecting the Scan Area

Click the  selector tool on the toolbar and drag the mouse cursor (which will change into a '+' shape) across the preview image to enclose the scan area with the scan area selection frame. Here, "drag" means to move the mouse cursor with the left button held down (or to move the mouse with the button held down for the Macintosh version).



Scan Area Selection Frame



- You can drag the cursor in any direction.
- If you do not specify a scan area, the scan area selection frame displayed in the preview area will be used as the scan area.

Adjusting the Scan Area Selection Frame

- You can expand or shrink the scan area by positioning the mouse cursor over the selection frame until it changes into one of the , ,  or  shapes and dragging it.
- You can move the entire scan area selection frame by positioning the mouse cursor inside it. The cursor will change into the  shape, allowing you to click and drag to shift the entire selection frame around the image.



TIP

- See page 55, “Aspect Ratio of the Scan Area”, for instructions on how to change the width-to-height proportions of the scan area selection frame.

Adjusting the Selected Scan Area

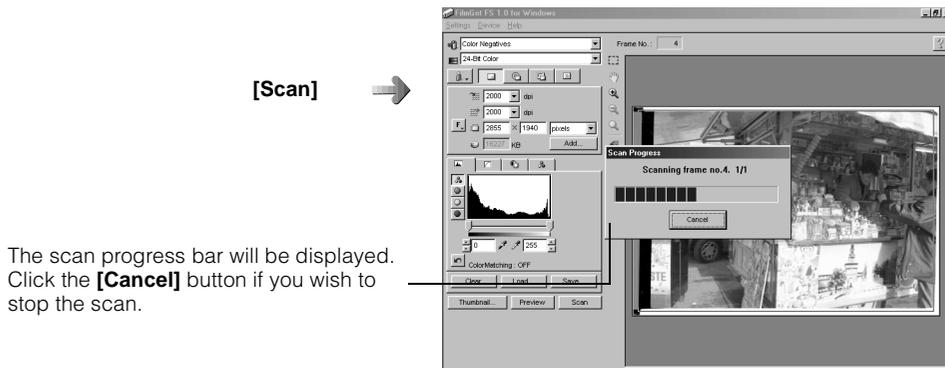
You may change the scan area selection any number of times. You can also change the scan settings after you have selected the scan area. Moreover, you can freely change the selection settings or the preview image on which the settings are based. Try reselecting them until you achieve satisfactory results.

Final Scan

Initiate the final scan after you have selected the frames, set the scan settings, adjusted the brightness and coloring, and selected a scan area.

Scanning the Selected Frames

FilmGet FS makes it possible to perform batch scans. If you have already selected the frames that you wish to scan at the thumbnail window, all you need to do is click the **[Scan]** button to batch scan the selected frames in order of the frame numbers.



The scan progress bar will be displayed. Click the **[Cancel]** button if you wish to stop the scan.

The scanned images will not appear in the preview area, and will instead be transferred to the application program from which FilmGet FS was started. The FilmGet FS windows will remain displayed even after scanning has finished. To scan other film, repeat the procedures from the beginning of this chapter.



IMPORTANT

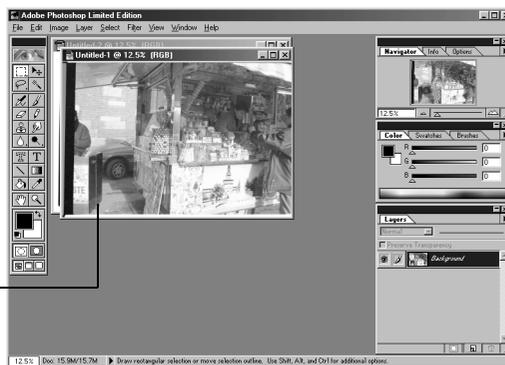
- *Photoshop LE allows you to open a maximum of 30 files at one time. If you plan to scan more than 30 frames consecutively, scan 30 frames and save them to files in Photoshop LE. Then quit Photoshop LE, start Photoshop LE and FilmGet FS again, and scan the remaining frames.*
- *If no frames are selected at the thumbnail window, the **[Scan]** button will be grayed out and scanning will not be possible.*
- *If the "Insufficient hard disk space" message or a similar message appears during the final scan, it means that your hard drive is too full to store the data for the final scan. Delete unnecessary files from the hard drive to free sufficient space and reinitiate the final scan.*
- *If the "Size of combined image files exceeds the maximum setting." message or a similar message appears, follow the procedures instructed by the message and reinitiate the final scan. You can also solve this problem by removing the check from the "Max. Combined Image File Size" option in the **[Preferences...]** item of the **[Settings]** menu. See p. 92.*



- When using an application program that is not 42-bit color or 14-bit grayscale compatible, you cannot scan in the **[42-Bit Color]** or **[14-Bit Grayscale]** modes. Also, the program may 'hang' or only the first image may be scanned if you attempt to scan batches of images from an application program that does not support batch scanning. Please check the specifications for your application program before attempting batch scanning.
- Photoshop LE, which is shipped with the CanoScan FS4000US scanner, supports batch scanning and also the **[42-Bit Color]** and **[14-Bit Grayscale]** modes.
- When transferring data to a 42-bit color or 14-bit grayscale compatible application program, the data is treated as 48-bit color data for **[42-Bit Color]** mode and 16-bit grayscale data for **[14-Bit Grayscale]** mode.

Exiting FilmGet FS

Click the at the top right of the window (at the top left of the Macintosh version) to close FilmGet FS and display the scanned image(s) in the application program window.



Batch Scanned Images



- FilmGet FS will automatically close when the "Close FilmGet FS after Acquire" option has been checked in the **[Preferences...]** item of the **[Settings]** menu. See p. 92.

Save the scanned images using the save function of the application program. You cannot save the images with FilmGet FS.

CHAPTER 3

Adjusting the Scan Settings

This section explains how to set the resolution, output target and other settings for scanning.

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Scan Setting Modes

Once you have previewed and inspected the images, you can set the scan settings for specific purposes. These settings use the modes in the scan settings section, and set how finely to scan the image, the purpose for which the scanned image will be used, the image size and so on.



- You can set the scan settings independently for each frame which has a preview image.
- If you have made a thumbnail scan, you can set the same scan settings for all images.
- If you do not adjust the scan settings, the image will be scanned at the previously set settings.

Important Facts about Scan Settings

The input resolution, output resolution and image width and height are important scan settings.

■ What is the Input Resolution?

When the scanner scans film it reads the image as a collection of dots. The relative density of these dots is referred to as the “resolution.” Since this is the input stage of the scanning process, this resolution is referred to as the “input resolution.” The illustration below shows the same image scanned with different input resolutions.

Film Resolution

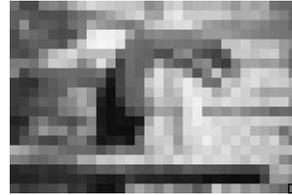


Scanned at a Fine Input Resolution



One Dot

Scanned at a Coarse Input Resolution



One Dot



- Resolution is measured in units called dots per inch (dpi). This measures the number of dots contained in one linear inch.
- Each dot is assigned individual brightness and color values.

■ What is the Output Resolution?

The output resolution is the name used to describe the relative density of the dots that form an image when it is reproduced after scanning. Printing an image on a printer, transmitting it as a fax or displaying it on a monitor are examples of how a scanned image may be output.

■ Image Width and Height

The image width and height settings determine the size at which an image will be reproduced when it is output to a printer or displayed on a monitor.

The scan settings would require considerable time and effort to set correctly if you had to manually set the input resolution, output resolution, and image width and height to achieve a particular result. Fortunately, FilmGet FS simplifies this process by providing five preset modes that correspond to various uses of the image. Detailed settings can be achieved almost automatically by selecting the mode best suited to your purposes and then adjusting only the settings you wish.

Guide to the Scan Settings Section

The scan settings section is used to adjust the scan settings. Switch between modes by clicking one of the five buttons. When FilmGet FS is first installed, the file mode is selected.

Custom Mode. See p. 65.

Select this mode when you wish to scan with customized scan settings that have been added to the FilmGet FS list. Scan settings that have been added using the **[Add...]** button can also be selected from this mode.

File Mode. See p. 56.

Select this mode when you scan an image for the purpose of saving it to a file.

Text/Printer/Fax Mode. See p. 60.

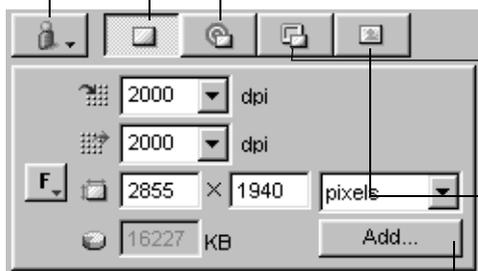
Select this mode when you scan an image to paste it into a document file, print it on a printer or send it as a fax.

Display Mode. See p. 62.

Select this mode when you scan an image to display it on a monitor.

Photo Size Mode. See p. 63.

Select this mode when you wish to output the image at a typical photo print size.



[Add...] button

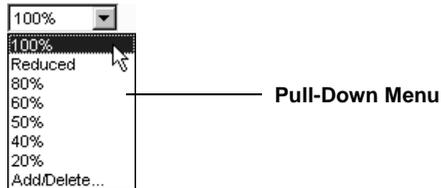
This is where the actual settings for each mode are set and displayed. Refer to the topics for each mode for an explanation of the settings.

Procedures Common to All Scan Modes

This topic introduces the procedures that are common to all five scan modes.

Settings

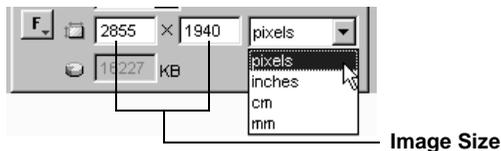
Click the  arrow beside any settings item to display a pull-down menu with all the selectable options. Highlight an item with the mouse cursor and click to select it.



Select the **[Add/Delete...]** option from any menu to add or delete items to and from the list. See p. 69, “Adding and Deleting Menu Items,” for more information.

Units

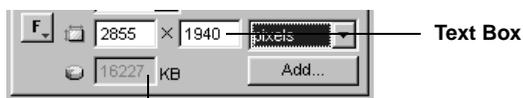
Click the  arrow beside any units box to display a pull-down menu with all the selectable options. Highlight an item with the mouse cursor and click to select it. Changing the units will also change the numbers in the image size boxes to corresponding values.



- The term “pixel” (picture element) is virtually equivalent in meaning to the “dots” used to describe resolution. This unit of measure is often used to describe the size of an image, particularly when it is displayed on a monitor.

Text Boxes and Grayed Out Values

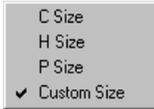
You can input optional values into the white text boxes. Input values are set by pressing the **[Tab]** key. Grayed out items indicate values that are automatically calculated as a function of other settings. These values cannot be changed.



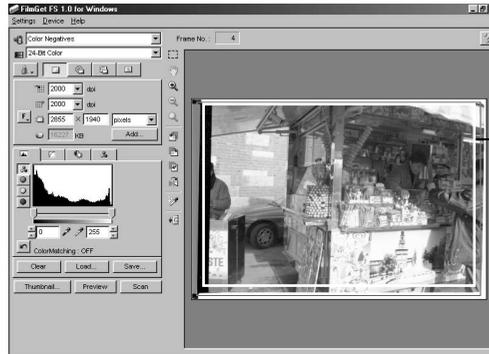
This indicates that the value is automatically calculated as a function of other settings.

Aspect Ratio of the Scan Area

(C/H/P/F) Button

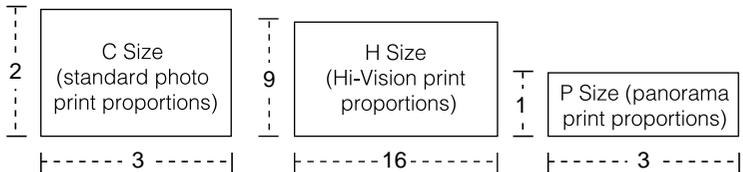


Select this item when you wish to change the aspect ratio of the selected scan area. Changes to this ratio are immediately reflected to the scan area selection frame in the preview area. The image size settings will also change accordingly.



Scan Area Selection Frame

Standard Aspect Ratios



- The aspect ratios of custom sizes may be freely changed.



TIP

- This button is grayed out and not available when the scan mode is set to the photo size mode.
- If you rotate the image by 90 degrees, the width and height ratio will be reversed.
- When FilmGet FS is first installed, **[Custom Size]** is selected.

[Add...] Button

If you use a particular scan setting regularly, you can assign it a name and add it to the list. The items you add will be displayed in the custom mode pull-down menu. See p. 68, “Adding Scan Settings,” for more information.

Using File Mode

Select **[File Mode]** when you scan an image for the purpose of saving it to a file. When FilmGet FS is first installed, this mode is selected.

(1) Click the **[File Mode]** button.

(2) Select an input resolution.

(3) Select an output resolution.

(4) Set the image width and height.

File Size (automatically calculated)

Selecting an Input Resolution

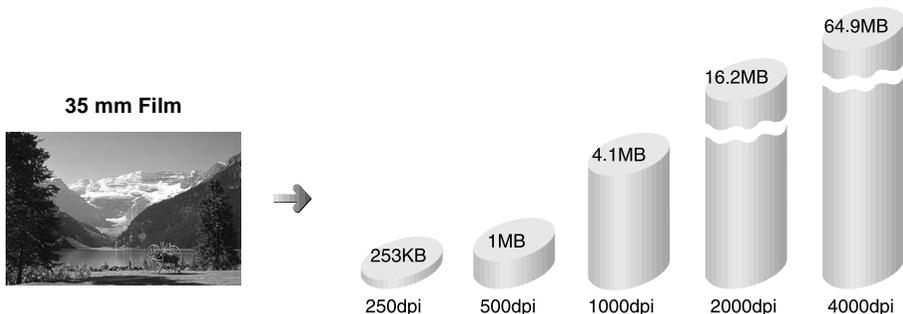
The input resolution box sets the resolution at which an image will be scanned. The higher the value, the finer the resolution, and conversely, the lower the value, the coarser the resolution. Select the value best suited to your purposes. Note that the values you select for the input resolution determine the image and file sizes.

- 125
- 250
- 500
- 1000
- 2000
- 4000

Select a resolution from the list or input it directly into the box. Input values are set by pressing the **[Tab]** key.

■ How File Sizes Vary with the Input Resolution

The higher the input resolution, the larger the image file. If the file is too large, it can slow down processing and may overload your computer's memory resources. To illustrate the difference in file size, the results of an image scanned from 35 mm film in 24-bit color mode at the respective input resolutions are shown below.



• These numbers are approximate and may differ from actual results.

Select an Output Resolution

The output resolution box sets the resolution at which an image is reproduced. Changing the output resolution changes the image size (when the units are inch, cm or mm).

125
250
500
1000
2000
4000

Select a resolution from the list or input it directly into the box. Input values are set by pressing the **[Tab]** key.

Image Size Settings

■ Image Size (Width and Height) Settings

The image size boxes set the width and height. Changing the image size changes the file size. The size of the scan area selection frame will also change as a function of these settings.

The screenshot shows a dialog box with the following elements and annotations:

- Resolution dropdowns: Two dropdown menus, both set to "2000 dpi". An annotation points to the second one: "Change the units as required."
- Width and Height: Input boxes for "2855" and "1940". An annotation points to the width box: "Input a width directly into the box." Another annotation points to the height box: "Input a height directly into the box."
- Units: A dropdown menu set to "pixels".
- File Size: A display area showing "16227 KB". An annotation points to it: "File Size (automatically calculated)".
- Buttons: "F", "Add...", and "OK" (partially visible).



- Changing the size of the scan area selection frame changes the image and file sizes in the scan settings section by corresponding amounts.

How the Input Resolution, Image Size and File Size Relate

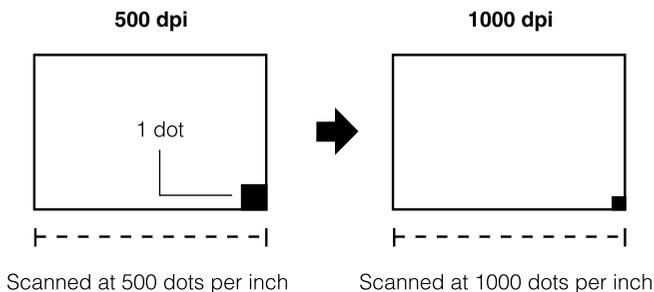
To understand the relationship between the three settings, see the example below of image sizes (pixels) for an image scanned in the file mode at different input resolutions.

Input Resolution (dpi)	500	➔	1000
Output Resolution (dpi)	500		500
Image Size (pixels)	600 x 400	➔	1201 x 801
Image Size (cm)	3.04 x 2.03		6.10 x 4.06
File Size (KB)	704	➔	2816

- These numbers are approximate and may differ from actual results.

Example with the Input Resolution Changed from 500 to 1000 dpi

An input resolution of 1000 dpi signifies that one linear inch of the scanned image contains 1000 dots (= pixels). Since the number of dots has been increased (doubled in this case), the image size (pixels) has increased (doubled) by a corresponding amount.



Since the width and height were each doubled, the file size is quadrupled ($704 \text{ KB} \times 2 \text{ (width)} \times 2 \text{ (height)} = 2816 \text{ KB}$ in the example above).

When you wish to save a scanned image to a file, it is helpful to keep this relationship in mind. In this case, there is no need to pay attention to the output resolution.

How the Output Resolution and Image Size Relate

To understand the relationship between the two settings, see the example below of image sizes (cm) for an image scanned in the file mode at different output resolutions.

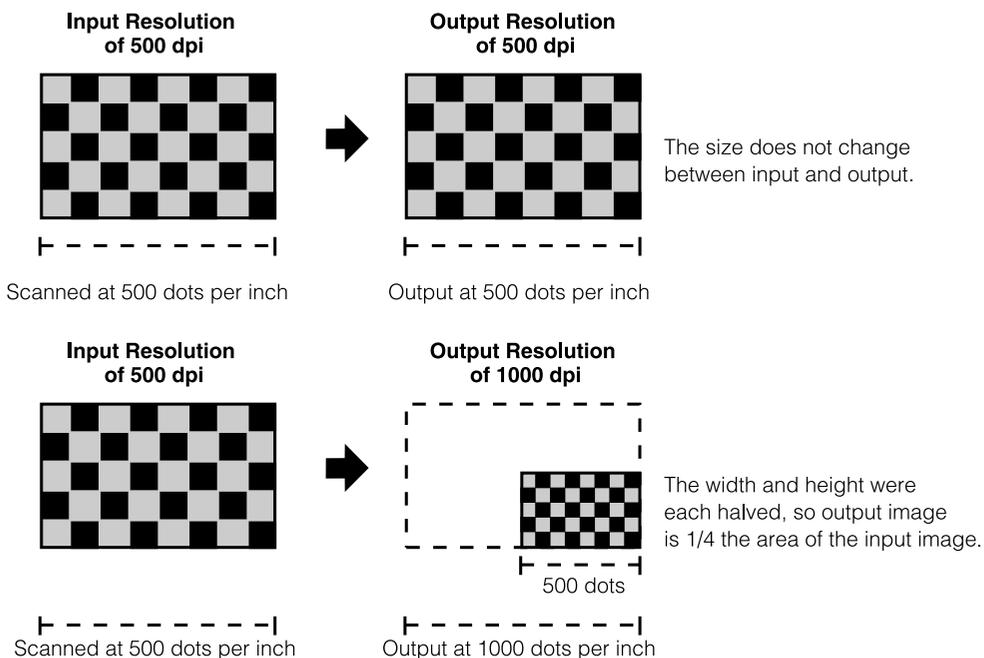
Input Resolution (dpi)	500	
Output Resolution (dpi)	500	→
Image Size (pixels)	600 x 400	
Image Size (cm)	3.04 x 2.03	→
File Size (KB)	704	

Example with the Output Resolution Changed to 1000	
500	
1000	
600 x 400	
1.52 x 1.01	
704	

- These numbers are approximate and may differ from actual results.

Example with the Output Resolution Changed from 500 to 1000 dpi

An output resolution of 1000 dpi signifies that one linear inch of an image output to a printer or to a monitor will contain 1000 dots (= pixels). Since the image was scanned at a density of 500 dots per inch and is being output at twice that density, the image size is cut in half. You are, in effect, placing more of the image in less space.



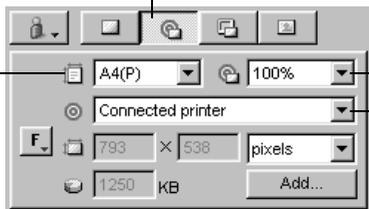
Keep this relationship in mind when you need to pay attention to the size of the output image.

Using Text/Printer/Fax Mode

Select **[Text/Printer/Fax Mode]** when you wish to paste an image into a word processor file, print it on a printer or send it as a fax. You can use this mode without worrying about the resolution or image size.

(1) Click the **[Text/Printer/Fax Mode]** button.

(2) Select the paper size.



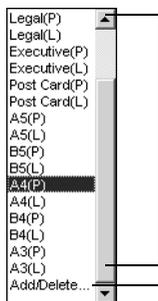
(3) Select the display size.

(4) Select an output target.

Selecting the Paper Size

The paper size you select with this item is the size of the paper onto which you will be pasting, printing or faxing the image.

3

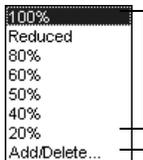


Select a size from the list.

See p. 69, "Adding and Deleting Menu Items."

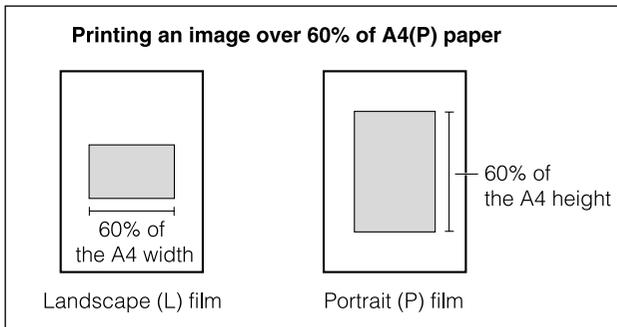
Selecting the Display Size

The display size you select with this item is the size of the image that you will be pasting, printing or faxing relative to the size of the paper set by the paper size item.



Select a size from the list.

See p. 69, "Adding and Deleting Menu Items."

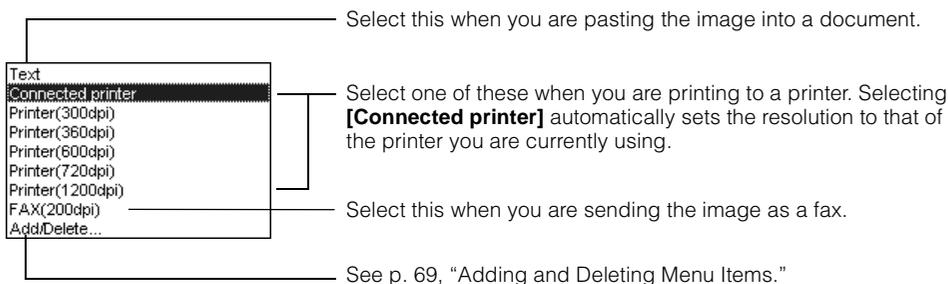


**TIP**

- Selecting the **[Reduced]** option sets the image size to fit within the margins below.
 Top Margin: 20.5 mm
 Bottom Margin: 20.5 mm
 Left Margin: 3.7 mm
 Right Margin: 3.7 mm

Selecting an Output Target

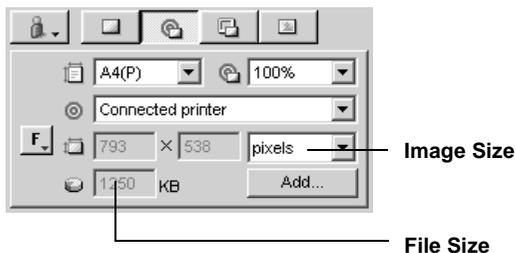
Select an output target with this item.

**TIP**

- The output resolution of the **[Text]** option is set to the following values.
 Windows: 96 dpi
 Macintosh: 72 dpi

Image and File Sizes

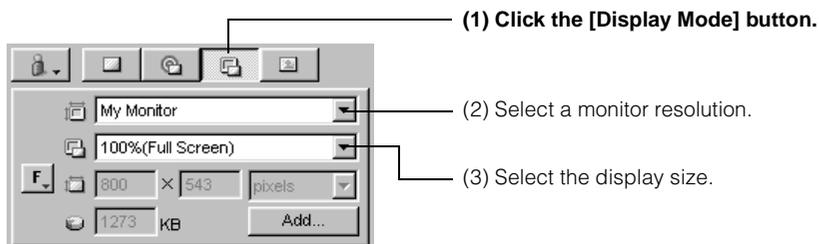
The image and file sizes are automatically calculated when you set the paper size, the display size and the output target. (The input boxes are grayed out and values cannot be entered directly into the boxes.)



The image size units can, however, be switched between pixels, inches, centimeters and millimeters. The image size numbers will change to the appropriate values for the type of units selected. Monitor how these settings change as you change the settings above them.

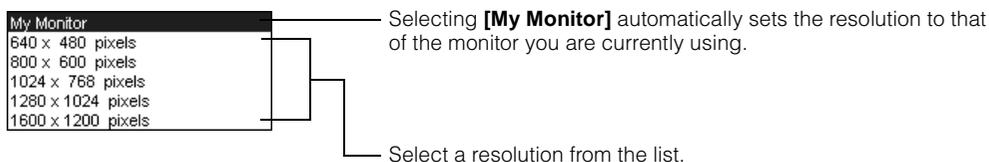
Using Display Mode

Select **[Display Mode]** when you scan an image for the purpose of displaying it on a monitor.



Selecting a Monitor Resolution

Select the resolution setting for the monitor on which the scanned image will be displayed.



Selecting the Display Size

This setting allows you to choose the size at which the scanned image will be shown on the selected display.

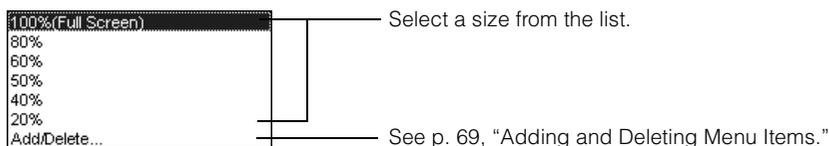
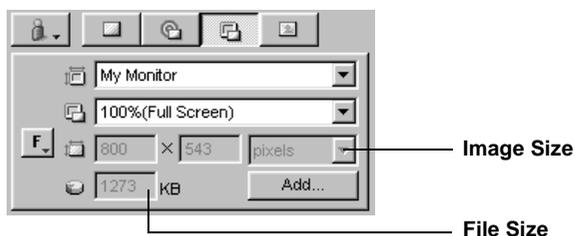


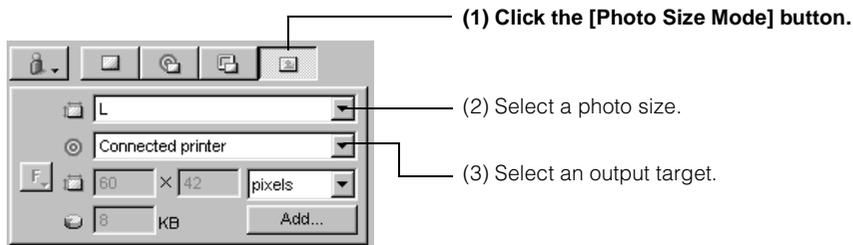
Image and File Sizes

The image and file sizes are automatically calculated when you set the monitor resolution and display size. (The input boxes are grayed out and values cannot be entered directly into the boxes.)



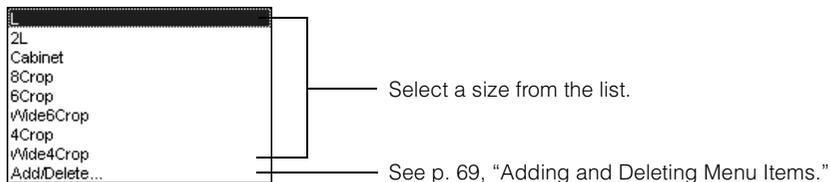
Using Photo Size Mode

Select **[Photo Size Mode]** when you wish to output the scanned image at a typical photo print size.



Selecting a Photo Size

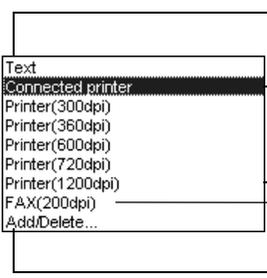
This item allows you to choose the photo size. The scan area selection frame in the preview area changes to the aspect ratio of the size selected here.



- The scan area selection frame changes to the aspect ratio for the selected photo size, and cannot be changed.

Selecting an Output Target

Select an output target for the scanned image.



Select this when you are pasting the image into a document.

Select one of these when you are printing to a printer. Selecting **[Connected printer]** automatically sets the resolution to that of the printer you are currently using.

Select this when you are sending the image as a fax.

See p. 69, "Adding and Deleting Menu Items."

- Text
- Connected printer
- Printer(300dpi)
- Printer(360dpi)
- Printer(600dpi)
- Printer(720dpi)
- Printer(1200dpi)
- FAX(200dpi)
- Add/Delete...



TIP

- The output resolution of the **[Text]** option is set to the following values.
Windows: 96 dpi
Macintosh: 72 dpi

Image and File Sizes

The image and file sizes are automatically calculated when you set the photo size and the output target. (The input boxes are grayed out and values cannot be entered directly into the boxes.)



Image Size

File Size

L

Connected printer

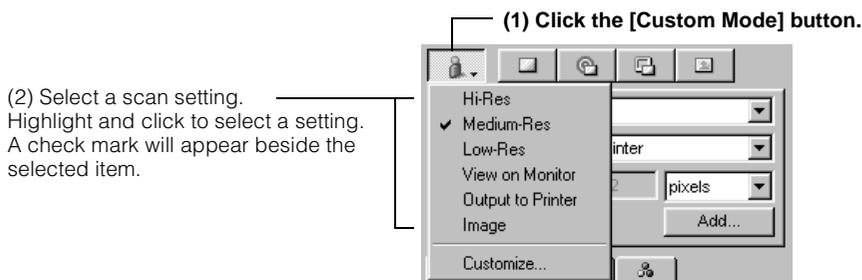
60 × 42 pixels

8 KB Add...

Using Custom Mode

The custom mode allows you to add six preset items. To use these settings, click the **[Custom Mode]** button and select the setting you want from the pull-down menu. This feature lets you scan immediately without having to set complex scan settings.

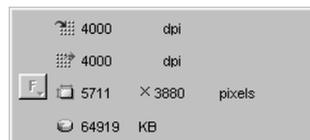
In addition, you can add new scan settings and access them from this mode. (See p. 68, “Adding Scan Settings,” for more information.)



Preset Scan Settings

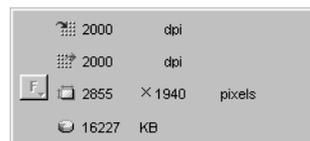
Hi-Res (File Mode)

Select this when a high quality image is required. Note, however, that the file will be quadruple the size of a Medium-Res file. The input and output resolutions are set to **[4000 dpi]**.



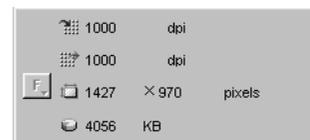
Medium-Res (File Mode)

Select this when you require the image quality to be somewhere between the Hi-Res and Low-Res quality. The file is quadruple the size of a Low-Res file. The input and output resolutions are set to **[2000 dpi]**.



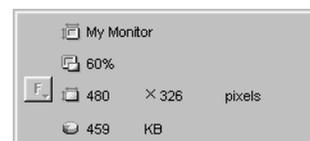
Low-Res (File Mode)

Select this when the image quality is not critical. The file size is smaller than either the Hi- or Medium-Res files. The input and output resolutions are set to **[1000 dpi]**.



View on Monitor (Display Mode)

Select this when you intend to view the scanned image on a monitor. The monitor setting is set to **[My Monitor]** and the display size is set to **[60%]**.



Output to Printer (Text/Printer/Fax Mode)

Select this when you intend to print the image on a printer. The paper size is set to **[A4(P)]**, the display size is set to **[100%]** and the output target is set to **[My Printer Resolution]**. If a printer is not connected, the output target is set to **[Printer (300 dpi)]**.



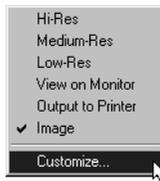
Image (Photo Size Mode)

Select this when you intend to output the image at a typical photo print size. The photo size is set to **[L]** and the output target is set to **[My Printer Resolution]**. If a printer is not connected, the output target is set to **[Printer (300 dpi)]**.

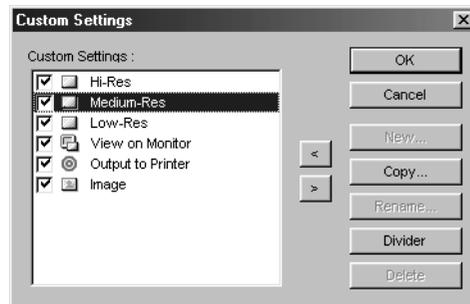


Customizing the Pull-Down Menu

You can customize the pull-down menu that is accessed when the **[Custom Mode]** button has been clicked. You can make the pull-down menu easier to use by changing such things as the order in which items are displayed or by deleting items that are seldom used.

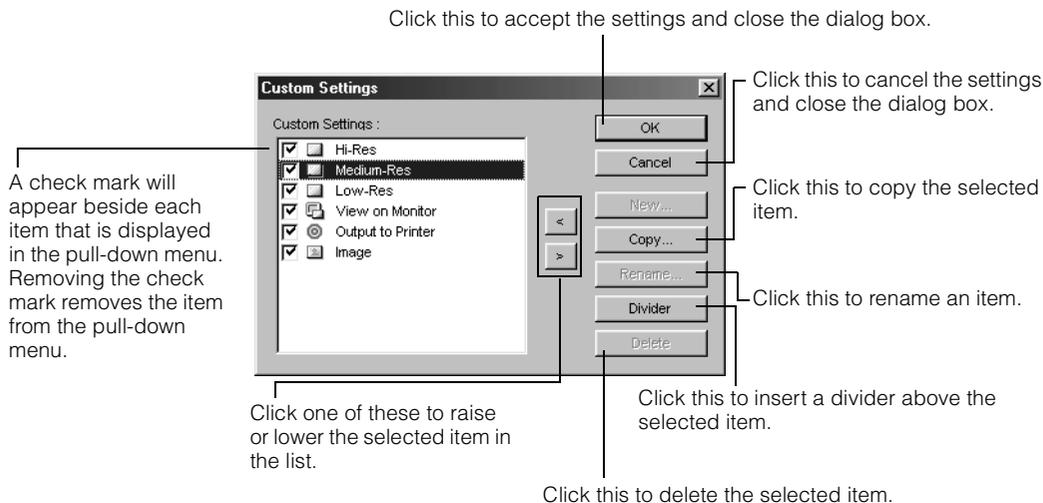


Click the **[Custom Mode]** button and select **[Customize...]**.



Custom Settings Dialog Box

Change the settings by clicking the buttons on the custom settings dialog box.



IMPORTANT

- The preset items cannot be deleted from the pull-down menu.

TIP

- The **[New...]** button is grayed out and not available.
- Clicking the **[Copy...]** button copies the selected item under the same name with “copy” added to the end.

Renaming Items

Clicking the **[Rename...]** button will display the following dialog box. Input the new name to the “Name” box and click **[OK]** to rename the item.



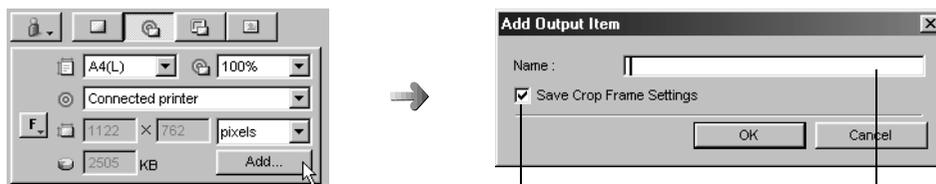
IMPORTANT

- You cannot set the same name as an existing item.

Adding Scan Settings and Menu Items

Adding Scan Settings

You can assign a name and add frequently used scan settings to any mode with the **[Add...]** button.



Placing a check mark in this box and clicking the **[OK]** button causes the scan area selection frame size and position data to be saved with the setting.

Input a name for the setting.

IMPORTANT

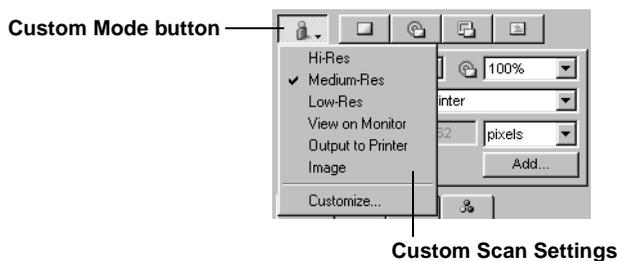
- You cannot set the same name as an existing scan setting.

TIP

- You can add up to 64 custom scan settings.
- The "Save Crop Frame Settings" option is grayed out and disabled in the file and photo size modes.

■ Selecting an Item that has been Added

The items you add will appear in the custom mode pull-down menu. Click the **[Custom Mode]** button and select the item to make it active.



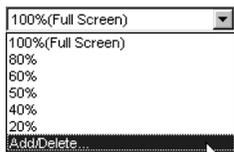
■ Deleting Scan Settings

Select the **[Customize...]** item from the custom mode pull-down menu to delete a custom scan setting. See p. 66, "Customizing the Pull-Down Menu" for more instructions.

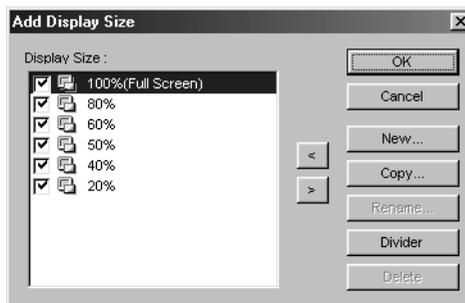
Adding and Deleting Menu Items

You can customize the scan settings pull-down menu to make it easier to use. For example, you can add items, change the item order and delete items.

This following example explains these procedures using the “Display Size” option of the display mode.

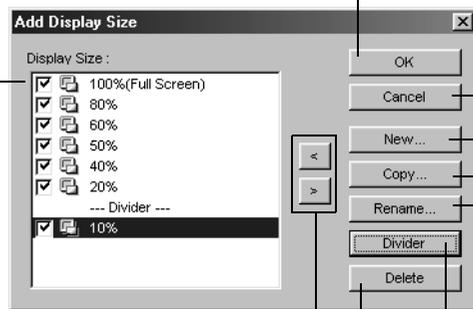


Select **[Add/Delete...]**.



Click this to accept the settings and close the dialog box.

A check mark will appear beside each item that is displayed in the pull-down menu. Removing the check mark removes the item from the pull-down menu.



Click one of these to raise or lower the selected item in the list.

Click this to insert a divider above the selected item.

Click this to delete the selected item.

Click this to cancel the settings and close the dialog box.

Click this to add a new item.

Click this to copy the selected item.

Click this to rename an item.



IMPORTANT

- The preset items cannot be deleted from the pull-down menu.

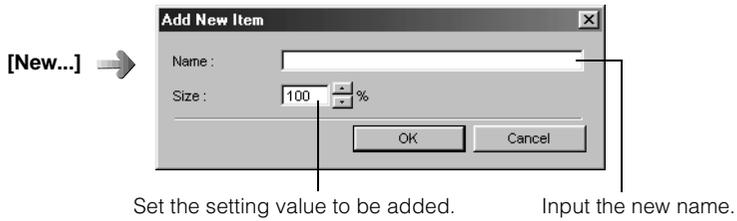


TIP

- Clicking the **[Copy...]** button copies the selected item under the same name with “copy” added to the end.
- You cannot add or delete items to or from a pull-down menu that does not have an **[Add/Delete...]** item.

■ Adding a New Item

Clicking the **[New...]** button will display the following dialog box. Input the new name, set the setting and click **[OK]**.



IMPORTANT

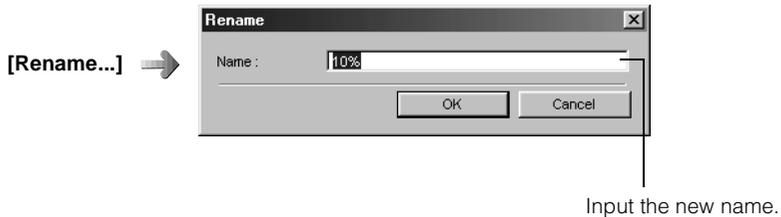
- You cannot set the same name as an existing item.

TIP

- You can add up to 64 new items.

■ Renaming an Item

Clicking the **[Rename...]** button will display the following dialog box. Input the new name to the “Name” box and click **[OK]** to rename the item.



IMPORTANT

- You cannot set the same name as an existing item.

CHAPTER 4

Adjusting Images

This section explains how to adjust the brightness and coloring of preview images.

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Adjusting the Brightness/Contrast.....	81
Adjusting the Color Balance.....	83
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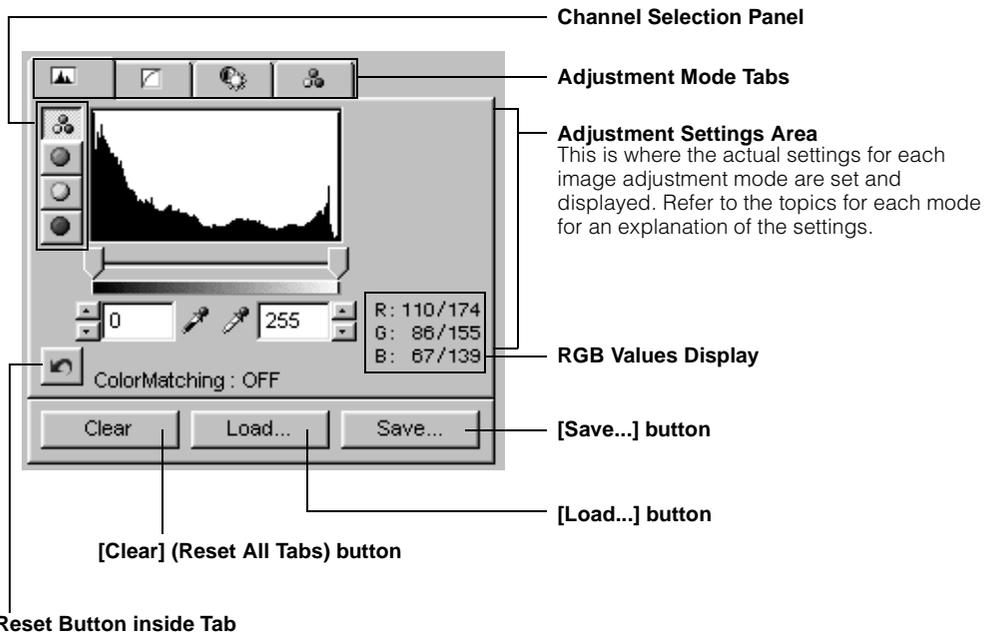
Image Adjustment Modes

You can use the image adjustments to correct a preview image if the image quality is not quite to your satisfaction.



- You cannot use the image adjustment modes when the “Use Color Matching” option is on. See p. 89, “Use Color Matching,” for an explanation of switching the Use Color Matching option.
- The image adjustment section is grayed out and adjustments cannot be made when there is no image displayed in the preview area.
- You can make image adjustments individually for each frame which has a preview image.

Guide to the Image Adjustment Section

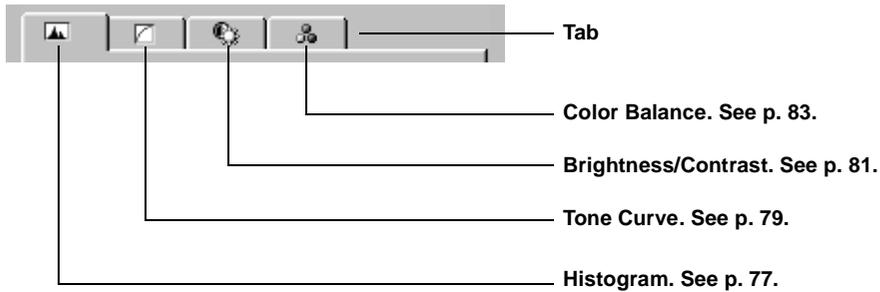


- Preview images are scanned as a collection of dots into FilmGet FS. Each dot is assigned brightness and color values. You can correct the image by applying various adjustments to this data.

Adjustment Mode Types

The available adjustment modes vary as shown below with the color mode that has been selected. You can switch between adjustment modes by clicking on the respective tabs.

■ Color Mode (42-Bit and 24-Bit Color)



■ Grayscale Mode (14-Bit and 8-Bit Grayscale)



■ Black and White Mode

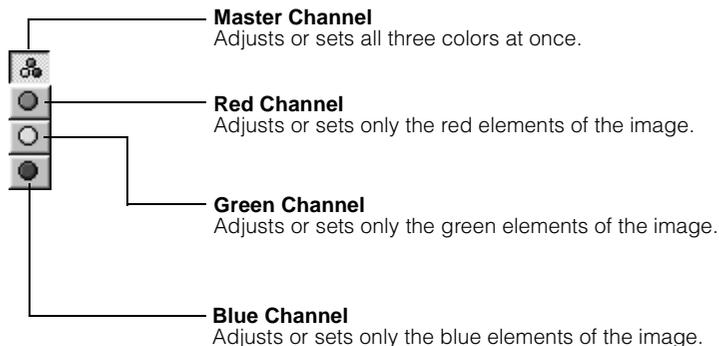


Procedures Common to All Image Adjustment Modes

This topic introduces the procedures that are common to all image adjustment modes.

Channel Selection Panel

The color of each dot comprising the scanned image is expressed as a mixture of varying gradations of red (R), green (G) and blue (B). The settings for each of these colors, which are referred to as channels, can be adjusted individually or together via the master channel.



Channels are only displayed with the histogram and tone curve modes. Moreover, the red, green and blue channels are all grayed out and cannot be selected when the color mode has been set to either of the grayscale modes.

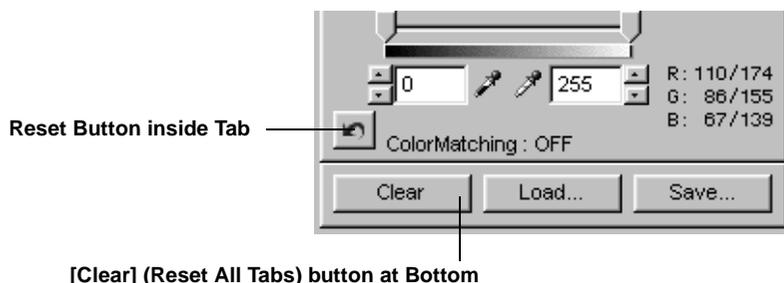
Sliders and Input Boxes

You can adjust or set a setting by dragging the slider tab left or right. The value in the input box will change accordingly. You may also input a value directly into the box. In this case the slider will change accordingly.



Reset and [Clear] Buttons

There are two reset buttons: one inside each tab and one at the bottom of the dialog.



- **Reset Button inside Tab**

Click this button to reset all the settings in the particular tab to the default values. If the tab has channel settings, this button only resets the default values for the selected channel.

- **[Clear] (Reset All Tabs) button at Bottom**

Click this button to reset all the settings for all the adjustment modes to the default values.

[Save...] button

You can save settings in a file for future reuse if you are going to rescan the same image. The files are saved with the following extensions depending upon the color mode. If you are using a Macintosh, the extension (".adc", etc.) is not used.

42-Bit and 24-Bit Color [filename.adc]

14-Bit and 8-Bit Grayscale [filename.adg]

Black and White [filename.adb]

[Load...] button

Click this button to load a settings file that has been saved using the **[Save...]** button.

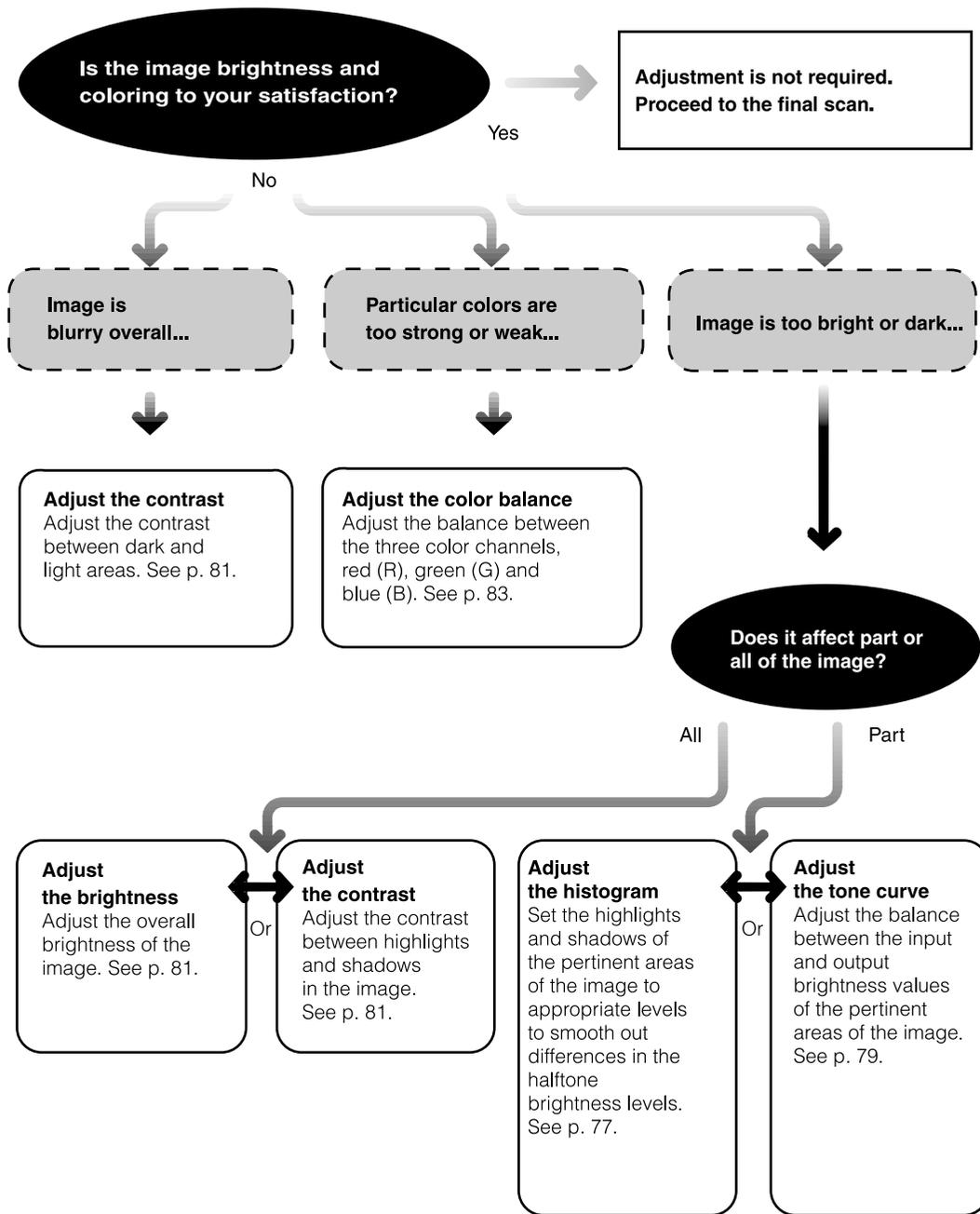
RGB Values Display

```
R : 255/255
G : 255/255
B : 255/255
```

This display shows the color (RGB) values for the area of the preview image under the mouse cursor. The values are displayed in the "XXX/YYY" format, where "XXX" represents the original color values and "YYY" represents the adjusted color values.

How to Use Each Image Adjustment Mode

Refer to the chart below for an idea of how to use each image adjustment mode. See the page number referenced for each mode for more information on that particular mode.



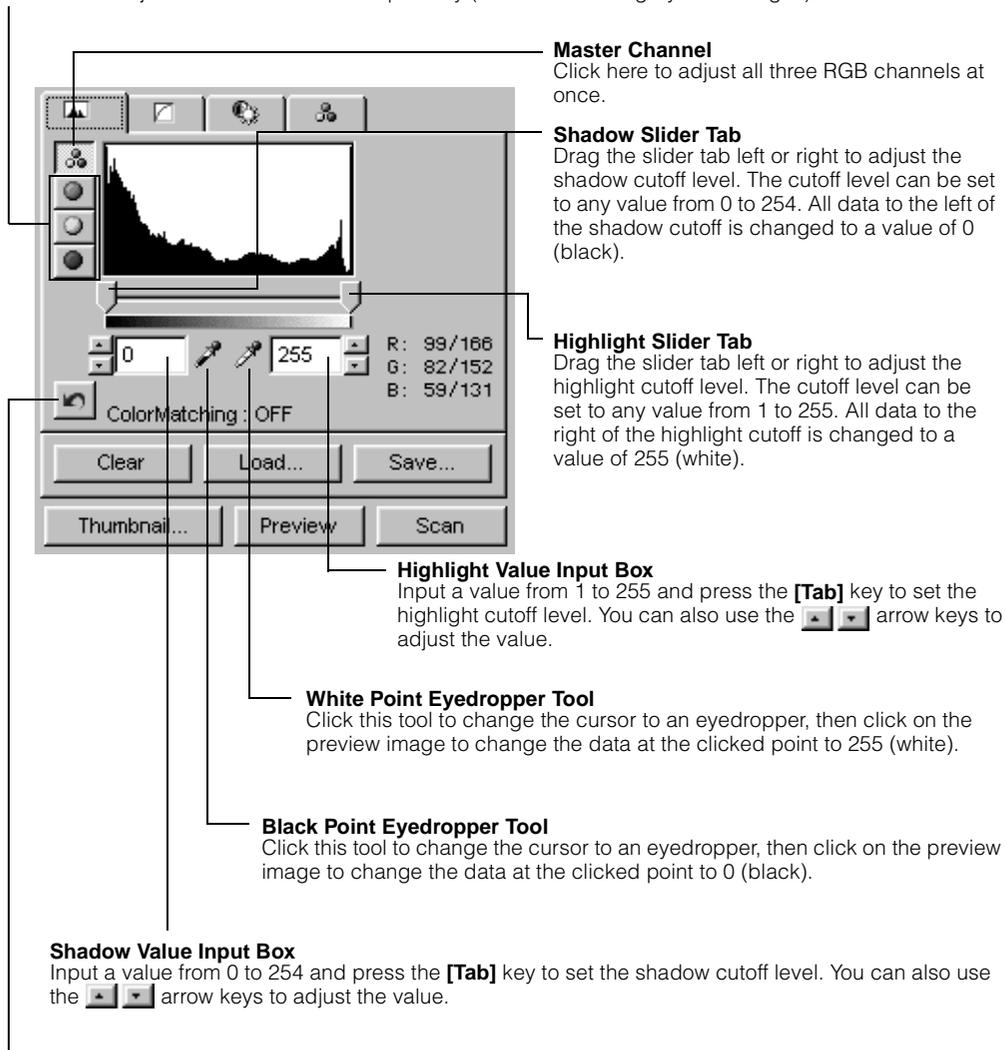
Adjusting a Histogram

The histogram adjustment mode is available when the color mode is set to **[42-Bit Color]**, **[24-Bit Color]**, **[14-Bit Grayscale]** or **[8-Bit Grayscale]**. The histogram shows just how much data falls into each brightness level. Use this mode when you wish to specify the appropriate allocation of data between the brightest values (highlights) and the darkest values (shadows). You can specify cutoff values for highlights or shadows to create a better distribution of the halftones.

Guide to the Histogram Tab

Individual Channels

Click here to adjust each RGB channel separately (not available for grayscale images).



Master Channel

Click here to adjust all three RGB channels at once.

Shadow Slider Tab

Drag the slider tab left or right to adjust the shadow cutoff level. The cutoff level can be set to any value from 0 to 254. All data to the left of the shadow cutoff is changed to a value of 0 (black).

Highlight Slider Tab

Drag the slider tab left or right to adjust the highlight cutoff level. The cutoff level can be set to any value from 1 to 255. All data to the right of the highlight cutoff is changed to a value of 255 (white).

Highlight Value Input Box

Input a value from 1 to 255 and press the **[Tab]** key to set the highlight cutoff level. You can also use the **←** **→** arrow keys to adjust the value.

White Point Eyedropper Tool

Click this tool to change the cursor to an eyedropper, then click on the preview image to change the data at the clicked point to 255 (white).

Black Point Eyedropper Tool

Click this tool to change the cursor to an eyedropper, then click on the preview image to change the data at the clicked point to 0 (black).

Shadow Value Input Box

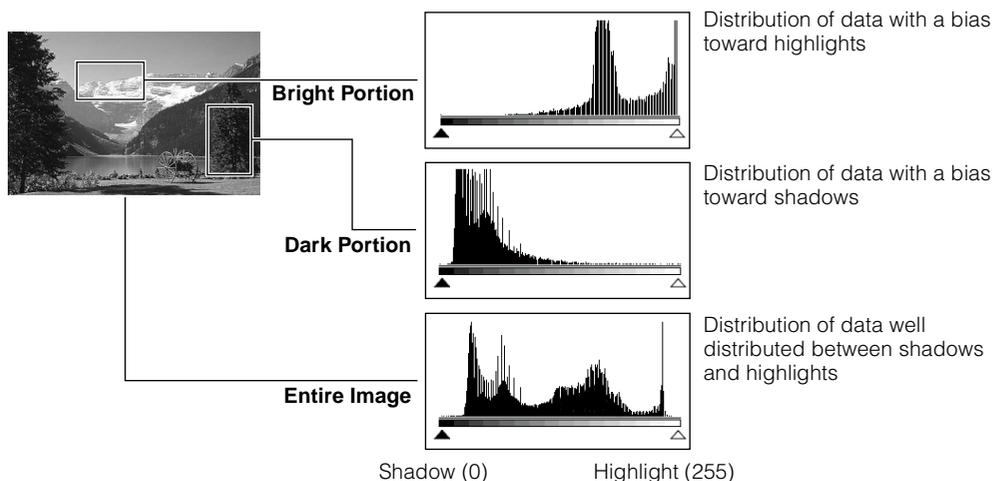
Input a value from 0 to 254 and press the **[Tab]** key to set the shadow cutoff level. You can also use the **↑** **↓** arrow keys to adjust the value.

Reset Button

Click this button to reset the histogram for the selected channel to its default values.

Interpreting a Histogram

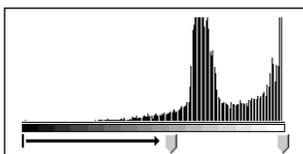
You can select the entire image or specify an area for which a histogram will be generated. The relative heights of the peaks in the histogram indicate the concentration of data with the corresponding brightness values.



How to Adjust a Histogram

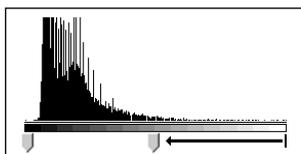
The distribution of data between highlights and shadows can be adjusted by dragging the shadows and highlights slider tabs left or right. All data to the left of the shadows cutoff will change to 0 (black) and all data to the right of the highlights cutoff will change to 255 (white). The examples below show adjustments to improve the contrast.

Image 1
Image with a bias toward highlight



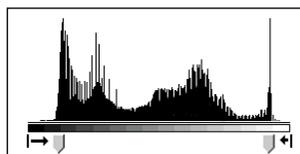
Move the shadows slider tab toward the highlights end.

Image 2
Image with a bias toward shadows



Move the highlights slider tab toward the shadows end.

Image 3
Image with well distributed data



Move both the shadows and highlights slider tabs inward.

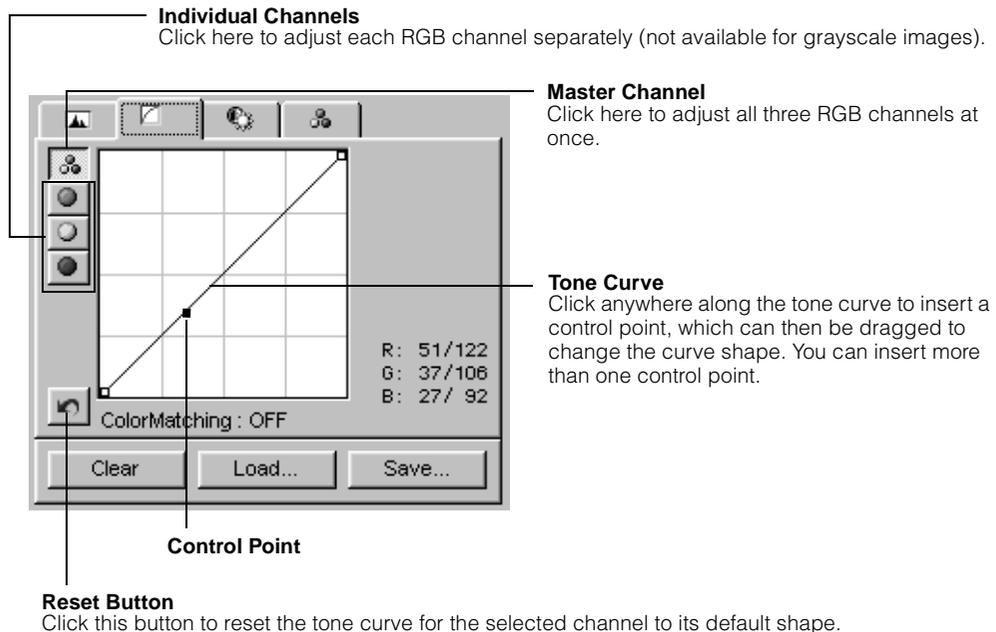


- Click the  selector tool in the preview area to deselect the black or white point eyedropper tool.

Adjusting the Tone Curve

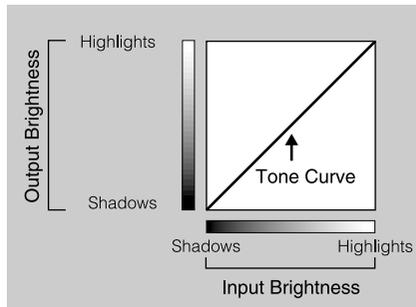
The tone curve adjustment mode is available when the color mode is set to **[42-Bit Color]**, **[24-Bit Color]**, **[14-Bit Grayscale]** or **[8-Bit Grayscale]**. Use this mode to adjust the brightness of the image by changing the relative input and output values on the tone curve, which is a graphical representation of the highlights and shadows. This mode is especially useful for making fine adjustments to the brightness of specific areas of an image.

Guide to the Tone Curve Tab



Interpreting Tone Curves

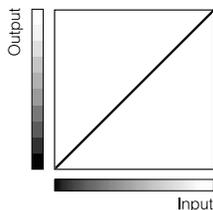
In FilmGet FS, the input is the data scanned by the scanner and the output is the data displayed on the monitor. The tone curve shows the balance between the highlights and shadows in the input and output.



Adjusting a Tone Curve

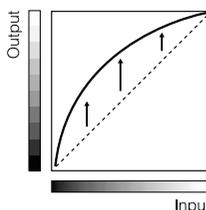
The images below demonstrate how to adjust the brightness of an image by changing the tone curve.

Unadjusted Tone Curve



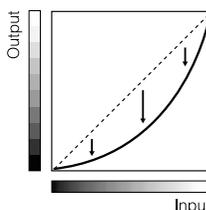
Convex Curve

The input halftone data values are shifted to the highlight side in the output, making the image appear brighter in the display.



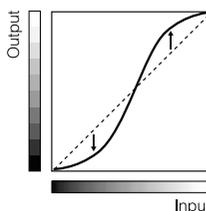
The input halftone data values are shifted to the shadow side in the output, making the image appear darker in the display.

Concave Curve



The input highlights and shadows are accentuated, sharpening the contrast of the image.

S Curve

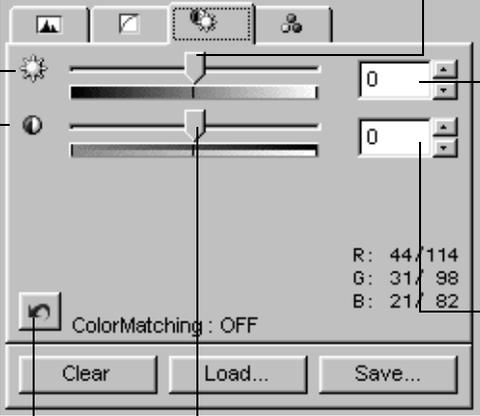


- Make the curve as smooth as possible to provide a natural appearance. You can check the preview image to see the effect of any changes.

Adjusting the Brightness/Contrast

The brightness/contrast adjustment mode is available when the color mode is set to **[42-Bit Color]**, **[24-Bit Color]**, **[14-Bit Grayscale]** or **[8-Bit Grayscale]**. Use this mode to adjust the overall brightness or contrast (difference between highlights and shadows) of an image. This mode is particularly useful when the original image is too bright or too dark, or the contrast is too flat.

Guide to the Brightness/Contrast Tab



The screenshot shows a dialog box for adjusting image brightness and contrast. It features two horizontal sliders, one for brightness and one for contrast, each with a corresponding numerical input box. A 'Reset' button is located at the bottom left, and 'Clear', 'Load...', and 'Save...' buttons are at the bottom. The color matching status is shown as 'OFF', and RGB values are displayed on the right side.

Contrast

Brightness

Brightness Slider Tab
Drag the slider tab left (darker) or right (brighter) to change the brightness setting.

Brightness Value Input Box
Input a value from -100 to +100 and press the **[Tab]** key to set the brightness level. You can also use the   arrow keys to adjust the value.

Contrast Value Input Box
Input a value from -100 to +100 and press the **[Tab]** key to set the contrast level. You can also use the   arrow keys to adjust the value.

Contrast Slider Tab
Drag the slider tab left (flatter contrast) or right (higher contrast) to change the contrast setting.

Reset Button
Click this button to reset the brightness and contrast values to the default values.

R: 44 / 114
G: 31 / 98
B: 21 / 82

ColorMatching: OFF

Clear Load... Save...

Adjusting the Brightness

Adjusting the brightness is effective when the entire image is too bright or dark. You must be careful, however, not to create excessive highlights or shadows by setting the value to extreme levels.

Brightness = Neutral



Brightness > Neutral



Brightness < Neutral



Adjusting the Contrast

Contrast is the degree of difference between light and dark areas of the image. Raising the contrast accentuates the difference between light and dark. Lowering it reduces the difference between the two.

Contrast = Neutral



Contrast > Neutral



Contrast < Neutral

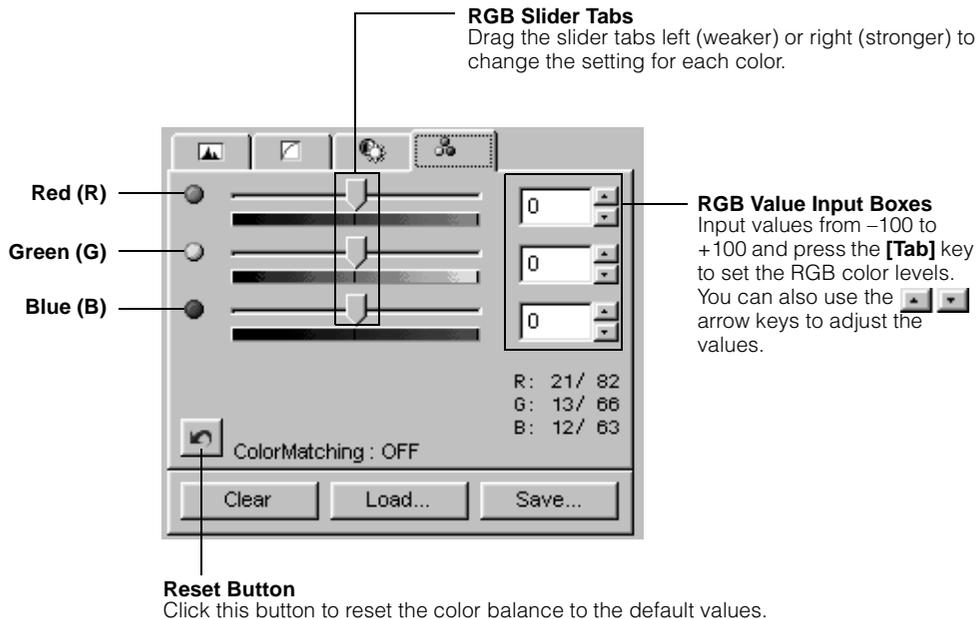


Raising the contrast of blurred pictures is effective in adding clarity to the image. Raising the contrast too high, however, will obscure the dark portions or create excessive highlights.

Adjusting the Color Balance

The color balance adjustment mode is available when the color mode is set to **[42-Bit Color]** or **[24-Bit Color]**. Use this mode to adjust the balance between the three colors: red (R), green (G) and blue (B). This mode is especially useful when a particular color is too strong or weak.

Guide to the Color Balance Tab

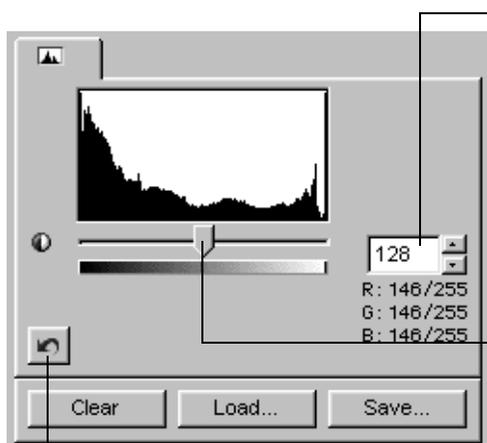


- **RGB** is the acronym for the three primary colors: red, green and blue. These colors can be mixed in different combinations (gradients) to form all the colors in the visible light spectrum. You can use the color balance adjustment mode to adjust the level of each primary color in the image.

Adjusting the Threshold Value

The threshold value adjustment mode is available when the color mode is set to **[Black and White]**. In contrast to color and grayscale images, which are expressed with brightness settings ranging from 0 to 255, all the halftones in black and white images are expressed as either black (0) or white (255). The point at which a particular dot is assigned a black or white value is called the threshold value. The default threshold value is 128.

Guide to the Threshold Value Tab



Threshold Value Input Box

Input a value from 0 to 255 and press the **[Tab]** key to set the value. You can also use the   arrow keys to adjust the value.

Threshold Value Slider Tab

Drag the slider tab left (lower) or right (higher) to change the threshold value.

Reset Button

Click this button to reset the threshold to the default value.

You can obtain different effects with an image by changing the threshold value as shown below. The threshold functions as a cutoff beyond which all data with lower values are changed to black and all data with higher values are changed to white. Accordingly, the higher the threshold, the darker the image, and conversely, the lower the threshold, the brighter the image.



Image scanned at the default threshold value



Image scanned at a higher value (slider moved to the right)



Image scanned at a lower value (slider moved to the left)

CHAPTER 5

Other Functions

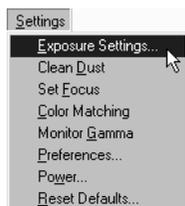
This section explains the items on the pull-down menus accessed from the FilmGet FS menu bar.

[Settings] Menu	86
[Device] and [Help] Menus	96

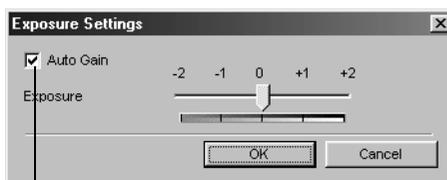
[Settings] Menu

Adjusting the Exposure

When FilmGet FS is first installed, the “Auto Gain” option is set to on (checked) by default. This is the setting you are recommended to use in most cases. With this setting the exposure (amount of light passing through the film) and coloring (negative film only) are set automatically by the scanner.

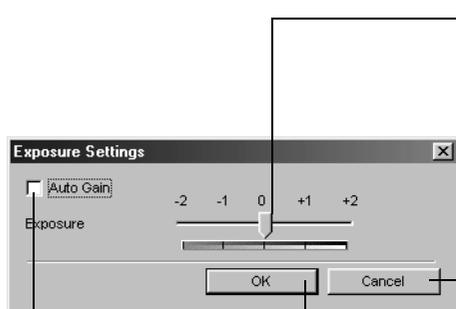


Click the **[Settings]** menu and select **[Exposure Settings...]**.



Click to add or remove the check mark. The option is on when the check mark is present.

However, if a film is not producing well with this setting, you can turn off the Auto Gain option and adjust the exposure manually. You may also wish to use the manual setting if you are scanning a film that has been intentionally under- or overexposed, or that contains an image that is extremely bright or dark. The default exposure value is 0.



Exposure Slider Tab

Drag the slider tab left or right to change the exposure setting. For positive film, drag the slider tab right to increase the exposure or left to decrease it. The opposite applies to negative film.

[Cancel] button

Click here to cancel the changes and close the dialog box.

[OK] button

Click here to accept the changes and close the dialog box.

Auto Gain Check Box

You can set the exposure manually when the check mark is removed (off).

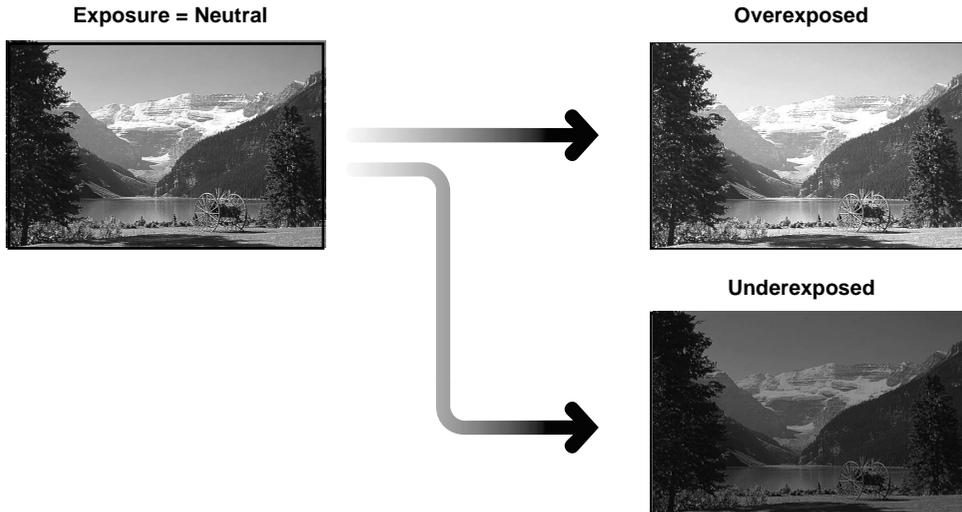


- You cannot use the auto gain mode when the “Use Color Matching” option is on. To use the auto gain mode, first set the “Use Color Matching” option to off. See p. 89, “Use Color Matching” for an explanation of switching the Use Color Matching option.
- The setting is reflected to all frames of the film loaded into the holder. You cannot set each frame individually.



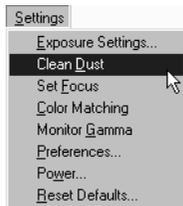
- The scanning process involves passing light through the film and reading the resulting data. You can adjust an image's brightness by controlling the amount of light, which may also be called the exposure. The exposure is controlled by speeding up or slowing down the rate of the scan.

Changes to the exposure value are reflected immediately to the preview image. An overexposed image appears very bright, while an underexposed image appears very dark.

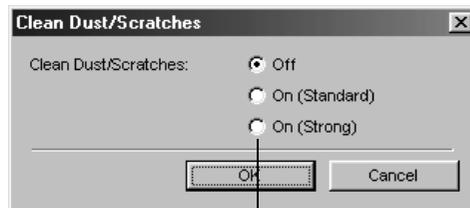


Setting the Clean Dust/Scratches Function (FARE)

This option sets whether to automatically identify dirt and scratches on the film surface and correct these defects to provide a clear image during preview and final scanning. When FilmGet FS is first installed, the “Clean Dust/Scratches” option is set to off by default.



Click the **[Settings]** menu and select **[Clean Dust]**.



Click a radio button to select **[Off]**, **[On (Standard)]** or **[On (Strong)]**.



TIP

- Clean Dust/Scratches processing is not performed during the thumbnail scan.
- Clean Dust/Scratches processing is performed when the color mode is set to **[24-Bit Color]** or **[42-Bit Color]**.
- When the film type is set to monochrome, all items are grayed out and unavailable.
- When using the Clean Dust/Scratches function, the **[On (Standard)]** setting is recommended for normal cases. If you desire a higher level of image correction, the **[On (Strong)]** setting is recommended.



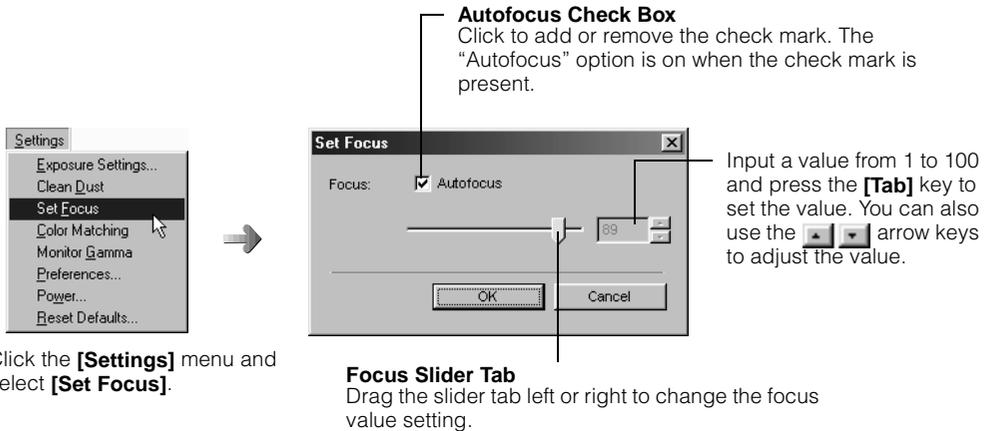
IMPORTANT

- The Clean Dust/Scratches function may not be effective when using Kodachrome film.
- The setting is reflected to all frames of the film loaded into the holder. You cannot set each frame individually.
- When **[On (Strong)]** is selected, the corrected portion of the image may become scrambled.

Adjusting the Focus

This option sets whether to focus the lens automatically during scanning. When FilmGet FS is first installed, the “Autofocus” option is set to on (checked) by default.

“Autofocus” can normally be used without problems, but when film warping, distortion or other factors make the image appear blurry, set the “Autofocus” option to off and adjust the focus manually.



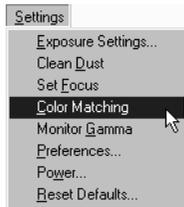
IMPORTANT

- The setting is reflected to all frames of the film loaded into the holder. You cannot set each frame individually.

Use Color Matching (Windows: ColorGear, Macintosh: ColorSync)

This mode automatically corrects characteristic differences in color output between scanners and monitors. With this option on, matching the original image colors to the colors on the monitor output is much easier. (When FilmGet FS is first installed, this option is off by default.)

However, when this option is on, the color is automatically adjusted during preview and final scanning, so histogram and other image adjustments are not available (See p. 71). To scan with image adjustments, first set the “Use Color Matching” option to off. This option is only effective when the color mode is set to **[24-Bit Color]** or **[42-Bit Color]**.



Click the **[Settings]** menu and select **[Color Matching]**.



Color Matching Check Box

Click to add or remove the check mark. The “Use Color Matching” option is on when the check mark is present.

The color matching on/off setting will be displayed in the image adjustment section.



TIP

- The color matching system for this scanner is ColorGear for the Windows version and ColorSync for the Macintosh version.
- When the “Use Color Matching” option is on, the monitor gamma value is set automatically.
- When the “Use Color Matching” option is off, the monitor gamma is set to the following values.
Windows: 1.8
Macintosh: 1.8
- When the color mode is set to grayscale or black and white, all items are grayed out and unavailable.

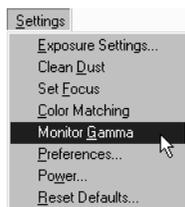


IMPORTANT

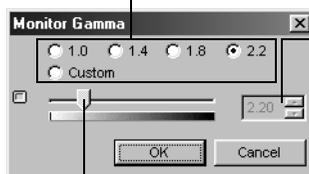
- The setting is reflected to all frames of the film loaded into the holder. You cannot set each frame individually.

Setting the Monitor Gamma Value

You can adjust the brightness to match the particular characteristics of the monitor you are using by setting a monitor gamma value. This mode is especially useful for matching the colors that display on your monitor to the colors of the original image.



Click the **[Settings]** menu and select **[Monitor Gamma]**.



Gamma Value Slider Tab
Drag the slider left (lower) or right (higher) to change the gamma value.

Gamma Value Buttons

Click a radio button to select a gamma value from among **[1.0]**, **[1.4]**, **[1.8]**, **[2.2]** or **[Custom]**.
Select **[Custom]** to set a customized gamma value.

Gamma Value Input Box

Input a value from 0.10 to 10.00 and press the **[Tab]** key to set the gamma value. You can also use the   arrow keys to adjust the value.



TIP

- The gamma value for the monitor is set automatically when the “Use Color Matching” option on page 89 is set to on.
- Please read the documents shipped with your monitor or contact the manufacturer’s customer service department to obtain the correct gamma value for your particular model.



IMPORTANT

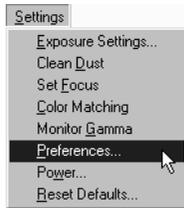
- You cannot set the monitor gamma value when the “Use Color Matching” option is on. To set the monitor gamma value, first set the “Use Color Matching” option to off. See p. 89, “Use Color Matching,” for an explanation of switching the Use Color Matching option.
- The setting is reflected to all frames of the film loaded into the holder. You cannot set each frame individually.

■ Correcting the Gamma Value

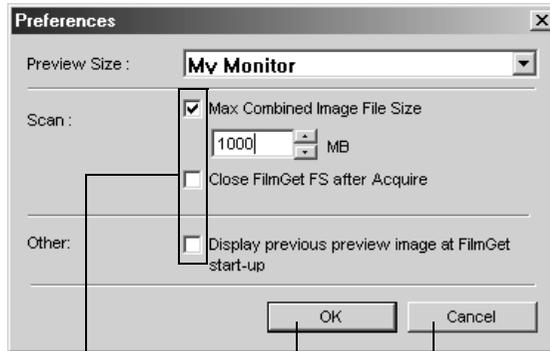
The gamma value aims to match the brightness of the image displayed on the monitor to the brightness of the original document (film). Individual monitors reproduce colors in characteristic ways that are summarized by their “gamma values.” The gamma values of most monitors fall within a range of 1.4 to 2.2, which reproduces colors slightly darker than the original. To faithfully reproduce the original colors, it is necessary to compensate for your monitor’s gamma value with the FilmGet FS setting. The program generally adjusts the monitor’s gamma value to 1.8 for both the Windows and Macintosh version, but if your monitor does not operate at this default value, you will need to adjust it.

Setting the Preferences

The preferences control how FilmGet FS behaves when it scans and how it starts up and closes.



Click the **[Settings]** menu and select **[Preferences...]**.



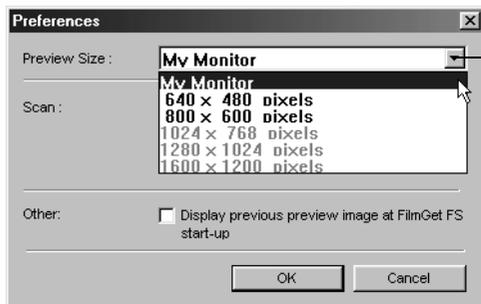
A check mark beside an item makes it active.

[Cancel] button
Click here to cancel the settings and close the dialog box.

[OK] button
Click here to accept the settings and close the dialog box.

■ Preview Size

Set this option to the value corresponding to the size of your monitor. The size of the FilmGet FS preview area will change according to this value.



Preview Size

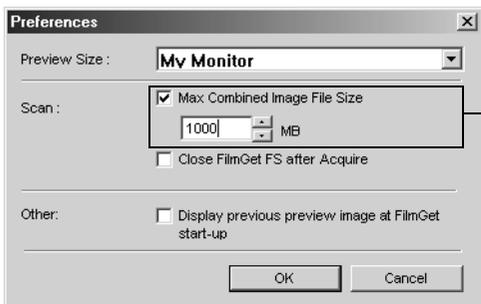
Click here, select a size from the list and click the **[OK]** button.



- Sizes larger than your monitor are grayed out and unavailable.

■ Max. Combined Image File Size

This option sets the maximum combined size of the files created when more than one image is scanned in a batch. A warning message will be displayed if you attempt to scan images that exceed the specified maximum size.



Max. Combined Image File Size

Click here to insert a check mark, then input a value in the box. You can also use the   arrow keys to adjust the value. However, using the default settings is recommended.

■ Close FilmGet FS after Acquire

With this option on, FilmGet FS closes after the final scan for all the selected frames has finished. When FilmGet FS is first installed, this option is off by default. Some application programs, however, will close FilmGet FS after the final scan even when this option is set to off.

■ Display previous preview image at FilmGet start-up

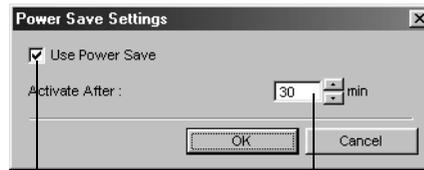
With this option on, the thumbnail scan and preview images are saved when FilmGet FS is closed, and then automatically displayed the next time FilmGet FS starts up. When FilmGet FS is first installed, this option is off by default.

Setting the Power Saving Features

The lamp unit is always on when the FS4000US unit is powered. The Power Saving function temporarily turns off the lamp to conserve energy when a scan is not initiated over a set period of time. When FilmGet FS is first installed, this option is on and the activation period is set to 30 minutes.



Click the **[Settings]** menu and select **[Power...]**.



“Activate After:” Input Box

Input a value from 10 to 59 to shut off the lamp when the option is activated. You can also use the  arrow keys to adjust the value.

Power Saving Settings Check Box

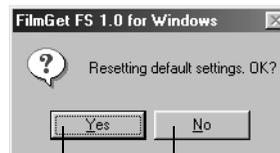
Click to add or remove the check mark. The “Use Power Save” option is activated when the check mark is present.

Restoring the Default Settings

You can restore all the default settings for the film type, color mode, scan settings, image adjustments and menu items by selecting this item from the **[Settings]** menu.



Click the **[Settings]** menu and select **[Reset Defaults...]**.



[No] button

Click here to cancel without resetting the default settings and close the dialog box.

[Yes] button

Click here to reset the default settings and close the dialog box.

■ Default Settings

Item		Default value
Film Type		
35 mm Film Strip Holder		Color Negatives
Slide Mount Holder		Color Positives
IX240 Film Cartridge Holder	Color Negative	Color Negatives
	Color Positive	Color Positives
	Monochrome	Monochrome Negatives
Color Mode		24-Bit Color
Scan Settings Section		
Selected Mode		File Mode
Custom Mode	Custom Settings	Medium-Res
File Mode	Input Resolution	2000 dpi
	Output Resolution	2000 dpi
	File Size Lock	Unlocked
Text/Printer/Fax Mode	Paper size	A4(P)
	Display Size	100%
	Output Target	Connected printer*
Display Mode	Display	My Monitor
	Display Size	100%
Photo Size Mode	Photo Size	L
	Output Target	Connected printer*
Image Adjustment Section		
Highlight Value		Master & RGB: 255
Shadow Value		Master & RGB: 0
Tone Curve Value		Master & RGB: All Linear
Brightness Value		0
Contrast Value		0
Color Balance Value		RGB: 0
Threshold Value		128

* **[Printer (300 dpi)]** is selected when a printer is not connected.

Settings Menu

Auto Gain	On, Exposure Settings: 0
Clean Dust/Scratches	Off
Set Focus	Autofocus, Focus Value (current position)
Color Matching	Off
Monitor Gamma	Use Color Matching: On Automatic setting Use Color Matching: Off 1.8 Windows, Macintosh
Preferences	
• Preview Size	My Monitor
• Max. Combined Image File Size	On, Size: 1000
• Close FilmGet FS after Acquire	Off
• Display previous preview image at FilmGet start-up	Off
Power Save Settings	On, Activate After: 30 minutes

Main Window Size

My Monitor Size

Thumbnail Window Size

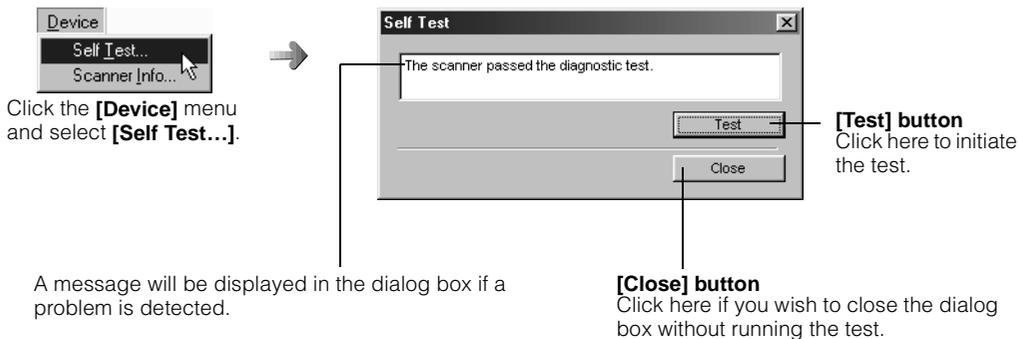
4-Frame Display Size

Scan Area Selection Frame Size and PositionAccording to the film
guides of the film**Hide/Show Tool Tips**Show  (button pressed)

[Device] and [Help] Menus

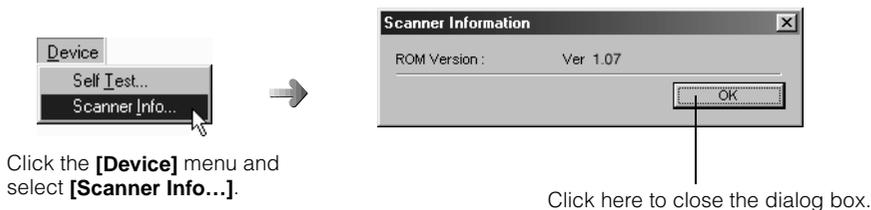
Checking a Scanner

This item runs a test to confirm whether the scanner is operating correctly. Run the test if you suspect a malfunction when you are operating the scanner.



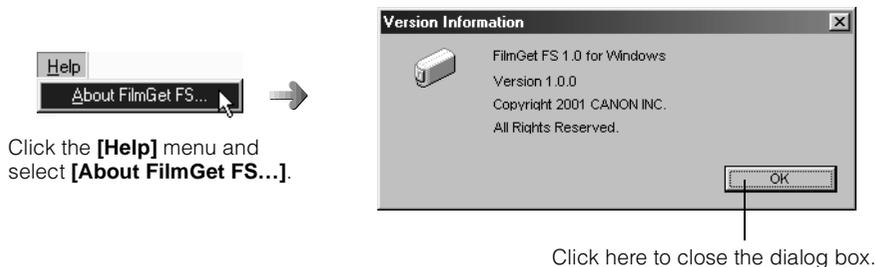
Viewing the Device Version Information

You can view information about the scanner ROM version.



Viewing the Software Version Information

You can view the version information for FilmGet FS.



APPENDICES

The appendices contain troubleshooting tips for problems encountered when using FilmGet FS. They also include the FilmGet FS uninstall procedure and a glossary of terms.

Read this section as the need arises.

Troubleshooting	98
FilmGet FS Error Messages	105
Uninstalling FilmGet FS Windows	109
Uninstalling and Reinstalling FilmGet FS Macintosh	112
Glossary	115
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Troubleshooting

Check the suggestions here first if you encounter problems using FilmGet FS. If the suggestions do not solve the problem or the problem is not listed here, contact the dealer or a Canon Customer Help Support Desk listed at the back of this guide.



- *Before you contact your dealer or a Canon Customer Help Support Desk, please ensure that you have first read the "ReadMe" file included with the software as well as "Chapter 6 Troubleshooting" in Getting Started.*
- *The service representative to whom you speak may request information about the computer to which the scanner is connected. You should note this information in advance in the System Information page included in the Getting Started manual. Store this information where you can access it in case of a problem.*

List of Symptoms

Look on the referenced page for the relevant symptom.

Q1	FilmGet FS cannot be installed correctly.....	100
Q2	Don't know how to start FilmGet FS from within an application program.	100
Q3	Cannot start FilmGet FS from within an application program.....	100
Q4	Several options are grayed out and unavailable.....	101
Q5	FilmGet FS preview area is displayed at a small size on the monitor.....	101
Q6	"Insufficient hard disk space" message is displayed when a thumbnail scan or preview scan is initiated.....	101
Q7	Image is upside down or reversed.	101
Q8	Coloring of preview image is peculiar.....	102
Q9	Previewed image is not displayed in preview area.....	102
Q10	Scanning takes a long time.	102
Q11	Only one image is scanned in a batch scan.....	102
Q12	A portion of the scanned image is missing, or a black or white border appears around it.....	102
Q13	Unevenness or lines appear repeatedly in the same position.	102
Q14	Image is blurry.....	103
Q15	Scanning quality is poor.	103
Q16	Image is white (black) overall when scanning with the color mode set to [Black and White].....	103
Q17	Scan results are peculiar with the color mode set to [42-Bit Color] or [14-Bit Grayscale].....	103
Q18	Scan area selection cannot be freely set in the preview area.	103
Q19	You forgot to eject the film holder from the scanner.	103
Q20	Coloring is different between the preview image and printed image.	103
Q21	Cannot clean up dust/scratches.....	104

Q1 FilmGet FS cannot be installed correctly.

A See “Chapter 6 Troubleshooting” in Getting Started.

See “Windows Issues – P1/P4” for the Windows version, or “Macintosh Issues – P8” for the Macintosh version.

Q2 Don’t know how to start FilmGet FS from within an application program.

A See “Starting and Exiting FilmGet FS” in this guide.

See p. 19 for the Windows version or p. 22 for the Macintosh version. For information on how to operate an application program, see the electronic manual.

Q3 Cannot start FilmGet FS from within an application program.

A1 Make sure that the scanner is turned on.

If the power is off, follow the procedure below and turn on the power.

USB connection: Turn the scanner on.

SCSI connection: Turn the computer off, turn the scanner on, then turn the computer back on.

A2 There is insufficient memory to start FilmGet FS. Shut down all other currently active programs.

When using Photoshop LE, increase the allotted memory to 30 MB or more (36 MB or more for the Macintosh).

See Getting Started for information on how to increase the allotted memory. See “Chapter 2 Using the Scanner with Windows, 4. Testing the Scanner” for the Windows version, or “Chapter 3 Using the Scanner with a Macintosh, 3. Testing the Scanner” for the Macintosh version.

A3 Make sure that [Canon FilmGet FS 1.0 for Windows] is correctly selected as the application program source (Windows).

See p. 19, “Starting and Exiting FilmGet FS” in this guide for information on how to select the source.

A4 FilmGet FS is not installed correctly. See “Chapter 6 Troubleshooting” in Getting Started and take the appropriate corrective measures, then reinstall the FilmGet FS driver software.

See “Windows Issues – P2/P5” for the Windows version, or “Macintosh Issues – P4/P5” for the Macintosh version.

Q4	Several options are grayed out and unavailable.
A1	Load the film holder into the film holder slot. See p. 30. Many options are not available until the film holder is loaded into the film holder slot.
A2	Preview an image. See p. 40. Many options are not available until an image is previewed.
A3	The [Preview] button is available when one frame is selected at the thumbnail window. The button is grayed out when multiple frames are selected.
A4	The [Scan] button is available when one or more frames are selected at the thumbnail window.
A5	The image adjustment section is available when the “Use Color Matching” option is off. See p. 89.
Q5	FilmGet FS preview area is displayed at a small size on the monitor.
A1	Click the [Settings] menu, select [Preferences...] and set the “Preview Size” option to [My Monitor] or to an appropriate display resolution. See p. 92.
A2	Increase the size of the FilmGet FS window. See p. 24.
Q6	“Insufficient hard disk space” message is displayed when a thumbnail scan or preview scan is initiated.
A	There is insufficient free space on the hard disk, so a thumbnail scan or preview scan cannot be initiated. Delete unnecessary files from the hard disk to free up sufficient space (500 MB or more). The thumbnail and preview images are temporarily saved to the hard disk (the hard disk where FilmGet FS was installed for the Windows version, or the [Preferences] folder of the startup disk for the Macintosh version). Click the [Settings] menu, select [Reset Defaults...] to initialize the settings, and exit FilmGet FS (See p. 93). Then, restart FilmGet FS and delete any unnecessary files.
Q7	Image is upside down or reversed.
A1	Orient the film correctly in the film holder. See “Chapter 5 Setting the Film in Position” in Getting Started for information on how to load the film.
A2	Change the orientation of the image with the FilmGet FS rotate or flip tools. See pp. 38, 43.

Q8	Coloring of preview image is peculiar.
A1	Select the correct film type. See p. 33.
A2	Adjust the image quality with the  auto correct tool. See p. 44.
A3	Adjust the coloring and brightness of the image using the modes in the image adjustment section. See p. 71.
A4	For film not suited to automatic exposure correction with the Auto Gain function, turn off the “Auto Gain” setting, set the exposure manually and rescan. See p. 86.
A5	If the film quality is poor or the film has faded, it may be possible to fix these problems to a certain degree with retouching software.
Q9	Previewed image is not displayed in preview area.
A	Select only the one frame you want to display at the thumbnail window. If no frames are selected or if multiple frames are selected at the thumbnail window, the preview image will not be displayed in preview area.
Q10	Scanning takes a long time.
A	The input resolution (scan resolution) is set too high. Lower the resolution to the lowest appropriate setting and rescan. See pp. 52, 56.
Q11	Only one image is scanned in a batch scan.
A1	Check whether the application program supports batch scanning. (See the application program manual.)
A2	Scan each frame individually.
Q12	A portion of the scanned image is missing, or a black or white border appears around it.
A	Select the correct scan area. See p. 47.
Q13	Unevenness or lines appear repeatedly in the same position.
A1	Place a check in the “Clean Dust/Scratches” option and rescan. See p. 87.
A2	Clean the film and rescan. See “Appendix, 4. Cleaning Film” in Getting Started for information on cleaning methods.
A3	Clear away any dust or debris on the all windows (contain the small window) of the film holder and rescan.
A4	For film with dirt or scratches that cannot be remedied with a blower brush or the Clean Dust/Scratches function, it may be possible to fix these problems to a certain degree with retouching software.

Q14	Image is blurry.
A1	Turn off the “Autofocus” option, manually align the focus and scan. See p. 88.
A2	The film was out of focus when originally shot.
Q15	Scanning quality is poor.
A1	Set a higher input resolution (scan resolution) and rescan. See pp. 52, 56.
A2	Place a check in the “Clean Dust/Scratches” option and rescan. See p. 87.
A3	Clean the film and rescan. See “Appendix, 4. Cleaning Film” in Getting Started for information on cleaning methods.
A4	The scanning quality may deteriorate if a power cord runs close by the scanner. Separate any power cords from above and around the scanner.
Q16	Image is white (black) overall when scanning with the color mode set to [Black and White].
A	Raise (Lower) the threshold value. See p. 84.
Q17	Scan results are peculiar with the color mode set to [42-Bit Color] or [14-Bit Grayscale].
A1	Check whether the application program supports the 42-bit color or 14-bit grayscale color modes. (See the application program manual.)
A2	Scan using the [24-Bit Color] or [8-Bit Grayscale] modes. See p. 34.
Q18	Scan area selection cannot be freely set in the preview area.
A	Click the aspect ratio (C/H/P/F) button in the scan settings section, select [Custom Size] and resize the scan area selection. See p. 55.
Q19	You forgot to eject the film holder from the scanner.
A1	Restart FilmGet FS, click the  film eject tool and remove the film holder. See p. 31.
A2	Turn the scanner off and then on again. The film holder will be automatically ejected.
Q20	Coloring is different between the preview image and printed image.
A1	Check the toner (ink) level of the printer.
A2	Click the [Settings] menu, select [Color Matching] and place a check in the “Use Color Matching” option. See p. 89.
A3	Change the color balance and gamma value settings of the printer driver software. (See the printer manual.)

Q21 **Cannot clean up dust/scratches.**

A1 Click the [Settings] menu, select [Clean Dust] and set the “Clean/Dust Scratches” option to [On (strong)]. See p. 87.

A2 If using a film sleeve, make sure that the space between frames is aligned with the pillar in the film holder.

See “Chapter 5 Setting the Film in Position” in Getting Started for information on how to load the film.

A3 Set the width of the scanning area to at least 10 mm. See p. 47.

FilmGet FS Error Messages

If the following error messages appear while using FilmGet FS, look on the referenced page for the relevant error message.

List of Error Messages (Windows/Macintosh)

Q1	Device not found. Check the following items.....	106
Q2	This scanner doesn't support multi-hosting. Please connect it to only one PC to use it.	106
Q3	Processing failed because of insufficient memory.....	106
Q4	Disk access failure. Check disk.....	106
Q5	An error occurred while scanning. Rescan?.....	107
Q6	Film holder malfunction. Please reinsert film holder.	107
Q7	Can't eject film holder. Please remove film holder manually.....	107
Q8	Do not touch the film holder while a scan is in progress.	107
Q9	The cartridge chamber lid on the IX240 film cartridge holder is open.	107
Q10	Film data error. Check film.	107
Q11	Please check the film.....	107
Q12	Please close the front door.	107
Q13	Do not touch the front door while a scan is in progress.....	107
Q14	Dust/scratch removal failed.	108
	Dust/scratch removal failed because volume was too great to process.	108
Q15	Transmission error. Close the application programs that are running and restart the computer.	108
Q16	Scanner malfunction. Contact a service center.	108
Q17	Size of combined image files exceeds the maximum setting. Reduce the input resolution or the number of frames selected, or make the Crop Frame smaller.	108

Q1 Device not found. Check the following items.

A1 Is the scanner turned on?

If the power is off, follow the procedure below to turn on the power.

USB connection: Turn the scanner on.

SCSI connection: Turn the computer off, turn the scanner on, then turn the computer back on.

A2 Are the cables connected correctly? Are any cables loose?

A3 Is the interface switch set properly?

See “Chapter 1, 3. Components and Functions Guide” in Getting Started for information on the interface switch.

A4 Are the SCSI ID and terminator set properly?

See “Appendix, 2. Connecting Two or More SCSI Devices” in Getting Started for information on setting methods.

Q2 This scanner doesn’t support multi-hosting. Please connect it to only one PC to use it.

A You cannot use this scanner connected to multiple computers. Connect the scanner to only one computer.

Q3 Processing failed because of insufficient memory.

A1 The data volume of the image to be scanned exceeds the free memory space. Reduce the scan area selection to the minimum necessary (See p. 47) or lower the input resolution (scan resolution) setting (See pp. 52, 56).

A2 Increase the memory allotted to the application program. When using Photoshop LE, increase the allotted memory to 30 MB or more (36 MB or more for the Macintosh). If performing batch scans while using a Macintosh in [42-Bit Color] mode with the “Clean Dust/Scratches” option set to on, increase the memory allotted to Photoshop LE even more. (For example, at least 240 MB of memory is required when scanning six frames of 35 mm film at 2000 dpi.)

See Getting Started for information on how to increase the allotted memory. See “Chapter 2 Using the Scanner with Windows, 4. Testing the Scanner” for the Windows version, or “Chapter 3 Using the Scanner with a Macintosh, 3. Testing the Scanner” for the Macintosh version.

Q4 Disk access failure. Check disk.

A An error occurred during data exchange with the computer and hard disk. Restart the computer. If there is insufficient free space on the hard disk, delete unnecessary files to free up sufficient space.

Q5	An error occurred while scanning. Rescan?
A1	The film is not loaded properly. Cancel the scan, load the film correctly into the film holder and rescan.
A2	An error occurred during the scan. Rescan. If an error occurs repeatedly, restart the computer.
A3	If an error occurs even after restarting the computer, see “Chapter 6 Troubleshooting” in Getting Started and take the appropriate corrective measures, then reinstall the FilmGet FS driver software. See “Windows Issues – P2/P5” for the Windows version, or “Macintosh Issues – P4/P5” for the Macintosh version.
A4	If an error still occurs even after the procedures in A1 to A3 above, the scanner or film holder may have malfunctioned. Contact a Canon Customer Help Support Desk listed at the back of this guide.
Q6	Film holder malfunction. Please reinsert film holder.
A	Reinsert the film holder.
Q7	Can’t eject film holder. Please remove film holder manually.
A	Pull out the film holder from the scanner.
Q8	Do not touch the film holder while a scan is in progress.
A	Do not attempt to pull out the film holder while a scan is in progress.
Q9	The cartridge chamber lid on the IX240 film cartridge holder is open.
A	Remove the IX240 film cartridge holder from the scanner, close the cartridge chamber lid and reinsert the holder into the scanner.
Q10	Film data error. Check film.
A	The scanner could not read the type and number of frames information for the film in an IX240 film cartridge. Check whether the cartridge is damaged. If the cartridge is damaged, have it replaced at an authorized DPE shop.
Q11	Please check the film.
A	Check whether the IX240 film cartridge is damaged. If there is no problem with the IX240 film cartridge, the scanner or the IX240 film cartridge holder may have malfunctioned. Contact a Canon Customer Help Support Desk listed at the back of this guide.
Q12	Please close the front door.
A	Close the front door.
Q13	Do not touch the front door while a scan is in progress.
A	Do not open and close the front door while a scan is in progress.

Q14	Dust/scratch removal failed.
	Dust/scratch removal failed because volume was too great to process.
A	Dust/scratch removal was not possible for the scanned film. Remove any dirt from the film with a blower brush and rescan. For scratches, it may be possible to fix these problems to a certain degree with retouching software.
Q15	Transmission error. Close the application programs that are running and restart the computer.
A	Some error occurred. Restart the computer.
Q16	Scanner malfunction. Contact a service center.
A	Some error occurred. Restart the computer. If the same error message is displayed, the scanner may have malfunctioned. Contact a Canon Customer Help Support Desk listed at the back of this guide.
Q17	Size of combined image files exceeds the maximum setting. Reduce the input resolution or the number of frames selected, or make the Crop Frame smaller.
A1	Reduce the input resolution (scan resolution) to the minimum required resolution, and then scan the images again. (p. 52, 56)
A2	Reduce the number of frames to be scanned, and then scan the images again. (p. 37)
A3	Make the scan area smaller, and then scan the images again. (p. 47)
A4	In the “Settings” menu, clear the checkmark next to “Preferences - Max Combined Image File Size,” and then scan the images again. (p. 92)

Uninstalling FilmGet FS

Use the following procedures to uninstall (delete) FilmGet FS before you upgrade to a new version or when installation fails for some reason and FilmGet FS cannot be reinstalled.



- *Deleting FilmGet FS directly, with the Windows Explorer for instance, will leave unnecessary data in the system files. Use the following procedures for the best results. Some information in files such as the WIN.INI file will remain undeleted.*

■ Windows 98/98 SE/2000

1 Make sure the scanner and computer are properly connected and the computer is turned on.

2 Place the supplied “CanoScan Setup CD-ROM” into the CD-ROM drive.

- CanoScan Setup Utility starts and the menu screen appears.
- If the menu does not appear, double-click the **[My Computer]** icon and then the CD-ROM icon.



3 Click **[Uninstall the Software]**.

- The Uninstall screen will be displayed.

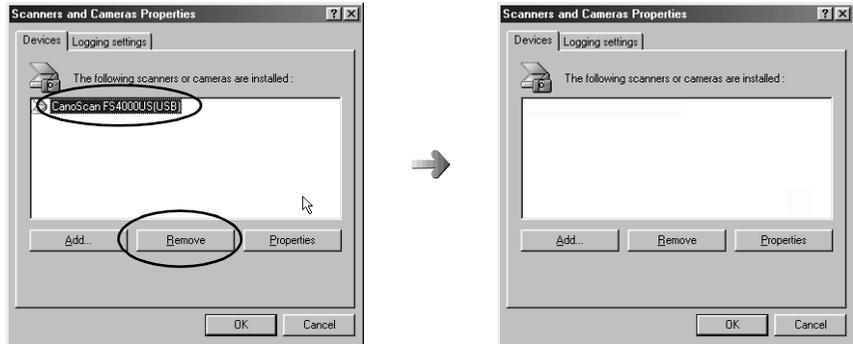


4 Click **[Uninstall FilmGet FS]**.

5 Click the **[Yes]** button in the Confirm File Deletion dialog box.

6 Select [CanoScan FS4000US] at the Scanners and Cameras Properties screen and click the [Remove] button.

- Delete “CanoScan FS4000US (USB)” for USB connection, or “CanoScan FS4000US (SCSI)” for SCSI connection.



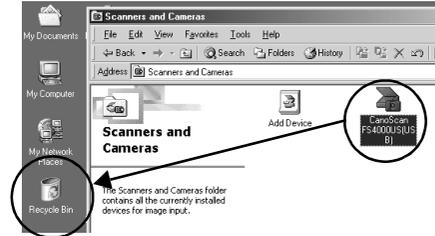
7 Click the [OK] button.

8 Follow the instructions in the messages and restart the computer.

This completes the uninstall procedure.

■ Windows Me

- 1 **Make sure the scanner and computer are properly connected and the computer is turned on.**
- 2 **Click the [Start] menu and select [Settings] and [Control Panel].**
- 3 **Double-click the [Scanners and Cameras] icon.**
 - If the **[Scanners and Cameras]** icon is not displayed, click on the “view all Control Panel Options” link on the left side of the window.
- 4 **Drag the icon for the scanner driver to be deleted to the Recycle Bin on the desktop.**



- 5 **Click the [Yes] button in the Confirm Device Removal dialog box.**
 - Even after the icon has been dragged to the Recycle Bin, the scanner icon may remain displayed until the Confirm Device Removal dialog box appears.



This completes the uninstall procedure.



- If, after selecting **[Uninstall the Software] - [Uninstall FilmGet FS]** on the “CanoScan Setup CD-ROM”, setup ends without displaying *FilmGet FS Uninstallation* screen, install the *Adobe Acrobat Reader* (provided on the “CanoScan Setup CD-ROM”), restart the computer and then repeat the above procedure so that the screen is displayed.

Uninstalling and Reinstalling FilmGet FS Macintosh

■ Uninstalling FilmGet FS

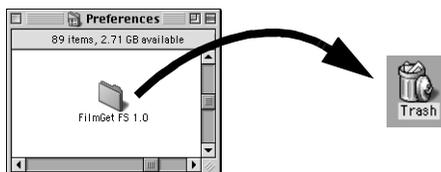
Use the following procedures to uninstall (delete) FilmGet FS before you upgrade to a new version or when installation fails for some reason.

1 Drag the [FilmGet FS] folder to the Trash from the folder in which it was installed.

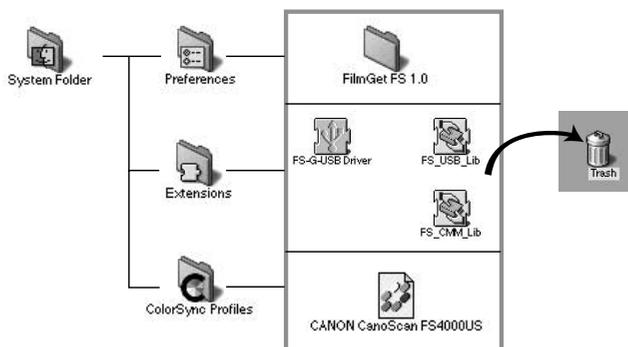
- If you have installed FilmGet FS into the folder of more than one application program, drag each copy to the Trash.
- For Photoshop LE, drag the [FilmGet FS] folder to the Trash from the [Import/Export] folder in the [Plug-Ins] folder.



2 Double-click the [System] and [Preferences] folders and drag the entire [FilmGet FS 1.0] folder to the Trash.



3 Drag the following folders and files from the [Preferences], [Extensions], and [ColorSync Profiles] file folders in the [System] folder to the Trash.



4 Empty the Trash.

This completes the uninstall procedure.

■ Reinstalling FilmGet FS

When reinstalling FilmGet FS, first follow the procedures on page 112 to uninstall FilmGet FS, then reinstall FilmGet FS according to the procedures below.

1 Place the supplied “CanoScan Setup CD-ROM” into the CD-ROM drive.

- CanoScan Setup Utility starts and the menu screen will be automatically displayed.
- If the menu screen is not displayed, double-click the CD-ROM icon and then **[Setup]**.



Menu Screen

2 Click the **[Install the Software]** button.

3 When the “Install Photoshop LE?” dialog box appears, click the **[No]** button.

- The Install Software screen will be displayed.
- If you click the wrong item, click the **[Return to the previous menu]** button and select **[Install the Software]**.



4 Click to remove the check mark from all other programs so that there is a check mark beside only FilmGet FS.

5 Click the **[Start Installation]** button at the bottom right of the screen.



- If a plug-in-compliant application program such as Photoshop LE is not installed, you will be unable to install FilmGet FS. Install Photoshop LE before installing FilmGet FS.

6 Follow the instructions in the messages to install the software.

7 When installation is finished, follow the instructions in the messages and restart the computer.

8 After the computer restarts, press the CD-ROM drive eject button and remove the “CanoScan Setup CD-ROM.”

- Store the CD-ROM carefully for future use.

This completes the reinstall procedure.

Glossary

■ Auto Correct Tool

An automatic function that adjusts the highlights and shadows of a preview image to optimal values.

■ Bits/Number of Bits

- A 1-bit image can only be expressed in black and white. The threshold value determines which value, black or white, is used to represent a dot that carries a given brightness value.
- An 8-bit grayscale image can be expressed in black, white and 254 shades of gray.
- A 14-bit grayscale image can be expressed in black, white and 16,382 shades of gray. The file is approximately double the size of an 8-bit grayscale file.
- A 24-bit color image can be expressed in 16.7 million colors, which is achieved by combining 256 shades of red, green and blue (8 bits each) to each dot.
- A 42-bit color image can be expressed in 4.4 trillion colors, which is achieved by combining 16,384 shades of red, green and blue (14 bits each) to each dot. The file is approximately double the size of a 24-bit color file.

■ Black Point Eyedropper Tool

A tool for sampling a portion of an image adjusted with the histogram adjustment mode. All areas of the image that are darker than the point sampled are changed to black. See also “White Point Eyedropper Tool.”

■ Brightness

The relative brightness of an image or part of an image detected by the scanner when scanning. The higher the value, the brighter the image, and conversely, the lower the value, the darker the image.

■ Calibration

A scanner driver function that automatically sets the correct white color balance to scan film with more accurate colors.

■ Channel

The red, green and blue elements of a color image. Color images have 14 bits of data per pixel for each channel, so each pixel has 42 bits of data. The brightness and contrast can be varied individually for the red, green and blue colors when scanning a color image. The master channel is the composite of these three colors.

■ **Color Balance**

The balance between the red, green and blue elements in an image. You can adjust the color balance when a particular color is too strong or weak.

■ **Color Matching**

The gamut of colors scanned with a particular scanner occasionally varies from those reproduced on a particular monitor. Use of a color matching system ensures that the devices reproduce the colors the same way.

■ **Coloring**

The color balance of an image. The image coloring can be adjusted by fine tuning the balance of red, green and blue or cyan, magenta and yellow.

■ **Contrast**

The difference between the highlights and shadows in a scanned film. Raising the contrast has the effect of clarifying the image, while lowering it produces a somewhat blurry appearance.

■ **Dot**

The basic element on which images are built. The density of dots in a scanned image is referred to as the image's resolution, which is measured in dots per inch.

■ **dpi**

The acronym for dots per inch. The resolution of monitors and printers is expressed as the number of dots displayed or printed in one horizontal inch. See also "Pixel" "Optical Resolution" and "Resolution."

■ **Gamma Value**

A setting to match the brightness of inputs (the original film) to outputs (the image shown on a monitor or printed out).

■ **Grayscale**

An image type which reads only the brightness of the image and expresses it in 256 tones (8 bits) or 16,384 tones (14 bits) from black to white.

■ **Halftones (Mid-tones)**

Shades of gray between the brightest (highlights) and darkest (shadows) portions of an image.

■ Histogram

A graphical representation of the distribution of data bearing varying brightness values in an image. Brightness is expressed as a value ranging from 0 to 255. The histogram shows exactly how much of the sampled area is distributed between bright areas (highlights) and dark areas (shadows).

■ Image File

An image that has been expressed as a collection of dots that are assigned varying color and brightness values and that has been converted into a data format that can be read by a computer. The fundamental structure of an image file is a bitmap, the horizontal and vertical arrangement of the dot information, which is supplemented by other data in popular image formats, such as TIFF, JPEG and BMP formats.

■ Color Mode

A mode that is selected to scan an image. The available options are 42-bit color, 24-bit color, 14-bit grayscale, 8-bit grayscale and black and white.

■ Input Resolution

When the scanner scans film it reads the image as a collection of dots. The input resolution is the setting for how finely to read the image. Raising the value increases the image file size.

■ Optical Resolution

The resolution at which a scanner reads information from the object it scans. See also “dpi” and “Resolution.”

■ Output Resolution

The resolution for output to a printer (printing), fax, monitor (display) or file.

■ Pixel

The acronym for picture element. A pixel is the smallest unit forming an image.

■ Plug-in

Plug-in refers to software whose functions can be added by incorporation into application software. For example, FilmGet FS for Macintosh is plug-in software (plug-in driver) that can be incorporated into image processing software such as Photoshop LE. In this case, FilmGet FS for Macintosh can be started up directly from the menu of that image processing software, and scanned images can be displayed on that image processing software. See also “TWAIN.”

■ Preview

A low resolution scan of a film image that is displayed in the preview area. The preview image is used to inspect the image, select the area of the image for the final scan (scan area), adjust the brightness and coloring, and carry out other image processing.

■ Preview Area

The right side of the FilmGet FS main window, which is used to display preview images. Click the **[Preview]** button to initiate a preview scan of the film. Note that the image displayed in the preview area has not yet been acquired by the application program from which FilmGet FS was started.

■ Resolution

The density of dots that comprise an image. The fineness or coarseness of an image is expressed as the number of dots per inch (dpi). See also "dpi."

■ RGB

The acronym for the primary colors of light: red, green and blue. The scanner passes light through the film, which is then detected by red, green and blue sensors. Most color printers, on the other hand, use the complementary colors to RGB, namely cyan, magenta, yellow and black (CMYK) to express colors. Cyan, magenta and yellow are also called the primary colors of color.

■ Scanner Self Test

A function that tests the scanner for malfunctions. Click the **[Device]** menu and select **[Self Test...]** to start the scanner self test and receive a report of any scanner problems detected.

■ Selector Tool

The tool used to select a portion of the image for scanning. In the FilmGet FS main window, the selector tool can be used to select a particular area of a preview image for final scanning.

■ Slider

A device on many settings tabs for adjusting settings values. Drag the slider tab left or right to adjust the value.

■ Threshold

The brightness value at which a dot or pixel is assigned a black or white color in an image scanned in black and white mode. Raising the threshold value makes the image darker, and lowering it makes the image brighter.

■ Thumbnail Scan

All the frames of the film loaded into the scanner are scanned at low resolution and displayed as thumbnail (small) images in the thumbnail window. These images displayed in the thumbnail window are then selected (frame selection) for previewing in the main window or final scanning.

■ Toolbar

The toolbars located on the left side of the preview area and at the top of the thumbnail window contain the set of tools used to rotate and flip images.

■ TWAIN

A worldwide standard for devices, such as scanners and digital cameras, that transmit data to computers. TWAIN is the acronym for Technology Without An Interesting Name. It is a standardized application programming interface (API) for input devices, such as film scanners. If both the input device and software comply with this standard, the two are compatible regardless of the manufacturer or model type. For example, the scanner TWAIN driver (e.g. FilmGet FS for Windows) can be directly started from the menu of an image processing application program and the scanned images can be displayed in the application program.

■ White Point Eyedropper Tool

A tool for sampling a portion of an image adjusted with the histogram adjustment mode. All areas of the image that are lighter than the point sampled are changed to white. See also “Black Point Eyedropper Tool.”

■ Zoom In

The process of magnifying the preview window to see an image in greater detail.

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Canon U.S.A., Inc.

One Canon Plaza Lake Success, NY 11042-1113, U.S.A.
1-800-OK-CANON (652-2666)
<http://www.usa.canon.com>

CANON (UK) LTD.

Canon House, Manor Road, Wallington, Surrey SM6 0AJ,
United Kingdom
For technical support, please contact Canon Helpdesk.
Helpdesk:
P.O. Box 431, Wallington, Surrey SM6 0XU
TEL: (0990) 143 723
(Calls may be recorded)
FAX: (0990) 143-340
BBS: (0990) 143-350
For sales inquiries: (0121) 666-6262

CANON FRANCE S.A.

17, quai du Président Paul-Doumer
92414 Courbevoie Cedex, France
Tél.01 4199 7777
Fax.01 4199 7951
Hotline:
Tél.01 4199 7070

CANON DEUTSCHLAND GmbH

Postfach 528, 47705 Krefeld, Germany
CANON- Hotline-Service
Customer Support: (0 21 51)349-555
Info-Desk: (0 21 51)349-566
Mailbox: (0 21 51)349-577
Telefax: (0 21 51)349-588

CANON ITALIA S.p.A

Palazzo L, Strada 6,
20089 Milanofiori-Rozzano (MI), Italy
TEL: 02/8248. 1
FAX: 02/8248. 4604
Pronto Canon 02/8249. 2000
<http://www.canon.it>

CANON OY AB

Kornetintie, 3, 00380 Helsinki, Finland
Puhelin: 010 544 20
Help Desk: 0600-0-22606 (maksu 14,80 mk/min)
Fax: 010 544 4571

CANON SVENSKA AB

Stensåtravägen 13, S-127 88, Skärholmen, Sweden

CANON DANMARK

Vasekær 12, DK-2730 Herlev, Denmark
Hotline: 44 88 26 66
<http://www.canon.dk>

CANON NORGE AS

Hallagerbakken 110, Boks 33, Holmlia 1210 Oslo 12,
Norway
Tlf: 2262 9321
FAX: 2262 0615

CANON BENELUX NEDERLAND N.V.

Neptunusstraat 1, 2132 JA Hoofddorp
The Netherlands
Tel: 023-5 670 123
Fax: 023-5 670 124
Helpdesk: 023-5 681 681

CANON BENELUX BELGIUM N.V./S.A.

Bessenveldstraat 7, 1831 Diegem, Belgium
Tel: 02 7220411
Fax: 02 7213274
Helpdesk: 02 7220404

CANON GmbH

Zetschegasse 11, 1232 Wien, Austria

CANON (SCHWEIZ) A.G.

Industriestrasse 12, CH-8305 Dietlikon
Switzerland
Tel: (01)835 61 61
Fax: (01)835 68 60
Hotline: 157 30 20

CANON ESPAÑA S.A.

C/Joaquin Costa No 41, 28002
Madrid, Spain
HelpDesk: 906-301255
Tel.: 91-5384500
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Australia
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Tel: (852)2739 0802
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CANON SINGAPORE PTE. LTD.

79 Anson Road #09-01/06
Singapore 079906

CANON MARKETING SERVICES PTE. LTD.

2, Alexandra Road, #04-01A
Delta House
Singapore 159919
Tel: 65 2735311
Fax: 65 2733317

CANON MARKETING (MALAYSIA) SDN. BHD.

13A, Jalan 219, 46100 Petaling Jaya
Selangor Darui Ehsan
Malaysia
Tel: 603-7577210/7570707/7579666
Fax: 603 7563802/7563012

CANON MARKETING (THAILAND) CO.LTD.

2nd Floor, Indosuez House
152 Wireless Road, Bangkok 10330
Thailand
Tel: 66-2-6514000
Fax: 66-2-6514096

CANON MARKETING (PHILIPPINES) INC.

Marvin Plaza Building,
2153 Don Chino Roces Ave,
Makati City
Tel: 632-812-6047
Fax: 632-812-0067/810-9797

CANON CANADA INC.

6390 Dixie Road
Mississauga, Ontario, L5T 1P7
1-800 OK CANON (652-2666)
<http://www.canon.ca>

CANON LATIN AMERICA, INC.

6505 Blue Lagoon Drive Suite 325
Miami, Florida 33126, U.S.A.

CANON EUROPA N.V.

P.O. Box 2262
1180 EG Amstelveen, The Netherlands

CANON INC.

30-2 Shimomaruko 3-chome, Ohta-ku
Tokyo 146-8501, Japan