

f o r M a c i n t o s h

Canon

Plug-in Module FS 3.6



for CanoScan FS2710/CanoScan 2700F Film Scanner

Users Guide



How to Use this Guide

This guide describes how to use the Canon Plug-in module FS for Canon film scanners (CanoScan FS2710/CanoScan 2700F).

Plug-in module FS is a plug-in module which can be used with Adobe® Photoshop® (hereafter referred to as Photoshop). A plug-in module is used within an application program to expand its functionality and cannot be used as a stand-alone application. Before you use Plug-in module FS, read this guide and keep it close at hand so you can use it for reference.

Where to Look

Quick Start Instructions → p. 8

The Quick Start Instructions are a brief summary of commands and procedures that will assist in using Plug-in module FS immediately.

Installing Plug-in module FS (Required Reading) → p. 11

All users should read this section to learn the procedures for installing Plug-in module FS software.

Scanning Preparations (Required Reading) → p. 15

All users should read this section to learn the procedures for adjusting film type, magnification and scan mode settings in preparation for scanning.

Scanning (Required Reading) → p. 37

All users should read this section to learn the procedures for scanning and saving images.

Adjusting and Editing Scanned Images (Optional Reading) → p. 44

Read this section as necessary to learn how to adjust image attributes, such as brightness and color tone.

About the Conventions Used in this Guide

The following symbols appear in this guide.



CAUTION:

This symbol is used to highlight procedural precautions and limitations. Always read these topics to avoid errors.



HINT:

This symbol is used to present helpful hints and supplemental information. Reading these topics is recommended to enhance your enjoyment of Plug-in module FS.

Table of Contents

How to Use this Guide	2
Table of Contents	3
Control Panel Features	5
Scanning Procedures	6
Plug-in module FS Special Features	7
Quick Start Instructions	8
STEP 1 Installing Plug-in module FS	11
Installing Plug-in module FS	12
STEP 2 Scanning Preparations	15
Displaying the Plug-in module FS Control Panel	16
Selecting a Film Type	18
Previewing	19
Setting the Scan Mode	20
Selecting the Output Device	23
Setting the Magnification	24
Setting Preferences	26
Output Device	26
Aspect Ratio	28
Unit	30
Preview Window Size	31
Selecting the Scan Settings	32
Return to Default Settings	33
Setting the Auto Eject Function	34
Verifying the Image Before Scanning	35
STEP 3 Scanning	37
Scan Area Settings	38
Zooming	39
Scanning	41
Rotating or Reversing Images Before Scanning	42
Saving Scanned Images	43

STEP 4 Adjusting and Editing Scanned Images	44
Optimum Adjustments for Image Quality	45
Color Correction	46
Color Correction - Histogram Setting	48
Color Correction - Brightness and Contrast Settings	50
Color Correction - Color Balance	52
Color Correction - Tone Curve Settings	54
Color Correction - Gamma Value Settings	56
Color Correction - Threshold	58
Film Correction - Focus Correction	60
Film Correction — Exposure Adjustment	62
Auto Tone Correction (ColorSync™)	64
Saving / Recalling Settings	65
Editing Scanned Images	67
Appendices	68
Troubleshooting	69
Error Messages	71
List of Film Types <2700F only>	72
Glossary	73
Index (A - F)	75
Index (G - S)	76
Index (T - Z)	77
Canon Customer Support Help Desk	78

Control Panel Features

Refer to the following pages for descriptions of the control panel menus and buttons that you will be using in Plug-in module FS.

The screenshot shows the CanonPI FS 3.6 control panel with the following callouts:

- Setting File** (Menu): Load... → p. 65, Save... → p. 65
- Image Film Prefere** (Menu): Color Correction... → p. 46, ColorSync → p. 64
- Film Preferen** (Menu): Focus... → p. 61, ✓ Auto Eject → p. 34, Exposure... → p. 62
- Preferences** (Menu): Output Device... → p. 26, Aspect Ratio... → p. 26, Unit... → p. 26, Preview Window... → p. 26, Scan Settings... → p. 26, Resets Default Settings... → p. 26
- Close Box** → p. 16
- Film Type** (Dropdown): 35mm Color Neg. → p. 18
- Scan Mode** (Dropdown): 24bit Color → p. 20
- Output Device** (Dropdown): File(2720dpi) → p. 23
- Resolution** (Slider): 2720 dpi → p. 24
- Magnification** (Text): 100% → p. 24
- Image Size** (Text): 3,504 × 2,336 px → p. 30
- Required/Free** (Text): 23.9 / 269.6 MB → p. 22
- Preview Window** → p. 19
- Buttons** (Bottom): Eject, 180° Rotation, 90° Clockwise Rotation, 90° Counterclockwise Rotation, Reverse, Preview, Scan

The close-up shows the following buttons and their callouts:

- Eject Button** → p. 34
- 180° and 90° Clockwise Rotation, 90° Counterclockwise Rotation, and Reverse Buttons** → p. 42
- Preview Button** → p. 19
- Scan Button** → p. 41
- Zoom In Button** → p. 39
- Zoom Out Button** → p. 40
- Zoom Reset Button** → p. 40
- Auto Correction Button** → p. 49
- Color Correction Button** → p. 46
- Browser Button** → p. 35



HINT

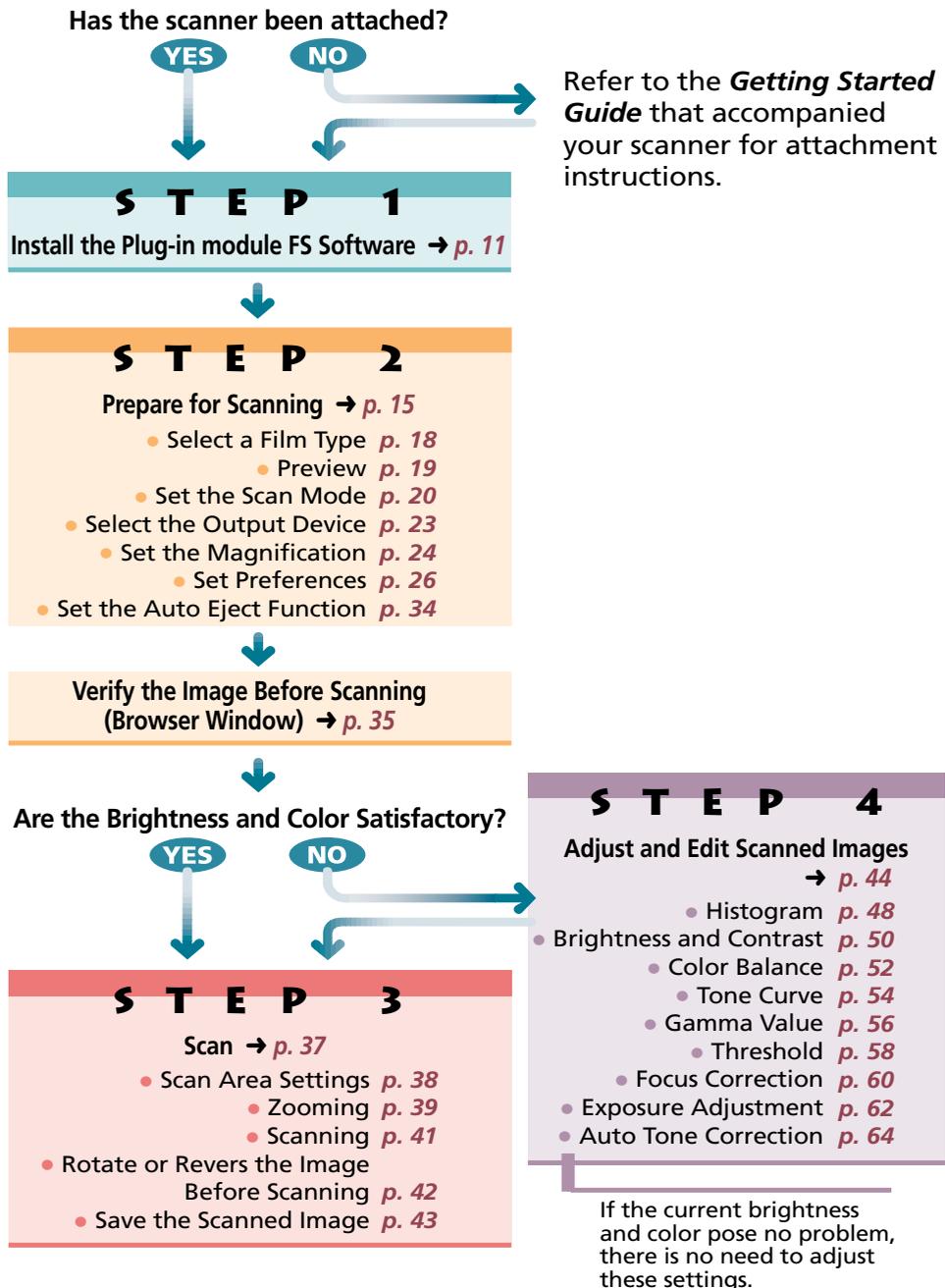
In this guide, menu items are marked in the following manner:



Select [Load] from the [File] menu.

Scanning Procedures

Follow these procedures to use Plug-in module FS.



Plug-in module FS Special Features

- **See the Results of Adjustments Immediately (Dynamic Preview)**

Once in preview mode, the results of adjustments to scan mode settings and colors are promptly reflected in the preview image. Highly detailed adjustments can be performed easily because you can see the results of your changes as they are executed.



- **Supports ColorSync™ 2.0 Auto Tone Correction**

Supports the ColorSync™ function. Achieves superior color quality by automatically compensating for and aligning the tones of various devices, such as scanners, color displays and color printers.



- **Browser Function Permits Confirmation of the Real Image Before Scanning**

The Browser function lets you check the image to be scanned in detail before commencing the scan. This function presents a much higher quality image than the preview function.



- **Histogram Function Generates Clear Contrast**

Easy procedures produce half-tone gradations that are remarkably crisp and clear.



- **Tone Manipulation Function Lets You Fine-Tune Color**

Balance colors with the Tone Curve. Plug-in module FS provides you with three ways to set the Tone Curve and achieve accurate, detailed color balance.



- **Edit Scanned Images With Adobe Photoshop**

Images scanned with Plug-in module FS can be processed directly by Adobe Photoshop because Plug-in module FS is a plug-in module used within the Photoshop program.

Quick Start Instructions

Those who wish to start scanning immediately should follow the procedures below. If you require further information at any stage, read the pages referenced at each step.

Installing Plug-in module FS → p. 12

1

1. Install Plug-in module FS.

- (1) Place the CanoScan Setup Utility CD-ROM in the CD-ROM Drive.
- (2) Follow the instructions on the screen to complete the installation of PhotoShop LE and Plug-in module FS.

Starting Plug-in module FS → p. 17

2

1. Select [CanonPI FS 3.6] from within Photoshop and display the Plug-in module FS control panel.

- Plug-in module FS is a plug-in module and cannot be run as a stand-alone application. Photoshop Ver. 3.0 or later or Photoshop LE provided with the package must be previously installed before you can run Plug-in module FS.

Selecting the Film Type → p. 18

3

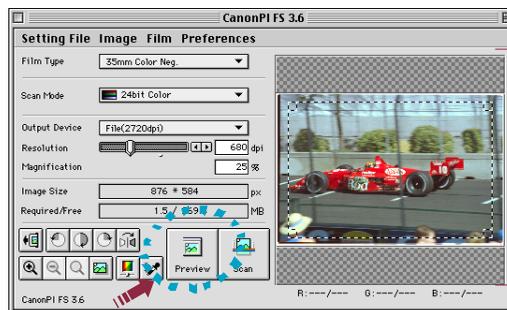
1. Select the film type that you intend to use.

Previewing → p. 19

4

1. Place the film in the scanner.
2. Click on the [Preview] button.

- Plug-in module FS will read the film and show the results in the Preview window.



Preview Window

Determining the type of image that is required. → pp. 20 - 34

5

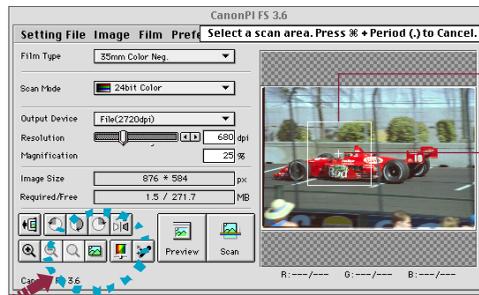
- Here are a few things you should consider when you determine the type of image you need.
Image type (p. 18), Output device (p. 23), Size (p. 24), Preferences (p. 26), Film position after scanning (p. 34)

Verifying Image Quality with the Browser Function Before Scanning → p. 35

6

1. Click on the [Browser] button.

- The selection tool will appear on the Preview window to enable a portion of the image to be selected.



Selection Frame

Pointer

When you move the pointer, the selected frame also moves.

2. Move the selection tool to specify the area of the image you want verified and click the mouse button.

- Plug-in module FS will read the image and display the browser image.

3. After you have examined the browser image, click the mouse anywhere.

- The browser image will close.

Specifying the Area of the Image to be Scanned → p. 38

7

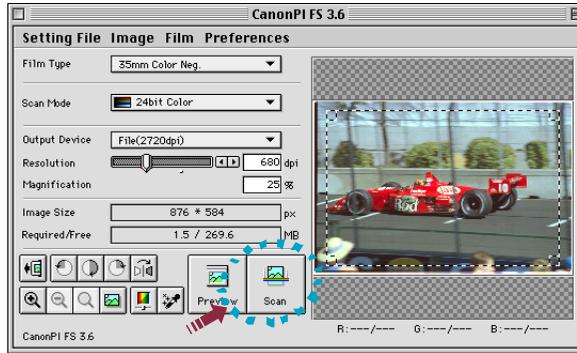
1. Select the area to be scanned by clicking and dragging the mouse pointer over the image.

- You may find it convenient to use the zoom feature to select small areas or to select specific scan areas with precision (p.39).

Scanning the Image → p. 41



1. Click on the [Scan] button.



- Plug-in module FS will scan the image.
- When the image is acquired, the control panel closes if it is set for closing after scanning in Plug-in module FS. If the control panel is not set for closing after scanning in Plug-in module FS, the control panel remains open so you can continue to scan. (p. 27)
- You may rotate the image using Plug-in module FS and then initiate the scan (p. 42).

Saving the Scanned Image → p. 43



1. Save to the target folder with the file name, file type, and other file options you have selected in Photoshop.

S T E P 1

Installing Plug-in module FS

Step 1 presents the installation procedures for the Plug-in module FS software. You only have to follow the displayed messages of the CanoScan Setup Utility CD-ROM to complete the simple installation procedure.

Place the Setup Utility CD-ROM in the CD-ROM Drive. → **p. 13**



Install Photoshop LE and Plug-in module FS. → **p. 14**

Installing Plug-in module FS

To use the Plug-in module FS program, first you must install it on your hard disk.



Caution

Before you can install Plug-in module FS, you must have installed Photoshop (Ver. 3.0 or higher) on your hard disk. Install this program before attempting to install Plug-in module FS. If nothing has been installed beforehand, install Photoshop LE provided with the package.

Operating Environment

Hardware

A Macintosh or Power Macintosh with a CD-ROM drive and hard disk drive. (Use on Macintosh compatibles cannot be guaranteed)

Main Memory

Minimum of 16 MB

Application Software

Adobe Photoshop (Ver. 3.0 or higher)

Display

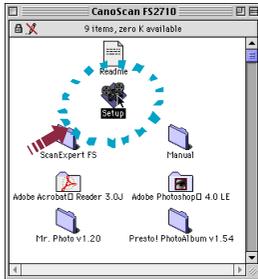
16-tone grayscale-capable monitor (32,000-color-capable monitor recommended). Black and white and 4-tone monochrome monitors cannot be used.

System Software

System 7.1 or later (Not native Power PC application)

Procedure

- 1 Place the CanoScan Setup Utility CD-ROM in the CD-ROM drive.
- 2 Double-click the CanoScan Setup Utility CD-ROM icon.
- 3 Double-click the Setup icon.



The installer on the CanoScan Setup Utility CD-ROM starts.

- 4 Click the Install Software item.



5

In the Install panel, select Photoshop LE and ScanExpert FS 3.6.

If Version 3.0 or later of Photoshop is installed, you do not need to select Photoshop LE for installation.

Click the appropriate check boxes.



6

Click the Start Installation button at the lower right.

The installer program will now start and continue without interruption. Follow the instructions on the screen to complete the installation.

STEP 2

Scanning Preparations

Step 2 presents the essential preparations for scanning. The following procedures are explained on the indicated pages.

- Displaying the Plug-in module FS Control Panel → **p. 16**
 - ↓
 - Selecting a Film Type → **p. 18**
 - ↓
 - Loading the Film and Previewing the Image → **p. 19**
 - ↓
 - Setting the Scan Mode → **p. 20**
 - ↓
 - Selecting the Output Device → **p. 23**
 - ↓
 - Setting the Magnification → **p. 24**
 - Setting the Preferences → **p. 26**
 - Output Device (**p. 26**)
 - Aspect Ratio (**p. 28**)
 - Unit (**p. 30**)
 - Preview Window Size (**p. 31**)
 - Scan Settings (**p. 32**)
 - Return to Default Settings (**p. 33**)
 - Setting the Auto Eject Function → **p. 34**
 - Verifying the Image Before Scanning → **p. 35**

Displaying the Plug-in module FS Control Panel

All scanning operations are performed with the Plug-in module FS control panel. To quit Plug-in module FS, click on the close box at the top left of the control panel.

Film type, scan mode, color correction, output device, resolution and magnification settings.

Close Box
Quit Plug-in module FS.

Menu Bar
Click on any menu item to display more options in a pull-down menu.

Preview Window
Displays the image in preview mode.

Buttons
Use these buttons to eject the film rotate images, change the zoom setting adjust the histogram, preview and scan images.

The image display size and required disk space that were specified in the Preview window are automatically displayed here.

RGB Display
When a color image is displayed in the Preview window, the color balance (RGB values) is displayed here for the area of the image where the pointer is positioned.

Operating Procedures

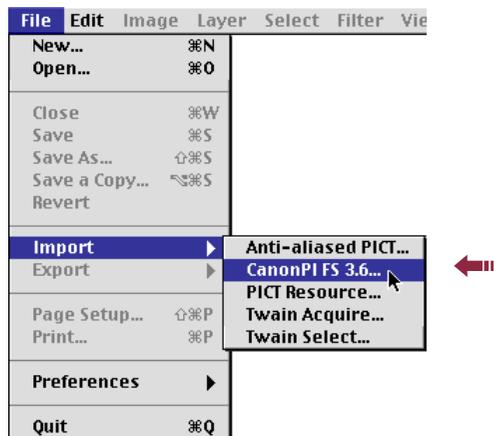
- 1 **Verify that the scanner is attached to your computer and that its power switch has been activated.**

Read the Quick Start Instructions for directions to connect the scanner (p. 8).

- 2 **Start Photoshop.**

- 3 **Select Plug-in module FS from within Photoshop.**

Select [File] from the menu bar and choose the [Import] and [CanonPI FS 3.6] options in succession.



The Plug-in module FS control panel will appear.

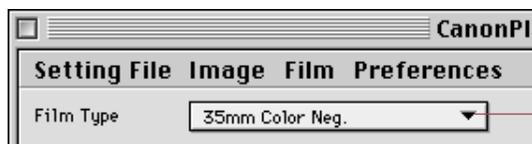
Selecting a Film Type

You can select the type of film for scanning. By selecting the correct film type, you also select the optimum method of color correction.

Procedure



Click the Film Type box on the control panel and select the film type.



Click the box to open the pull-down menu.



Hint

- For a slide mount select, 35 mm Color Pos.
- To change the film type, execute preview again.

Film Characteristics

The various film types have distinctly different characteristics. Exposure latitude, for example, is not the same for negative and positive films. Negative films provide greater latitude because the exposure can be adjusted when prints are made. Positive films require greater precision when a picture is taken. In addition, positive film can produce a starker contrast between shadows and highlights without producing sepia tones.

Previewing



Before an image is scanned, it is advisable to preview the image. The Preview function will read the image once and present the entire film image in the Preview window. Use the Preview window to review the image as it will be scanned and to make any required adjustments to the color balance or scan area.

Operating Procedures



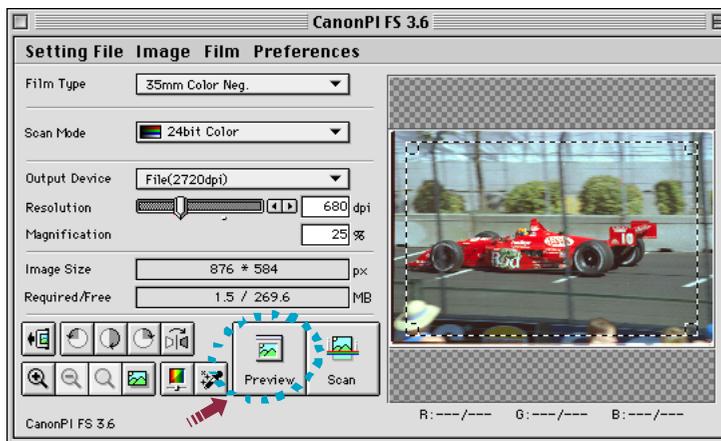
1 Place the film in the scanner.

- Either 35 mm film, slide mounted film, or IX240 film can be placed in the scanner. For instructions on placing the film in the scanner, please refer to the “Placing Film” section of the **Getting Started Guide**.



2 Click on the [Preview] button.

- The film will be read and the image will appear in the Preview window.



Hint

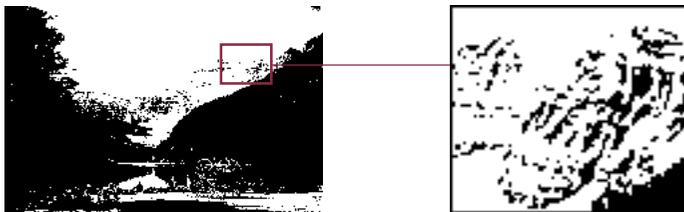
- The Preview window can be adjusted to a larger size ([p. 31](#)).
- The Dynamic Preview function enables changes to settings, such as the scan mode and brightness, to be immediately reflected in the preview image.
- Nevertheless, the preview image provides only an approximation of the scan and the final results may differ to some degree from the preview image.
- Be sure to re-click the Preview button and to check the preview image each time you replace a film or change a film type setting.

Setting the Scan Mode

When an image is scanned, it is read as a collection of “dots.” The scan mode that is selected determines how each of these dots is represented in the output. The following five scan modes are available.

Black & White Mode

The Black & White mode can reproduce a dot as either black or white. Half-tone colors, such as gray, are automatically reproduced as either black or white also. Consequently, the Black & White mode is more suited to textual documents or line drawings than complex images with color gradations.



8bit Grayscale Mode

In the 8bit Grayscale mode, each dot is formed by assigning it eight individual “bits” of data. By combining these bits in various different ways, a dot can be expressed in 256 distinct shades. Photographic images are reproduced relatively naturally in this mode, but the file size is much larger than that produced by the Black & White mode.



12bit Grayscale Mode (FS2710 only)

In the 12bit grayscale mode, each dot is formed by assigning it 12 bits. In this mode one dot can be expressed in 4,096 individual shades. The size of an image saved in this mode is approximately twice the size of an 8bit grayscale mode image. However, the displayed image is the same as the 8bit grayscale mode image because the difference in the image quality cannot be accurately reproduced on the screen. Use this mode when you need an monochrome image with finely attenuated shades of gray.

24bit Color Mode

In the 24bit Color mode, each dot is formed by assigning it eight bits to represent each of the RGB or red, green and blue colors, which add up to 24 bits. In this mode, a dot can be expressed in approximately 16,770,000 distinct shades. This mode is useful for reproducing color prints, but generates files that are even larger than the 12bit Grayscale mode. Use this mode when the image is to be printed on a color printer.



36bit Color Mode (FS2710 only)

In this mode, each dot is formed by assigning it 12 bits to represent each of the RGB colors, which add up to 36 bits. This mode creates a color smoother than the color created with the 24bit color mode. The size of an image saved in this mode is approximately twice the size of a 24bit color image. However, the displayed image is the same as the 24bit color mode because the difference in image quality cannot be accurately reproduced on the screen. Use this mode when you need a color image with finely attenuated color tones.



Caution

- If you are using a software application which cannot handle 12bit grayscale or 36bit color images and you attempt to scan a 12bit grayscale or 36bit color image, your system may hang up. Before you attempt to scan images in these formats, refer to your software application user's manual to confirm whether or not your application can handle such images. Photoshop version 4.0 or later, and Photoshop LE provided with the package, can handle 12bit grayscale and 36bit color images.



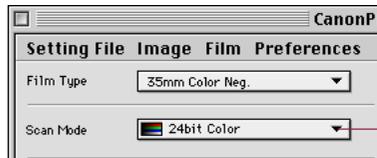
Hint

- If you scan an image in 36bit color with Photoshop, which is compatible with 36bit color, the image is scanned as a 16bit Channel Mode image.
- If you are using the 2700F, you cannot select the 12bit Grayscale mode or the 36bit Color mode.
- If you are using monochrome film, you cannot select the 24bit Color mode or 36bit Color mode.

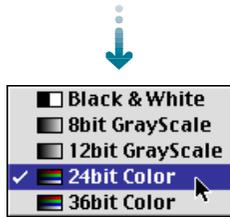
To Set the Scan Mode



Select the Scan Mode box on the control panel and choose the desired scan mode.



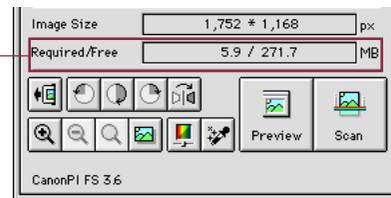
Click the box to open the pull-down menu.



Hint

Scanning the same image in the five different scan modes produces different file sizes. By size, Black & White mode requires the least disk space, followed in order by the 8bit Grayscale and 12bit Grayscale modes and the 24bit Color and 36bit Color modes. Before scanning, check the data volume indicator on the control panel.

The numerator indicates the amount of disk space required for the scanned image while the denominator indicates the amount of disk space available. When the required space exceeds the available space, the scan button is unavailable.



Caution

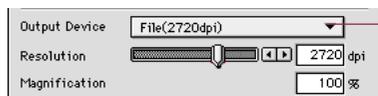
- Even if the indicator shows there is not enough space available, there may be occasions when you can click the scan button but the system will return an error (Insufficient memory). (See **Troubleshooting p. 69**)

Selecting the Output Device

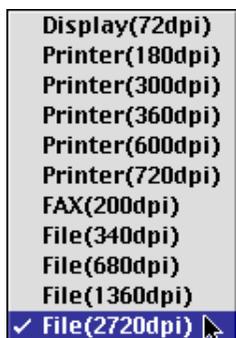
Follow the procedures below to select the output device for scanned images.



Click on the **Output Device** box on the control panel to select the name corresponding to the output device in use.



Click on the Output Device box to open the pull-down menu.

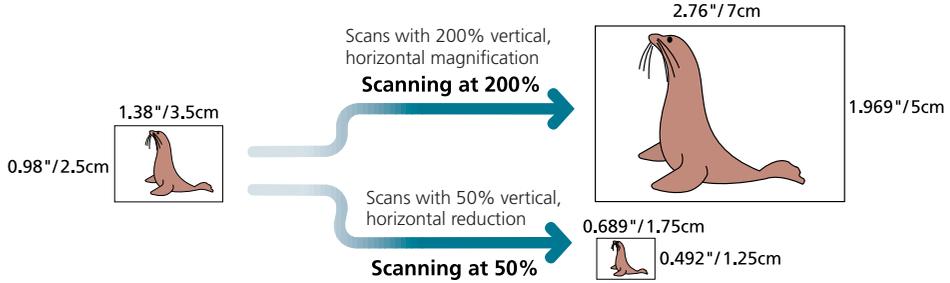


Hint

The devices appearing in the Output Device pull-down menu can be specified by the user. Settings can also be specified for devices that are not already represented in the default list. See Procedures for Setting the Output Device List ([p. 26](#)).

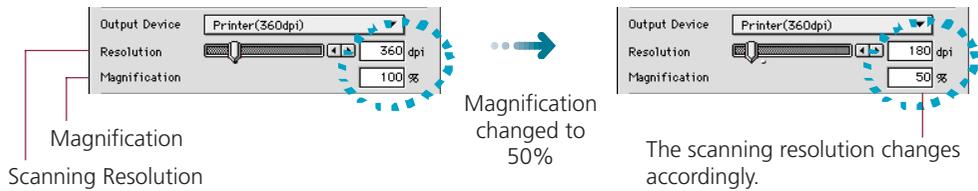
Setting the Magnification

The magnification of an image can be changed before scanning to accommodate reproductions that are larger or smaller than the original. The settings can be changed in increments of 1%.



Changing the magnification setting causes the resolution display on the control panel to change correspondingly. This resolution setting is referred to as the “scanning resolution.”

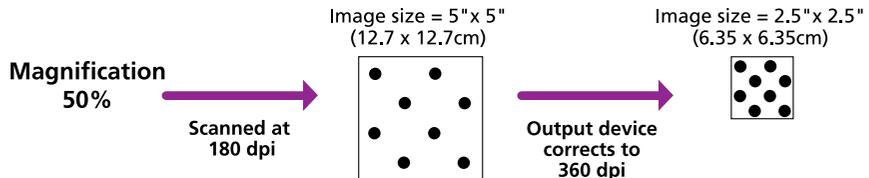
Output Device Resolution= 360 dpi, Magnification= 100%



Hint

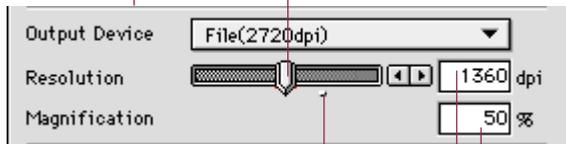
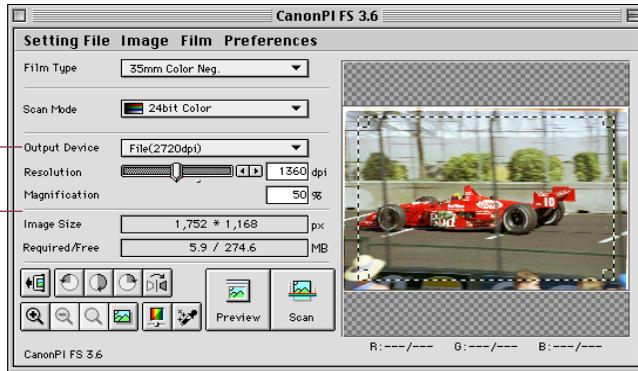
Magnification and Resolution

Why does the image size change with the magnification? Let us answer this with an example using an “Printer (360 dpi)” output device. If you were to scan an image with this device setting and set the magnification factor to 50%, the scanning resolution will automatically change to 180 dpi. At this setting, the image will be scanned at a resolution of 180 dpi and the output device will convert this to 360 dpi, shrinking the size of the output in the process because it will only have half the data with which to fill the space.



To Set the Magnification Factor

1 Set the desired magnification factor on the control panel.



Slider
Drag the slider bar in either direction or use the arrow keys to change the resolution.

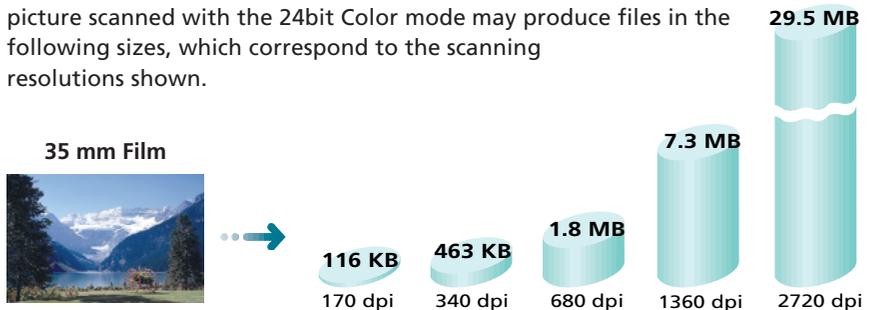
Click here to return the magnification factor to 100%. Click inside these boxes to enter values directly.



Hint

The Relationship Between Data Volume and Scanning Resolution

The higher the magnification and scanning resolution settings, the greater the file size of scanned images. There are certain inconveniences associated with overly large data volume, such as the inability to fit a file on a single floppy disk and the risk of causing a temporary computer slowdown by overwhelming its processing capabilities. A typical 35 mm picture scanned with the 24bit Color mode may produce files in the following sizes, which correspond to the scanning resolutions shown.



* These numbers are approximate estimates and may differ from actual scan results.

Setting Preferences

The operating environment can be adjusted to accommodate preferences for the type of output device, the aspect ratio, the units for sizing images, the size of the preview window and the scan settings.

Default factory settings for these categories can also be easily reset.

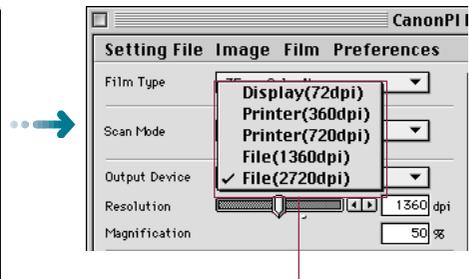
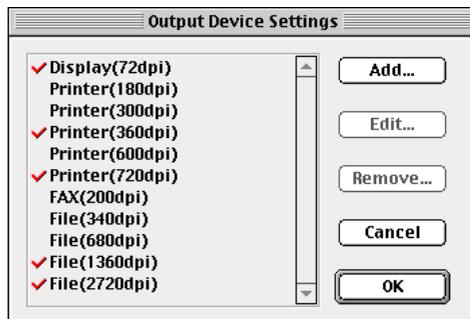
Adjustments are made to the operating environment with the [Preferences] menu on the control panel.

Preferences	
Output Device...	→ p. 26
Aspect Ratio...	→ p. 28
Unit...	→ p. 30
Preview Window...	→ p. 31
Scan Settings...	→ p. 32
Resets Default Settings...	→ p. 33

Output Device

Sets the type of output devices that will appear in the Output Device Settings pull-down menu.

Output Device Setting Dialog Box



The selected items appear in the pull-down menu.



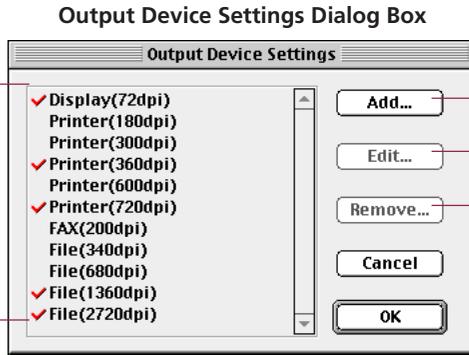
Click on the [Preferences] menu in the control panel and select [Output Device].

The Output Device Settings dialog box will appear.





Select the appropriate devices from the list.



Select a device by clicking on its name. A check mark will appear beside the selected devices. Deselect a device by clicking its name again. You may not deselect [File (2720 dpi)]. Always ensure that a check mark appears beside this item.

You may specify a device that was not originally included in the list. Use the [Add] button to specify the name and resolution of a new device.

You can edit the settings specified for a new device with the [Edit] button.

You can delete a new output device from the list with the [Remove] button.

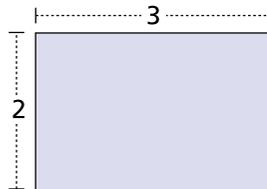


Click on the [OK] button.

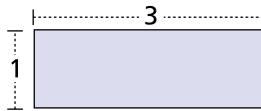
Aspect Ratio

The aspect ratio can be set to any of the following:

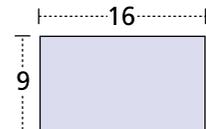
- Independent When resizing the scan area, the width and height can be altered freely.
- Constrained When resizing the scan area, the width and height are set at fixed proportions so that the shape remains constant over different sizes. This feature is convenient for working with particular film formats. The following constrained settings are available:
 - Custom Any ratio may be specified.
 - Classic (C Type) The width-to-height ratio is 3 to 2.
 - Panorama (P Type) The width-to-height ratio is 3 to 1.
 - Hi-Vision TV (H Type) The width-to-height ratio is 16 to 9.



Classic (C Type)



Panorama (P Type)



Hi-Vision TV (H Type)



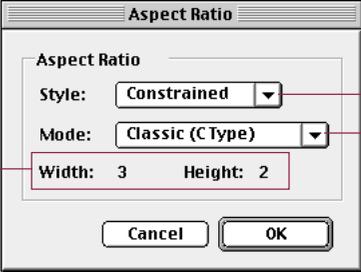
Click on the [Preferences] menu in the control panel and select [Aspect Ratio].

The Aspect Ratio dialog box will appear.



2 Select the desired settings.

Aspect Ratio Dialog Box



Click this box to open the pull-down menu .

Independent
✓ Constrained

If the Constrained setting is selected above, this item becomes active and will display the pull-down menu below when clicked.

✓ Classic (C Type)
Panorama (P Type)
Hi-Vision TV (H Type)
Custom

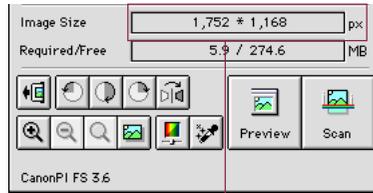
If the Constrained and Custom settings are selected, values for width and height can be input here.

3 Click on the [OK] button.

Unit

Specifies the units that define the size of the scanned image.

Unit Dialog Box



The units displayed in this section of the control panel will change.

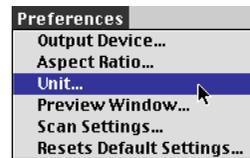
1

Click on the [Preferences] menu in the control panel and select [Unit].

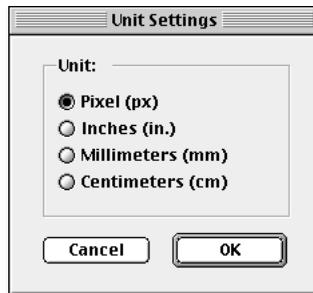
The Unit Settings dialog box will appear.

2

Select the desired settings.



Unit Settings Dialog Box



3

Click on the [OK] button.

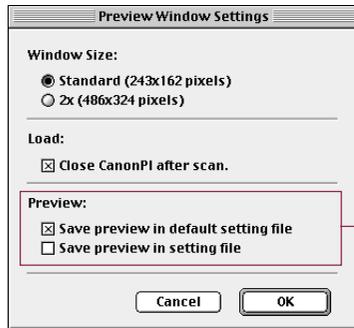
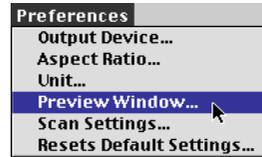
Preview Window Size

Specifies the size of the image window and whether or not the operation panel is closed after scanning. Also specifies whether the currently displayed image is saved in the default file or the setting file.

- 1 Click on the [Preferences] menu in the control panel and select [Preview Window].

The Preview Window Settings dialog box will appear.

- 2 Set the file size and preview image save option.



Click the appropriate check box or radio button.

Preview Window Settings Dialog Box

- 3 Click on the [OK] button.



Caution

- Changing the Preview window size will cause the image previously displayed in the Preview window to disappear.
- The [486 x 324] option may not be available for displays of certain sizes.



Hint

- If the "Save preview in default setting file" option is selected, the last preview image will appear in the Preview window when Plug-in module FS is launched again after quitting once.
- If the "Save preview in setting file" option is selected, the preview image will be saved in a settings file. This is convenient when you wish to keep the settings associated with a particular image.
- Difference Between the Preferences File and Settings Files.
Plug-in module FS creates two kinds of files to keep track of settings. The various settings that are adjusted with the control panel are automatically saved in the default setting file, which is located in the System folder. These settings determine how Plug-in module FS behaves when it is restarted. In contrast, settings files are intended for saving particular groups of settings that are used often. The names of settings files can be freely chosen by the user. See Saving/Recalling Settings (p. 65).

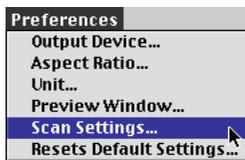
Selecting the Scan Settings

Plug-in module FS generally adjusts the auto exposure and auto focus settings at the preview stage. You can also have it adjust these settings at the other stages. This results in a better image, but scanning and browsing may require more time. To have it adjust the settings at all stages, enable the [Set Exposure Value and Focus Value when Scanning] option with the procedures below.

1

Click on the [Preferences] menu and select [Scan Settings].

The Scan Settings dialog box will appear.

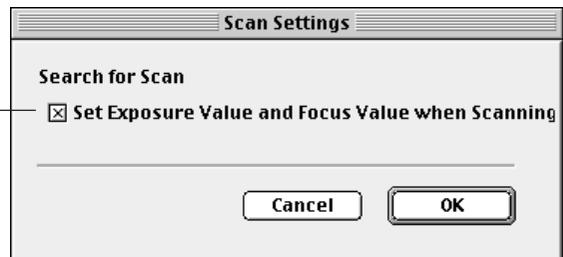


2

Click on the check box to insert an X beside the [Set Exposure Value and Focus Value when Scanning] option.

Scan Settings Dialog Box

Click on the check box to insert an X.



3

Click on the [OK] button.

Return to Default Settings

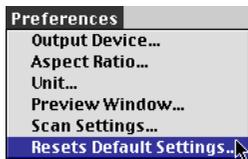
Returns the preference settings and all other settings to the factory default settings. The table lists the major default settings.

Scan Mode	24bit Color
Magnification	100%
Histogram	Highlight: 255, Shadow: 0
Color Correction	Gamma Value (1.4)
Color Correction Brightness/Contrast	Brightness: 0, Contrast: 0
Color Correction Color Balance	0
Color Correction Tone Curve	Straight line
Color Balance Threshold	128
ColorSync	Off
Auto Focus	On
Auto Eject	On
Film Type Setting	35 mm Color Neg.
Unit	Pixels
Output Device	File (2720 dpi)
Preview Window	Normal
Driver after scanning	Close
Set Exposur Value and Focus Value when scanning ..	Enabled
Control Panel Position	Center

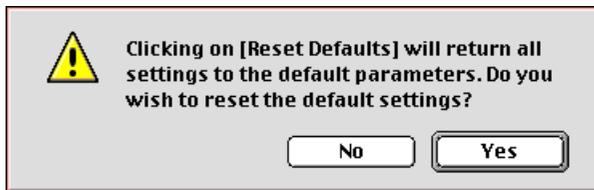


Click on the [Preferences] menu in the control panel and select [Resets Default Settings].

The Default Settings dialog box will appear.



Click the [Yes] button to reset the default settings.



Setting the Auto Eject Function



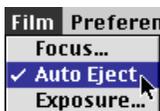
After a film has been scanned, it can be ejected from the scanner automatically with the Auto Eject function. The film is ejected to a position approximately 1 centimeter ahead of its normal position, making it easier to remove from the scanner. The default factory setting is Auto Eject = On. If you wish to scan the same piece of film repeatedly, it is advisable to set the Auto Eject setting to Off to speed up the process.

To Set the Auto Eject Function



Select the **[Film]** menu from the control panel and choose **[Auto Eject]**.

Clicking on Auto Eject places or removes the check mark to its left. A check mark indicates that Auto Eject is active while no check mark indicates that is off.



Hint

- When the Auto Eject function is off and you wish to eject the film, click the [Eject] button.
- The Auto Eject function takes effect only after the scan is complete. The film does not automatically return to the eject position after the preview, browser or zoom functions.

Verifying the Image Before Scanning



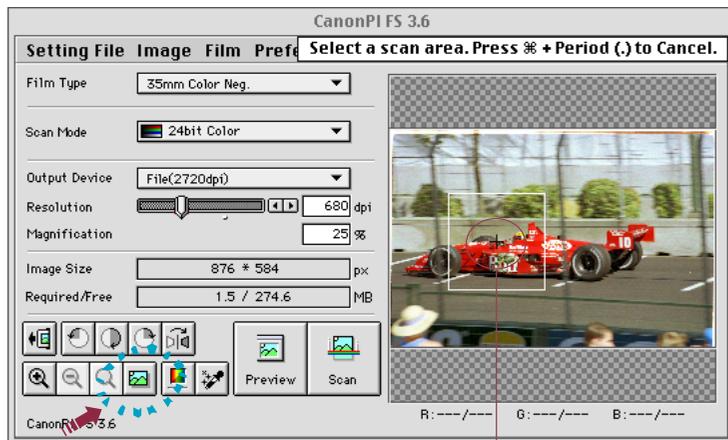
Before initiating the final scan, it is advisable to check the intended results with the Browser function. The image in the Browser window is more accurate than the one in the Preview window, allowing you to verify the results more precisely before scanning.

To Verify the Image

1 Before scanning, set the image type, output device, magnification, operating environment, and preference. (pp. 26-34).

2 Click on the [Browser] button.

- The Selection Tool will appear in the Preview window to enable a portion of the image to be selected.
- The size and shape of the Selection Tool cannot be changed because it is automatically determined by the scanning resolution setting.



Selection Tool



Hint

The Browser button is disabled when the image area is too small (less than 64 x 64 pixels).

3 Place the mouse cursor inside the selection frame.

- The mouse cursor will change to a [+] shape.

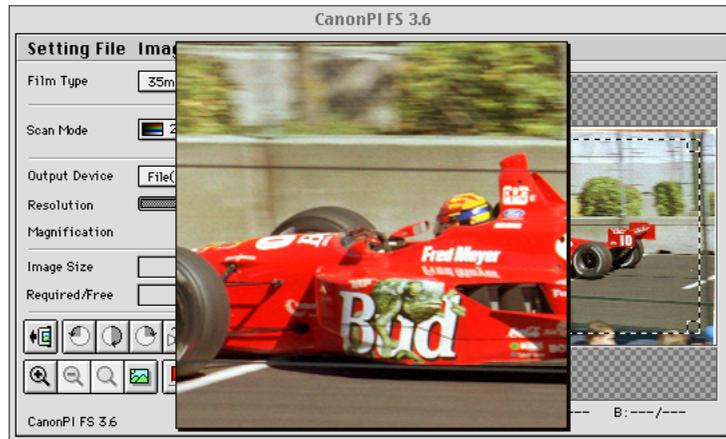
4 Move the Selection Tool to the desired position with the mouse cursor.

- Moving the mouse will move the Selection Tool.
- The Selection Tool will not move when the scanning resolution is too low.

5

Click the mouse button when the Selection Tool is in the correct position.

- The film will be read and the browser image displayed in the middle of the monitor.



6

Once you have examined the browser image, click the mouse button again to close the Browser window.

- The Browser window will close.
- It does not matter where the mouse cursor is positioned to close the Browser window.

S T E P 3

Scanning

Step 3 presents the procedures for conducting the final scan, saving the scanned image in a file and editing image files. The steps are listed below with their respective page numbers.

Scan Area Settings	→	p. 38
Zooming	→	p. 39
	↓	
Scanning	→	p. 41
Rotating or Reversing Images Before Scanning	→	p. 42
	↓	
Saving Scanned Images	→	p. 43

Scan Area Settings

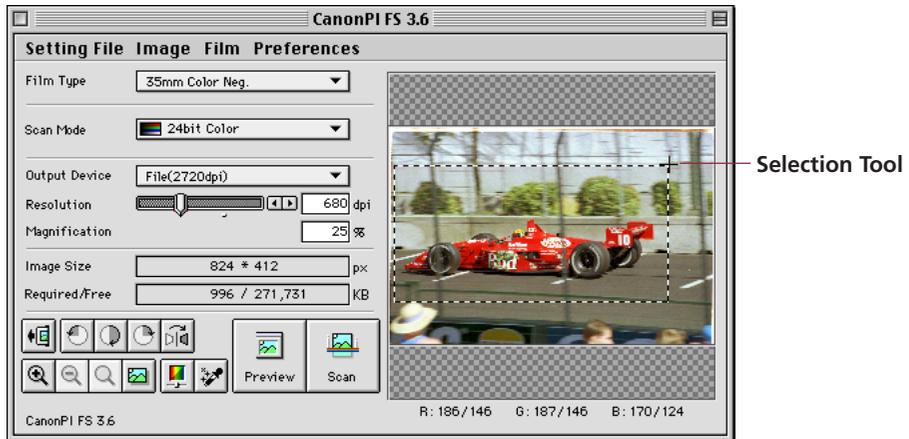
Use the image in the preview area to select the actual area that you want to scan. Clicking the Preview button causes the Selection Tool to automatically appear as a rectangle with dotted lines on the preview image. You may adjust the size and shape of the Selection Tool.

To Specify the Scan Area with the Selection Tool



Adjust the size and position of the Selection Tool.

- Placing the mouse cursor over the dotted line of the Selection Tool causes the cursor to change into one of four shapes [↑] [←] [↘] [↙]. Dragging the Selection Tool with the mouse cursor changes the shape of the Selection Tool.
- Change the position of the Selection Tool by clicking on its center and keeping the mouse button depressed until the cursor changes into an omni-directional arrow [⊕]. Dragging the cursor in this state will cause the Selection Tool to move without changing its shape.



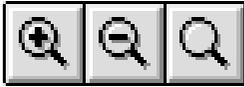
- Clicking the mouse button outside the Selection Tool causes the selected area to be deselected.
- Double-clicking the mouse button anywhere in the Preview window selects the entire image.



Hint

- There are two methods of changing the size and shape of the Selection Tool. The horizontal and vertical dimensions can be changed independently or in a fixed ratio. The fixed ratio can be altered by changing the [Aspect Ratio] setting in the [Preferences] menu of the control panel. See [Setting Preferences \(p. 28\)](#).
- To specify small areas with precision, it is convenient to expand the preview display with the Zoom In button. See [Zooming on the next page](#).

Zooming



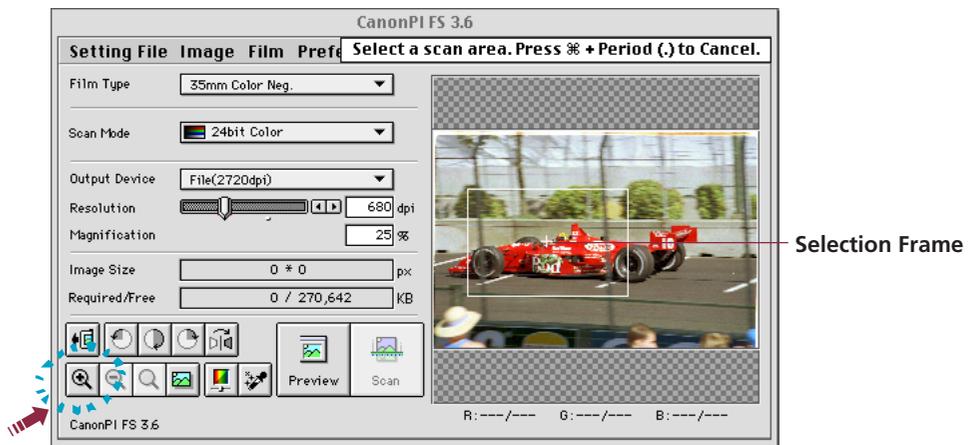
Plug-in module FS is equipped with a zoom function that permits the enlarged display of a specified portion of the preview image. Use the zoom function to specify the scan area with high precision or to select small areas.

To Zoom In



Click on the Zoom In button.

- A selection frame with solid lines will appear on the preview image.
- The size and shape of the selection frame cannot be altered.



Place the mouse cursor inside the selection frame.

The mouse cursor will change to a [+] shape.



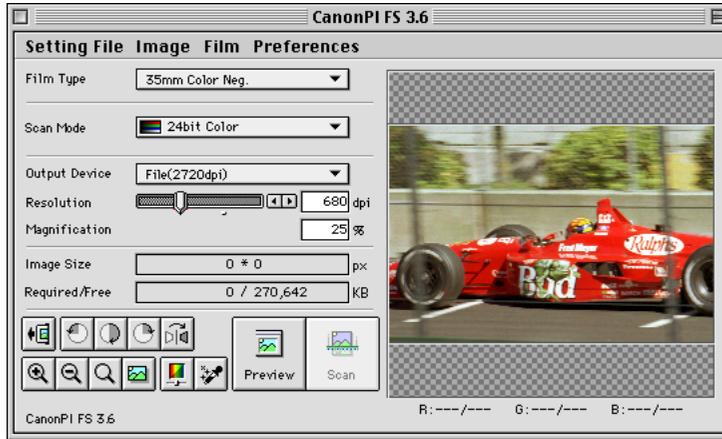
Drag the selection frame to the desired position.

Moving the mouse cursor will cause the selection frame to move with it.



Click the mouse button.

The selected area will be displayed in expanded form.



- To return to normal view, click the Zoom Out button.
- If you click the Zoom Reset button, the image returns to the previous size.



Hint

An image that appears in the Preview window at the normal size can be zoomed four times successively. An image appearing at a magnification of 2 times can be zoomed three times successively. See Preview Window Size (p. 31).

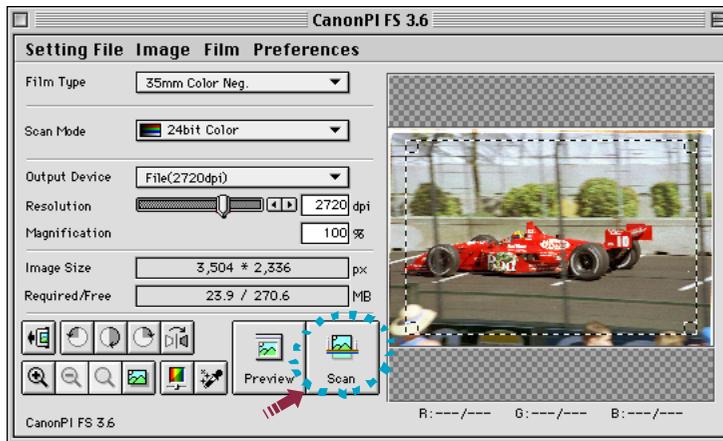
Scanning



After you complete the preparations for scanning, the original may be scanned and displayed in the Photoshop window.

To Initiate the Scan

- 1 **Specify the Scan Area**
See Aspect Ratio (p. 28).
- 2 **Click on the [Scan] button.**



- A few seconds after you click the Scan button the system will scan and acquire the image.
- The Plug-in module FS control panel will close and the Photoshop window will open and display the acquired image.



Hint

- If the selected Scan Area is too small (less than 64 x 64 pixels), the Scan button will not respond to a mouse click.
- Even after scanning is complete, there may be occasions when the Plug-in module FS control panel does not close. You can correct this with the [Preview Window] command on the [Preferences] menu. (p. 31)

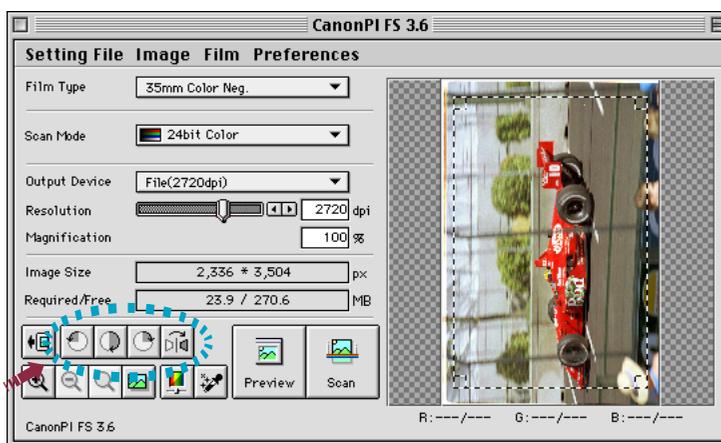
Rotating or Reversing Images Before Scanning



An image may be rotated or reversed before scanning. As with a normal scan, Plug-in module FS automatically closes and returns to Photoshop once the scan is complete.

To Change the Orientation of an Image

- 1 **Specify the Scan Area**
See Aspect Ratio (p. 28).
- 2 **Click on any one of the** [180° Clockwise Rotation], [90° Clockwise Rotation], [90° Counterclockwise Rotation], or [Flip] buttons.



The image will be rotated or flipped in the Preview window.

- 3 **Click on the [Scan] button.**
 - The scan will initiate.
 - The Plug-in module FS control panel will close and the Photoshop window will open and display the acquired image.



Hint

- If the selected Scan Area is too small (less than 64 x 64 pixels), the Scan button will not respond to a mouse click.
- Even after scanning is completed, there may be occasions when the Plug-in module FS control panel does not close. You can correct this with the [Preview Window] command on the [Preferences] menu. (p. 31)

Saving Scanned Images

Scanned images are saved in Photoshop.

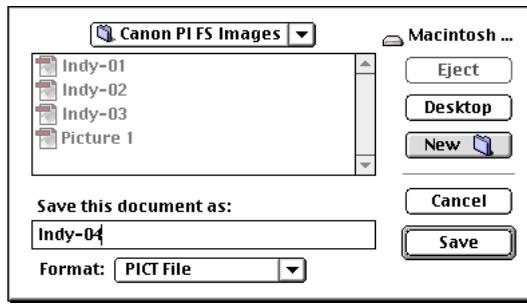
Before you save a scanned image in Photoshop, you must select the file type for the saved image and select other settings. On the Macintosh the PICT and TIFF file types are commonly used for saving scanning images. The procedure below describes saving a scanned image as a PICT file with Photoshop LE. For details about using Photoshop LE, refer to the Photoshop LE electronic manual.

Procedure



Click on the Photoshop LE [File] menu and select [Save].

The Save dialog box will appear.



Select the destination (folder), file name, and file type for the image you are going to save.

In this example, PICT is selected as the file type.

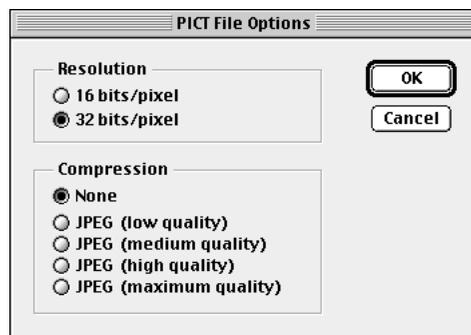


Click the Save button.

The PICT File Options dialog box will open.



Click the radio buttons to select the options and click the [OK] button.



S T E P 4

Adjusting and Editing Scanned Images

Scanned images may be corrected for brightness and color tone or edited in a variety of ways.

The potential adjustments vary with the type of scan mode utilized in the original scan.

Adjustments to the scanned image may be made after the image is previewed.



Color Mode

- Color Correction: Histogram Settings → p. 48
- Color Correction: Brightness and Contrast Settings → p. 50
- Color Correction: Color Balance → p. 52
- Color Correction: Tone Curve Settings → p. 54
- Color Correction: Gamma Value Settings → p. 56
- Auto Tone Correction (ColorSync™) → p. 64



Grayscale Mode

- Color Correction: Histogram Settings → p. 48
- Color Correction: Brightness and Contrast Settings → p. 50
- Color Correction: Tone Curve Settings → p. 54
- Color Correction: Gamma Value Settings → p. 56



Black & White Mode

- Color Correction: Threshold → p. 58

Adjustments Independent of Mode

- Film Correction: Focus Correction → p. 60
- Film Correction: Exposure Adjustment → p. 62
- Saving/Recalling Settings → p. 65
- Editing Scanned Images → p. 67

Optimum Adjustments for Image Quality

(Using color and film correction)

Are you satisfied with the quality of the preview image?

You can create images of acceptable quality with the Plug-in module FS 3.6 default settings. However, if there is a problem with the original film that requires correction, you can use the color correction or film correction features to correct the problem. This section provides an overview of the methods you can use to correct minor problems in images. For details about a method, refer to the referenced page.

Image brightness, tone okay?



Yes No adjustments are required. Scan and acquire the image.



No Image blurred ...

Color correction with Contrast

Correct the difference in light and darkness. (p. 50)

-or-

Correct the focus

You can correct the focus for the preview image or scanned image. (p. 60)



Particular color too bright, too pale

Color correction with Color Balance

Correct the balance of the three colors: R (red), G (green), B (blue). (p. 52)



No Too bright, too dark ...

Corrected in the display image.



Yes Color correction with the Gamma setting.



No Problem affecting whole image or only part?

Entire image

Color correction with Brightness

Adjusts the overall brightness of the image. (p. 50)

-or-

Focus Correction

Adjusts the amount of light (exposure) striking the film and adjusts the brightness of the image. (p. 62)

Only part of image

Color correction with Histogram

Adjusts the highlights and shadows and smoothes the mid-range brightness of the image. (p. 48)

-or-

Color correction with Tone Curve

Adjusts the balance between light and dark for input and output for image brightness. (p. 54)

* These and other attributes, like obvious noise, can also be corrected in Photoshop.

Color Correction

Plug-in module FS 3.6 scans and builds images in increments of single, square dots. Each dot contains the attributes for the brightness and color of the image (tone). Plug-in module FS 3.6 provides six tools which you can use to correct color in images.

Histogram (p. 48)



A histogram allows you to view how much brightness falls into each brightness setting. You can use the histogram to change the distribution of the brightness settings between bright levels (highlights) and dark levels (shadows) in the following types of files: 8-bit grayscale, 12-bit grayscale, 24-bit color and 36-bit color.

Brightness/Contrast (p. 50)



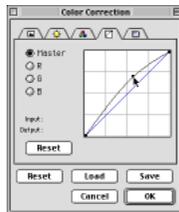
Brightness is the overall amount of lightness or darkness in an image. Contrast is the difference between the lightest and darkest parts of an image. Before scanning and acquiring an image, you can make adjustments if the original is too bright, too dark or blurred. You can use Brightness/Contrast to adjust the following types of files: 8-bit grayscale, 12-bit grayscale, 24-bit color and 36-bit color.

Color Balance (p. 52)



Color Balance allows you to adjust the color balance for each primary color: R (red), G (green) and B (blue). Adjust colors before scanning if they are too strong. You can use Color Balance with the following types of files: 24-bit color and 36-bit color.

Tone Curve (p. 54)



Tone Curve allows you to adjust the differences in light and darkness between the input and output image.

With the Tone Curve you can adjust the overall brightness and tone of the image and smooth the image much easier than with the Histogram.

You can use the Tone Curve with the following types of files: 8-bit grayscale, 12-bit grayscale, 24-bit color and 36-bit color.

Gamma (p. 56)



Gamma allows you to enhance the overall image. Use Gamma adjustment when the color of the original does not match the color of the displayed image. You can use Gamma with the following types of files: 8-bit grayscale, 12-bit grayscale, 24-bit color and 36-bit color.

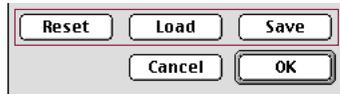
Threshold (p. 58)



Threshold adjusts the brightness of an image by digitizing it i.e. determining which gray pixels become black and which become white. You can use Threshold only with a monochrome document.



Color Correction Dialog Box



Save — Saves the image with the specified file name and color correction attributes.

Load — Loads the image with the specified color correction attributes.

Reset — Resets every feature with its default setting.



Displays the RGB values of the part of the image currently under the mouse cursor and frame in the Preview window. In the dual value display [XXX/YYYY], the first part (XXX) shows the setting after correction and the second part (YYY) shows the value of the current setting in the Preview window. When the image is a 36-bit color image, the values express 8-bit values for each color.

shows the setting after correction and the second part (YYY) shows the value of the current setting in the Preview window. When the image is a 36-bit color image, the values express 8-bit values for each color.

Color Correction - Histogram Setting



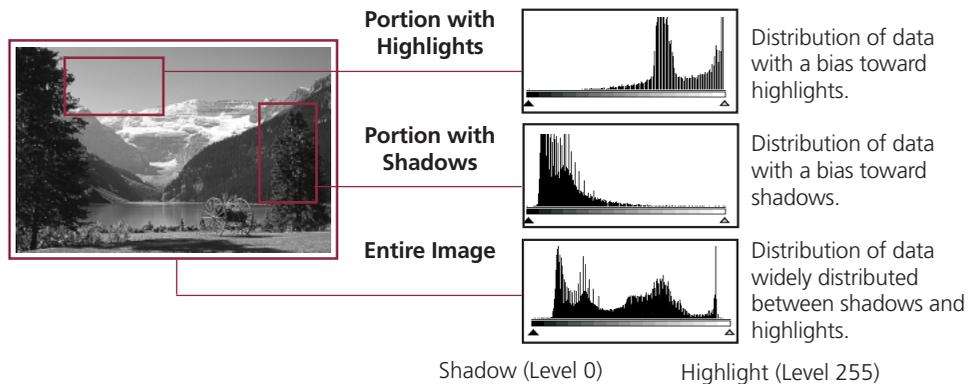
The data comprising an image contains a variety of brightness settings ranging from shadows to highlights. These settings are represented in Plug-in module FS by values ranging between 0 and 255. You can use the histogram to adjust the values assigned to particular dot to either 0 or 255, to change the distribution of brightness settings and to control the contrast.



The method is applicable to 8-bit grayscale, 12-bit grayscale, 24-bit color (when ColorSync™ is off) and 36-bit color images.

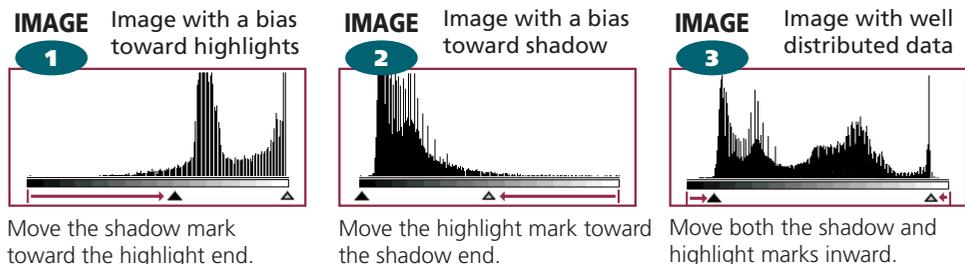
How to Interpret Histograms

You can select the entire image or specify an area for which a histogram will be generated. The height of the peaks of the histogram is directly related to the volume of data with the corresponding value.



How to Adjust Histograms

To change the contrast in an image, the distribution of data between shadows and highlights can be adjusted by dragging the shadow and highlight marks at the bottom of the histogram. All of the data lying to the outside (left) of the shadow mark is changed to a zero value and all of the data lying to the outside (right) of the highlight mark is changed to a 255 value. The examples below show adjustments to improve the contrast. Leave the setting on Auto Correction for histogram correction of most scanning jobs.



To Adjust a Histogram Automatically

- 1 Specify the area of the image (the entire area to be scanned) for which a histogram will be generated. See **Aspect Ratio** (p. 28).
The histogram will not display correctly if an extremely small area is selected. To select small areas, first expand the display with the Zoom In button. See **Zooming** (p. 39).
- 2 Click on the  **[Auto Correction]** button.
The Histogram is automatically corrected.



To Adjusting a Histogram Manually

- 1 Click the  **[Color Correction]** button.
The Color Correction dialog box will display.



- 2 Click the histogram tab and perform the histogram settings.

Click the button for the channel you want to adjust.

- Click this bar to move the shadow/highlight setting mark.
- Drag the slide bar to set all data levels to the right of the mark to shadows.
- Drag the slide bar to set all data levels to the right of the mark to highlights.
- Displays the values for the highlight mark position. To enter a value click  or  or enter a number directly into the entry box.
- Click this button then click directly on the image to change it to a highlight value.
- Automatically corrects the position of a shadow or highlight mark.
- Click this button then click directly on the image to change it to a shadow value.
- Displays the values for the shadow mark position. To enter a value click  or  or enter a number directly into the entry box.
- Resets the shadow or highlight of the selected channel to the default setting.

Color Correction - Brightness and Contrast Settings

Adjusting the brightness and contrast sliders corrects the color tone. If the original image is too dark, too light or indistinct, use these settings to correct the image. The method is applicable to 8-bit grayscale, 12-bit grayscale, 24-bit color (when ColorSync™ is off) and 36-bit color images.

Adjusting Brightness

Adjust the brightness of the entire image.

This method is effective for adjusting the color tone when the entire image is too dark or bright. However, one must be careful not to raise the respective values too high or low to avoid creating excessive highlights or shadows.

Brightness = 128 (Standard)



Brightness = 190



Brightness = 80



Adjusting Contrast

Contrast is the degree of variation between light and dark areas.

Raising the contrast accentuates the difference between the light and dark areas.

Lowering the contrast reduces the difference between the two.

Contrast = 128 (Standard)



Contrast = 170



Contrast = 100



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

To Adjust the Brightness and Contrast



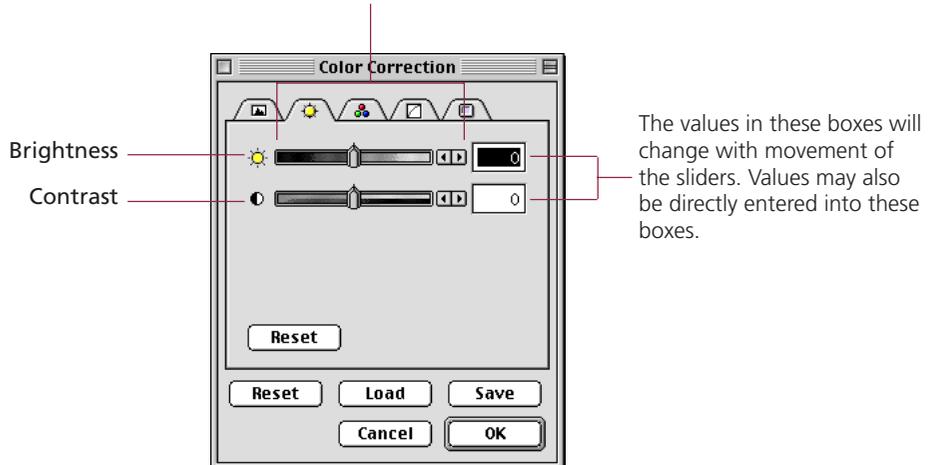
Click on the [Color Correction] button in the control panel.

- The Color Correction dialog box will appear.
- Open the Image Correction menu in the operation panel and select Color Correction to open the Color Correction dialog box.



Click the Brightness/Contrast tab to adjust the settings.

The upper slider is for brightness and the lower for contrast. Change the settings by dragging the sliders in either direction or by clicking on the left or right arrows.

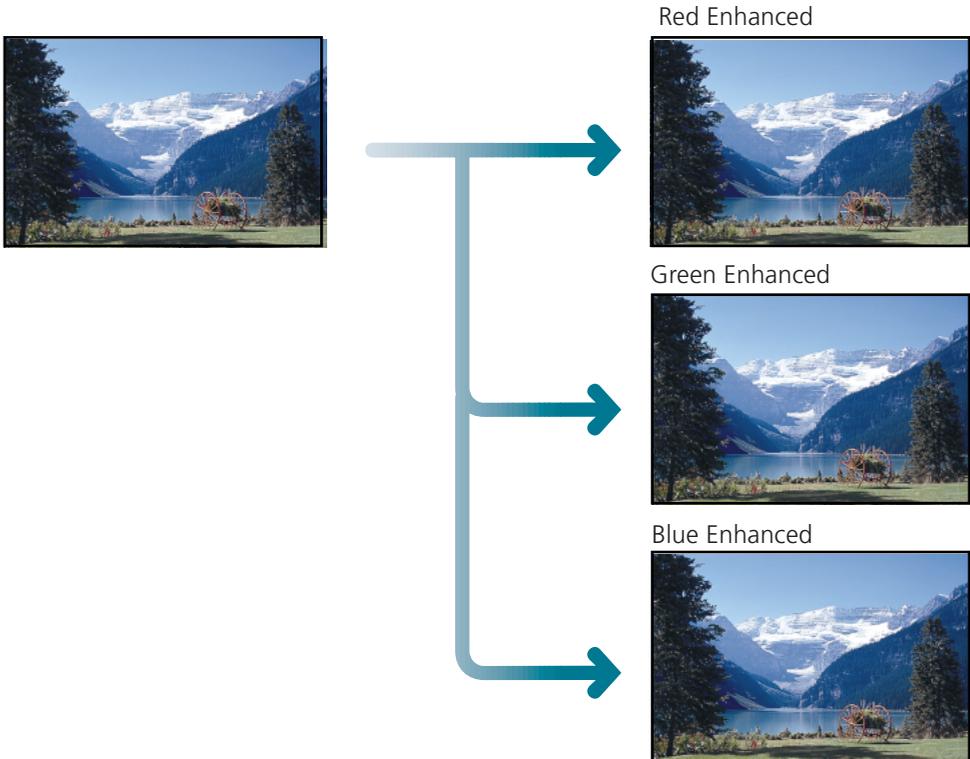


Click on the [OK] button.

The changes will be reflected in the preview image.

Color Correction - Color Balance

Use Color Balance to change the brightness and contrast for each primary color: R (red), B (blue), G (green). You can adjust the color balance with this tool for 24-bit (when ColorSync™ is off) and 36-bit color images.



Procedure



Click the **Color Correction** button.

The Color Correction dialog box will open.

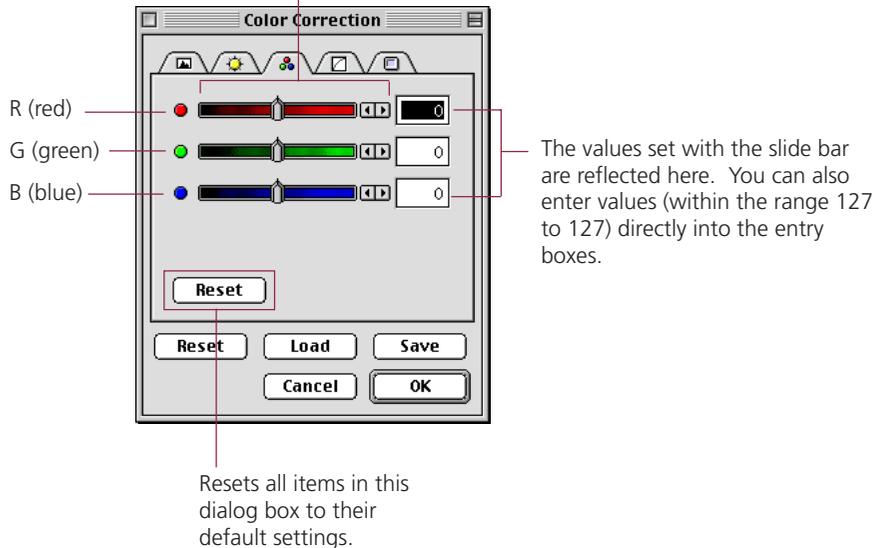
You can also click on the [Image] menu in the operation panel and select [Color Correction] to open the Color Correction dialog box.



Click the **Color Balance** tab and adjust the settings for **R (red)**, **G (green)** and **B (blue)**.

Slider

 Drag the button right or left, or click the left or right arrows   to set the value.



Click the **[OK]** button.

The image is adjusted according to the settings you specified in the dialog box.

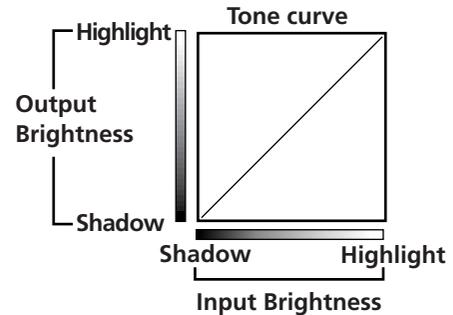
Color Correction - Tone Curve Settings

Precise changes to the tone settings of an image can be made by directly editing the tone curve. This enables you to make subtle changes to the brightness of only the shadows or highlights, if desired.

The method is applicable to 8-bit grayscale, 12-bit grayscale, 24-bit color (when ColorSync™ is off) and 36-bit color images.

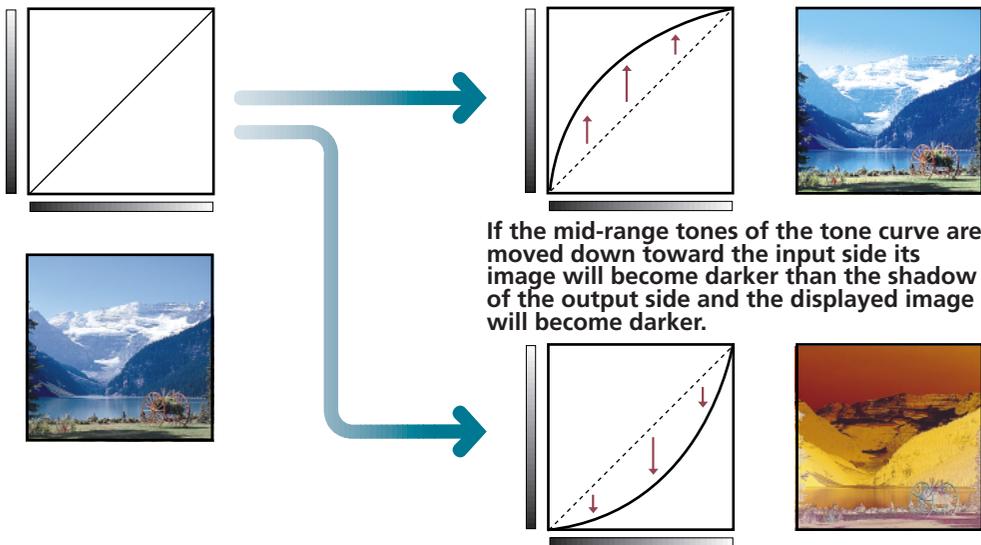
The Tone Curve

In the Plug-in module FS Tone Curve chart, the input is the image received by Plug-in module FS and the output is the image displayed on the screen. The Tone Curve shows the balance between light and darkness in the input and output.



Color Correction with the Tone Curve

The image can be adjusted by changing the shape of the tone curve.



* For the most natural appearance the tone curve should be as smooth as possible. The changes you make in the tone curve are immediately reflected in the preview area so you can try many different settings until you achieve the image you want.

To Edit the Tone Curve

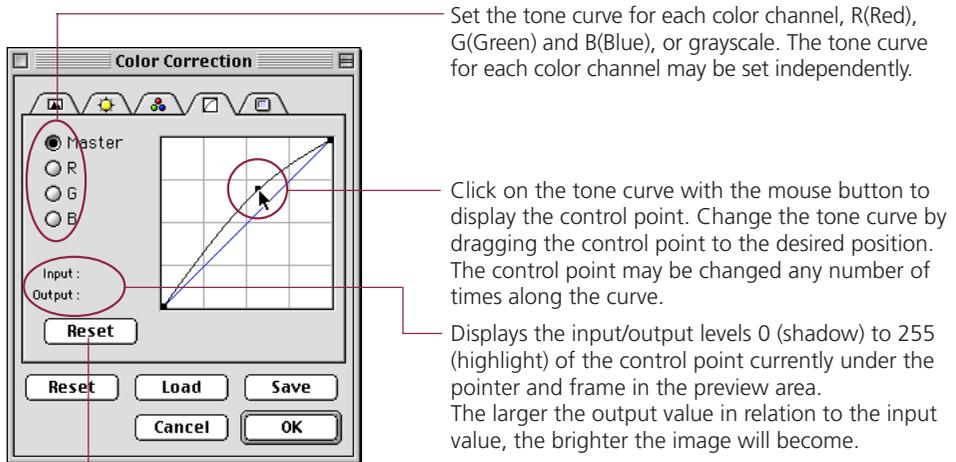
1

Click on the [Color Correction] button in the Control Panel.

- The Color Correction dialog box will appear.
- You can also click on the [Image Correction] menu in the control panel and select [Color Correction] to open the Color Correction dialog box.

2

Click on the [Tone Curve] tab and edit the tone curve.



Click to restore the default tone curve setting.

3

Click on the [OK] button.

The changes will be reflected in the preview image.

Color Correction - Gamma Value Settings

You can adjust the color by changing the gamma value for the display monitor. This method is suitable for matching the image output to the particular characteristics of the display monitor in use. The method is applicable to 8-bit grayscale, 12-bit grayscale, 24-bit color (when ColorSync™ is off) and 36-bit color images.

Matching the Gamma Value to the Display Characteristics

The relationship between the data sent to a display monitor (input) and the data shown on the display (output) is expressed as the display monitor gamma value. Different display monitors may have different gamma values, which typically range from 1.4 to 2.2. Without adjustment, most display monitors reproduce images slightly darker than the original. Plug-in module FS can automatically adjust the gamma value for faithful reproduction if the display monitor has a gamma value of 1.4. Display monitors with other default gamma values have to be set manually.

Gamma value

Plug-in module FS and the display monitor have different gamma values. During a scanning job, Plug-in module FS receives the image from the scanner as input and sends it to the parent application as output. The gamma value in this interval where Plug-in module FS converts input to output is the Plug-in module FS gamma value. On the other hand, the data received from Plug-in module FS as input is sent to the display monitor as output. The gamma value in this interval where the image input from Plug-in module FS is converted to output for the display monitor is the display monitor gamma value.

Setting the display monitor gamma value causes the scanner gamma value to be calibrated automatically as the inverse value. For example, if the display monitor gamma value is set to 1.4, then the scanner gamma value is calibrated at 0.71 (the inverse of 1.4).



Hint

- Please read the documents shipped with your display or contact the manufacturer's customer service department to obtain the correct gamma value for your particular display model.
- If you intend to adjust the color tone with ColorSync™, change the settings in the ColorSync™ System control panel (found within the Control Panels folder) and do not manually change the gamma value settings as described in the following pages. See Auto Tone Correction (ColorSync™) (p. 64).

To Change the Gamma Value Settings



Click on the [Color Correction] button in the control panel.

- The Color Correction dialog box will appear.
- You can also click on the [Image Correction] menu in the operation panel and select [Color Correction] to open the Color Correction dialog box.



Click on the [Gamma Value] tab and edit the gamma value.

To select a custom value click this button then enter the gamma value manually.

Click the button for the gamma value you want to use.

Select a gamma value between 0.10 and 10.00.

Click to restore the default gamma setting.

Slider
 Drag the slider button to the left or right, or click  or  to change the value.



Click on the [OK] button.

The changes will be reflected in the preview image.

Color Correction - Threshold

Adjusts the brightness of dithered images

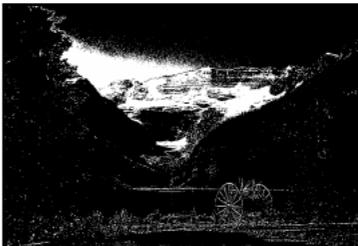
In the dithering mode, the mid-tones of a photograph, are converted to either black or white based on the threshold setting. The threshold setting is the point at which a gray pixel is judged to become either black or white. The setting can be specified as a number in the range from 1 to 255.

Pixels judged to be below the threshold setting are converted to black and those above the setting are converted to white. Therefore, the higher the threshold setting, the darker the image, and the lower the threshold setting, the lighter the image.

Threshold = 128 (standard)



Threshold = 180



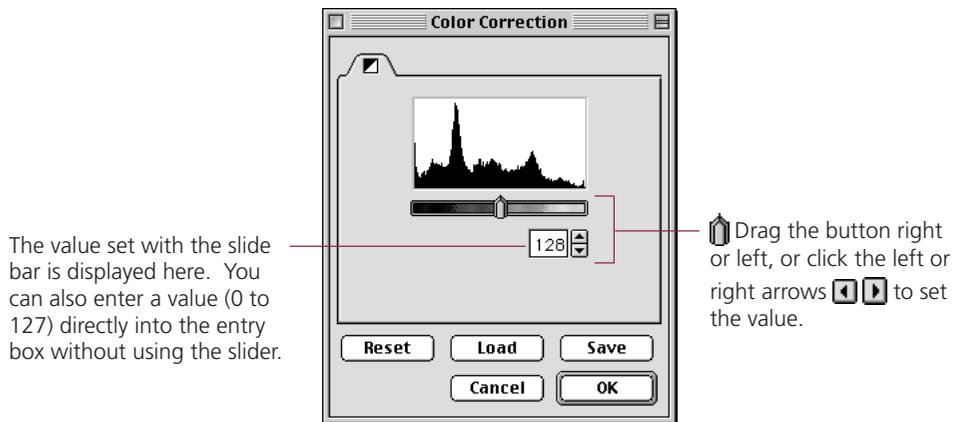
Threshold = 70



Procedure

- 1 **Click the [Clor Correction] button.**
 - The threshold panel is displayed in the Color Correction dialog box.
 - You can also click on the [Image] menu and select [Color Correction] to open the Color Correction dialog box.

- 2 **Set the threshold.**



- 3 **Click on the [OK] button.**

The changes will be reflected in the preview image.

Film Correction - Focus Correction

Film placed within a scanner may shift position to a small extent, throwing the focus out when scanning or previewing. To scan correctly, it may be necessary to adjust the focus. This can be accomplished manually or automatically. You are recommended to try auto focus first. If an image remains blurred, you can then try to focus it manually.

Auto Focus

The auto focus function automatically corrects the focus. Selecting auto focus causes the scanner to automatically adjust the focus setting before previewing, scanning or zooming.



Hint

The auto focus function is generally activated only for the preview scan and not for the actual scan, browser, or zoom operations. However, the auto focus can be set to scan for all operations with the Preference settings. See Setting Preferences (p. 26).

Manual Focus

The focus can be changed manually while watching the preview image. This permits the user to make precision adjustments to the focus. Once the manual focus is used for an image, the preview, scan and zoom operations can't be adjusted automatically.



Hint

If the image remains blurry even after adjusting the focus manually, check the original image. If the original is focussed, try adjusting the contrast (p. 50), or edit the scanned image with Photoshop.

To Select Focus

- 1 Click on the [Film] menu and select the [Focus] option.



The Manual Focus dialog box will appear.

- 2 Click the [Auto Focus] button to select automatic image focus.
If you want to select manual focus, click the [Manual Focus] button, then adjust the focus manually.

Focus Setting Dialog Box

 A screenshot of the "Focus Settings" dialog box. It features two radio buttons: "Auto Focus" (unselected) and "Manual Focus" (selected). A slider is positioned between them, with a value of "9" displayed to its right. Below the slider is a text input field containing the number "9". At the bottom are "Cancel" and "OK" buttons. A red line connects the "Auto Focus" button to a callout box on the right. Another red line connects the "Manual Focus" radio button to a callout box on the left. A third red line connects the slider to a callout box on the right. A fourth red line connects the input field to a callout box on the right. A fifth red line connects the "OK" button to a callout box on the right.

Drag the slider left or right or click on the left or right direction arrows to change the focus setting.

The value in the box will change as the slider moves or direction arrows are clicked. A value may also be input directly into the box without moving the slider.

Automatically adjusts the focus. The results of the adjustments are reflected in the position of the slider and the value in the box above.

Returns the setting to its state when this dialog box was opened.

The results are displayed in the Preview window.

- 3 Click on the [OK] button.

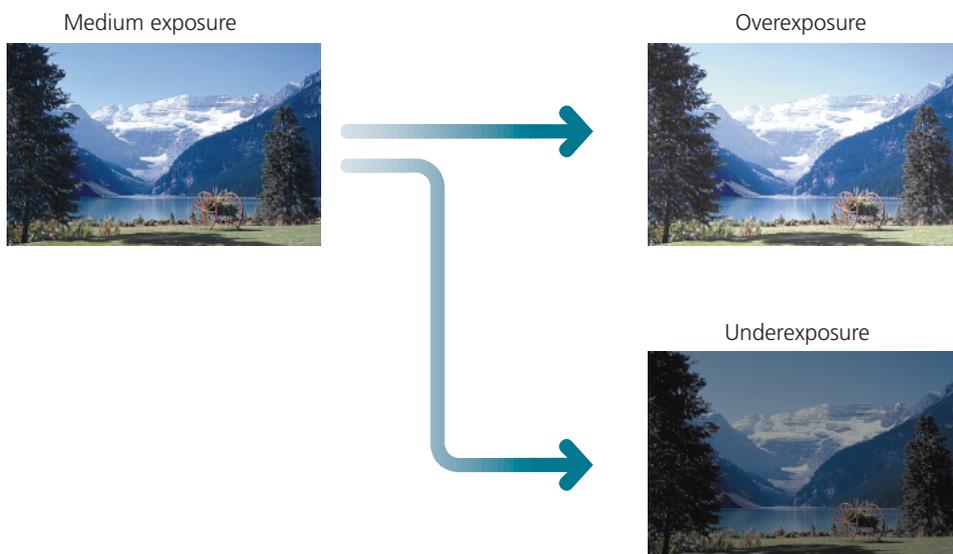


Hint

The change in focus will not be reflected in the preview area after you click the OK button in the Focus setting dialog box. The new focus value will not be enabled until the image is acquired again.

Film Correction — Exposure Adjustment

Film is scanned by collecting the light that is passed through it. This makes it possible to adjust the brightness of the image by changing the amount of light (exposure) used to scan it. This is adjusted by changing the scan speed. With the Auto setting in Plug-in module FS, exposure adjustment is automatic. This setting should be used for most scanning jobs. If, however, you cannot achieve the effect you want with the Auto setting, you can manually overexpose or underexpose the image to create a special effect. Overexposing the image produces a lighter image. The scanning speed will be accelerated for negative film and slowed down for positive film. Underexposing the film produces a darker image. The scanning speed will be slowed for negative and film and accelerated for positive film.



Hint

- If you are using the FS2710, positive film can be adjusted by three exposure stops and negative film by five stops.
- If you are using the 2700F, negative film can be adjusted by five stops. The exposure of positive films cannot be adjusted.

Procedure

- 1 Click on the [Film] menu and select [Exposure].



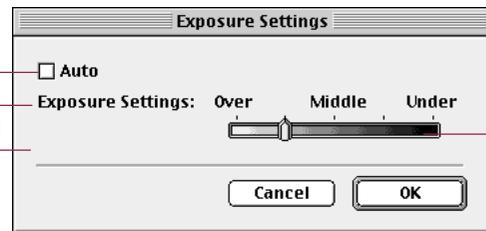
- The Exposure Setting dialog box will appear.

- 2 Adjust the exposure

To select Auto, click the check box.

These settings can be adjusted when Auto is not selected.

Exposure Setting dialog box (for FS2710)



Slider

- Drag the slider button to the left or right.

- 3 Click the [OK] button.



Hint

- If you are using the 2700F and you turn off (uncheck) the Auto setting, the Film Type setting must be set manually. The film type corresponds to the maker and product name. (p. 72)

2700F Film Type Settings

The colors used in the film base of negative films varies between manufacturers and individual products. To adjust the exposure manually with the 2700F, you must specify the film type to reproduce image colors correctly. This is not required for positive films because the film base is not colored.

Auto Tone Correction (ColorSync™)

When the scan mode is set to 24bit Color, color correction is automatically conducted by the ColorSync™ function. The ColorSync™ function automatically matches the tones produced and displayed by scanners, displays and color printers. Optimal color correction is achieved with ease without having to make adjustments with the histogram or other color correction functions.



Caution

More time is required to start the program and scan when the ColorSync™ function is activated.



Hint

- ColorSync™ responds differently to each computer according to the unique conditions affecting it (type of display used, etc.), which may cause differences even between computers of the same make and system version. The tone characteristics of an image scanned with ColorSync™ on one computer, therefore, may change when processed on another computer.
- Color correction using the histogram function and gamma value settings can't be conducted when the ColorSync™ function is activated.
- If you are using auto tone correction to match the gamma value of your display, double-click the [ColorSync™ System] control panel icon and select from among the following settings:
 - CANON gamma 1.5 monitor
 - CANON gamma 1.8 monitor
 - CANON gamma 2.1 monitor

To Activate the ColorSync™ Function



Click on the [Image] menu and select the [ColorSync] option.



Color correction will occur automatically. Auto tone correction requires some time to process.

Saving / Recalling Settings

The film type, scan mode and preference settings can be saved to a settings file and recalled for future processing. The user may freely assign a name to the settings file. It is convenient to save frequently used settings to a file.



Hint

In addition to settings, the settings file may also be used to store preview images. It is useful to save the preview image with the settings to quickly grasp to which image the settings apply (*p. 19*).

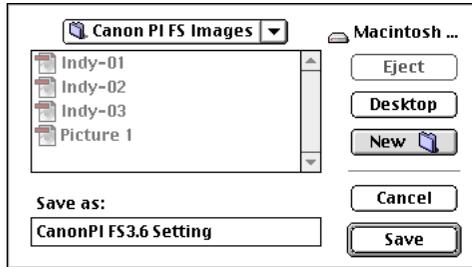
To Save Settings in a Settings File



1 Click on the [Setting File] menu in the control panel and select the [Save] option.



2 Specify the folder and file name.



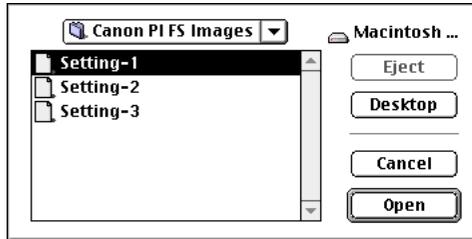
3 Click on the [Save] button.

To Recall a Settings File

- 1 Click on the [Setting File] menu in the control panel and select the [Load] option.



- 2 Specify the file to open.



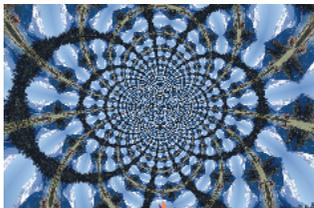
- 3 Click on the [Open] button.
All the control panel settings saved in the selected settings file are enabled and replace the current settings.

Editing Scanned Images

Scanned images can be edited as required using Photoshop. In this example, we provide a simple demonstration of how to use the filter functions of Kai's Power Tools®, a plug-in module for Photoshop. For details about the editing methods, see the Photoshop electronic manual.

Many special effects may be achieved with filters.

[Filter] menu
KPT2.1, KPT Vortex Tiling 2.1



[Filter] menu
KPT2.1, KPT Pixel/Breeze 2.1



Original



[Filter] menu
KPT2.1, KPT Gaussian Static 2.1



[Filter] menu
KPT2.1, KPT Glass Lens/Standard 2.1

Appendices

Troubleshooting	→	<i>p. 69</i>
Error Messages	→	<i>p. 71</i>
List of Film Types	→	<i>p. 72</i>
Glossary	→	<i>p. 73</i>
Index	→	<i>p. 75</i>
Customer Support Help Desk	→	<i>p. 78</i>

Specifications

System Requirements

Supported Computers: Macintosh or Power Macintosh computers equipped with a CD-ROM drive and hard disk drive.

Memory Requirements: 12 MB

System Software: System 7.1 or later

Supported Scanners: CanoScan 2700F, CanoScan F52710 Color Film Scanner

Functional Specifications

Interface: Auto Detection of SCSI Scanner

Scan Modes: Black & White, 8bit Grayscale, 12bit Grayscale, 24bit Color, 36bit Color

Tone Settings: 255 Gradations

Contrast Settings: 255 Gradations

Density Settings: 255 Gradations (only for Black & White mode)

Gamma Curve: Gamma Curve May Be Edited

Scanning Resolution: 2720 dots per inch

* These specifications are subject to change without notice.

Troubleshooting

Please refer to the following information if you encounter a problem using Plug-in module FS. For further details, refer to the troubleshooting sections of the **Getting Started Guide** and **Scanning Guide**.

If your problem lies outside the solutions provided below, consult the retail outlet from which you purchased the software or the closest **Canon Customer Help Support Desk**.



Problem: Plug-in module FS does not appear on the plug-in module menus for Photoshop.

➤Solution: Plug-in module FS is not correctly installed on your hard disk drive. Refer to Installing Plug-in module FS (p. 12) and reinstall the software.



Problem: The image will not appear even if the Preview button is clicked on the Plug-in module FS control panel.

➤Solution 1: If more than one SCSI device is in use, check to ensure that each device has been assigned a unique SCSI ID and none are duplicated. If duplication has occurred, assign a unique SCSI ID to the scanner.

➤Solution 2: Ensure that the SCSI terminator setting is correct. Refer to the **Getting Started Guide** for an explanation of the correct SCSI terminator settings.

➤Solution 3: Ensure that the film is correctly placed in the scanner.

➤Solution 4: The brightness settings for Plug-in module FS may be set too high. Try lowering the brightness settings. Refer to Color Correction: Brightness and Contrast Settings (p. 50).

➤Solution 5: The threshold setting for Plug-in module FS may be set to high. Try lowering the threshold setting. Refer to Color Correction - Threshold (p. 58).



Problem: The “Insufficient Memory” error message appears when scanning.

- Solution 1: Select the smallest possible area and rescan.
- Solution 2: Lower the resolution and magnification settings for the output device to the lowest possible values (pp. 23 - 25) .
- Solution 3: Close all application programs except Photoshop and rescan.



Problem: Clicking the [Scan] button fails to initiate a scan.

- Solution 1: Unless the area of the image to be scanned is selected in the Preview window, the scan button will be inoperative. Select an area to be scanned.
- Solution 2: The selected area is too small (Within 64 x 64 pixels). Select a larger area.



Problem: The color correction function will not work.

- Solution: Color correction can't be utilized in the Black & White mode or when ColorSync™ is active in the color mode. Set the mode to Grayscale or Color with the ColorSync™ inactive before attempting the color correction.

Error Messages

Error Message	Cause	Response
Scanner is Not Detected	<ul style="list-style-type: none"> The power cord, SCSI cable or terminator is not properly connected. The scanner power switch is set to Off. 	<ul style="list-style-type: none"> Connect the SCSI cable securely to the Macintosh and ensure the terminator setting is correct. Turn the scanner power switch to the On position.
Scanner Initializing	<ul style="list-style-type: none"> The scanner power switch has just been turned on. 	<ul style="list-style-type: none"> Wait a moment before restarting Plug-in module FS.
Cannot Communicate with Scanner	<ul style="list-style-type: none"> The power cord, SCSI cable or terminator is incorrectly connected. The scanner power switch is set to Off. The scanner's SCSI ID is incorrectly set. 	<ul style="list-style-type: none"> Ensure the SCSI cable is securely fastened to the Macintosh and scanner, and set the terminator to an appropriate setting. Turn the scanner power switch to the On position. Ensure that the SCSI ID is set to a unique value not duplicated by other SCSI devices.
Minimum Memory Requirements Not Met. Retry after Increasing Free Memory.	<ul style="list-style-type: none"> Memory is insufficient for the required volume of the scanned image data. 	<ul style="list-style-type: none"> Reduce the scan area to the minimum possible scope and lower the resolution and magnification settings for the output device. Close application programs other than Photoshop. Increase the memory allocated to Photoshop.
Home Position Not Detected	<ul style="list-style-type: none"> The lamp is burnt out. 	<ul style="list-style-type: none"> Contact your nearest Canon Customer Support Help desk.
An error has occurred. (Sense Code=xx, Additional Sense Code=xx, Additional Code Condition=xx)	<ul style="list-style-type: none"> Another error has occurred. 	<ul style="list-style-type: none"> Note down the Sense Code, Additional Sense Code and error message and contact the nearest Canon Customer Support Help desk.

List of Film Types <2700F only>

35 mm Film

Film Manufacturer	Film	Film Type
Fuji	HG100	A
	HG400	C
	REALA	B
	REALA ACE	B
	SUPER G100	A
	SUPER G200	B
	SUPER G400	B
	SUPER ACE G100	C
	SUPER ACE G400	C
	SUPER V 100	C
Kodak	EKTAR 25	C
	EXTAR 100	A
	GOLD 100	B
	GOLD 400	C
	SUPER GOLD 100	B
	SUPER GOLD 200	B
Konica	SUPER GOLD 400	B
	DD 100	D
	DD 400	D
	IMPRESA 50	C
	JX 100	C
	LV 100	C
	LV 200	C
AGFA	LV 400	C
	XG 400	C
	HDC 100	A
	HDC 400	D
	OPTIMA 100	A
	OPTIMA 400	D
	ULTRA 50	A
	XRG 100	D
	XRG 200	D
	XRG 400	D
XRS 100	C	
XRS 400	C	

IX240 Film

Film Manufacturer	Film	Film Type
Fuji	nexia F	B
	nexia A	B
	nexia H	B
Kodak	ADVANTIX 100	A
	ADVANTIX 200	A
	ADVANTIX 400	A
Konica	JX 400	B
AGFA	FUTURA 100	A
	FUTURA 400	B

Glossary

12-bit grayscale image

An image which can display 4,096 gradations over the range of white, gray, and black. However, there is no difference in appearance between a 12-bit grayscale image and an 8-bit grayscale image on the screen.

24-bit color image

An image which can display 256 gradations (8 bits x 3) for each RGB color for a total of 16.7 million colors (256 x 256 x 256).

36-bit color image

An image which can display 4,096 gradations (12 bits x 3) for each RGB color for a total of 67.8 billion colors (4096 x 4096 x 4096).

8-bit color image

An image which can display 256 gradations over the range of white, gray, and black.

Dot

The fundamental element of a letter, object or image. The number of dots per inch (dpi) determines the resolution (or density) of a letter, object or image.

Gamma Correction

The process whereby variations in color tones from the output of monitors, printers and other output devices are made consistent with the source (input) document. With Plug-in module FS, gamma correction for a monitor can be conducted with the Gamma Value Settings function. Gamma values are expressed as numbers: 1 is the standard value, numbers lower than 1 brighten the output and numbers higher than one darken the output. A graph function, the Tone Curve (gamma curve), is also available in Plug-in module FS to make adjustments to gamma values ([p. 56](#)).

Image File

A computer file generated by scanning an image or by creating an image with an image editing software program, such as Photoshop. An image file is generally comprised of bitmap data, a collection of color information corresponding to each dot of an image. There are many formats for image files, including the TIFF, PICT and BMP formats.

IX240 Film

IX240 film, also referred to as APS film, is film which meets APS standards. APS means "Advanced Photo System". The width of this film is 24 mm and the image size is 17 x 30 mm. This is a miniature film in comparison with the popular 35 mm film. When this film is sent out for processing, it is returned in the original cartridge just as it was sent out.

Negative Film

Negative film can be either monochrome (black and white) or color film, but "negative film" generally refers to color negative film. Negative film is used to make color prints where the light and dark colors of the image are reversed and colors are converted to their complements. For example, blue is reversed to yellow, and yellow to blue. Just by looking at the image, you cannot recognize the original colors. A fundamental characteristic of color negative film is that it uses orange as its base color.

Positive Film

Film used as transparencies for projection on screens and other media or used to make printing plates. Colors (light and dark areas) appear on the film in the same order as the original photographic subject.

Preview

See the entry for Scanning.

Resolution

An expression of the density of dots in an image file that indicates the extent of its granularity. Generally expressed as the number of dots per inch (dpi).

RGB

An acronym for the base colors red, green and blue used in varying combinations to reproduce the full spectrum of colors on monitors and other output devices.

Scanning

The process of using a scanner to read a film image electronically. Before the final scan, a preview scan is generally conducted. The preview scan encompasses the entire scope of the target film and only provides a general indication of the image that may differ from the final scan. The final scan is executed after specifying the area of the image to be scanned and various settings that determine how the scan is conducted.

Index (A - F)

Symbols

[180° Clockwise Rotation] button **5, 42**
 [90° Clockwise Rotation] button **5, 42**
 [90° Counterclockwise Rotation] button **5, 42**
 [Auto Correction] button **5, 49**
 [Browser] button **5, 9, 35**
 [Color Correction] button **5, 49**
 [Eject] button **5**
 [Flip] button **42**
 [Preview] button **5, 8, 19**
 [Reverse] button **5**
 [Scan] button **10, 41**
 [Zoom In] button **5, 39**
 [Zoom Out] button **5, 40**
 [Zoom Reset] button **5, 40**
 12-bit grayscale image **73**
 12bit Grayscale mode **20**
 24-bit color image **73**
 24bit Color mode **21**
 36-bit color image **73**
 36bit Color mode **21**
 8-bit color image **73**
 8-bit Greyscale image **73**
 8bit Greyscale mode **20**

A

Adobe Photoshop **2, 7**
 Application software **12**
 Aspect ratio
 Classic **28**
 Constrained **28**
 Custom **28**
 Hi-Vision TV **28**
 Independent **28**
 Panorama **28**
 Aspect ratio dialog box **29**
 Auto eject function **34**
 Auto focus **60**
 Auto tone correction **7, 64**

B

Black & White mode **20**
 Brightness **50**
 Brightness and Contrast **46, 50**
 Browser function **7**
 Browser image **36**
 Browser window **36**

C

CanoScan Setup Utility CD-ROM **13**
 Close box **5, 16**
 Color balance **46, 52**
 Color correction **46**
 Color correction dialog box **47**
 ColorSync™ **7, 64**
 Contrast **50**
 Control panel **5, 16**

D

Disk space **22**
 Available space **22**
 Required space **22**
 Display **12**
 Dot **73**
 Dots **73**
 Dynamic preview **7**

E

Editing **67**
 Error messages **71**
 Exposure **62**
 Exposure setting dialog box **63**

F

Film characteristics **18**
 Film manufacturers **72**
 Film type **18, 72**
 Focus **60**
 Focus setting dialog box **61**

Index (G - S)

G

Gamma **47**
 Gamma correction **73**
 Gamma value **56**
 Glossary **73**

H

Hardware **12**
 Highlights **48**
 Histogram **46, 48**
 Histogram function **7**
 Histogram tab **49**

I

Image file **73**
 Installing Plug-in module FS **12**
 IX240 film **73, 74**

L

List of film types **72**

M

Magnification **24**
 Manipulation function **7**
 Manual focus **60**
 Memory **12**
 Menu bar **16**

N

Negative film **74**

O

Operating environment **12**
 Output device **23**
 Output device resolution **24**
 Output device settings dialog box **27**

P

PICT **43**
 Pointer **9**
 Positive film **74**
 Preferences **26**

- Aspect ratio **28**
- Output device **26**
- Preview window size **31**
- Return to default settings **33**
- Selecting the scan settings **32**
- Unit **30**

 Preview **74**
 Preview window **5, 16**
 Preview window settings dialog box **31**
 Previewing **19**

R

Recalling **65**
 Resolution **24, 74**
 RGB **74**
 RGB display **16**
 RGB values **16**

S

Save **43**
 Saving **65**
 Scan area **38**
 Scan button **5**
 Scan mode **20**
 Scan settings dialog box **32**
 Scanning **41, 74**
 Scanning procedures **6**
 Scanning resolution **24**
 Selection frame **9**
 Selection tool **35, 38**
 Shadows **48**
 System software **12**

Index (T - Z)

T

Threshold **47, 58**

TIFF **43**

Tone curve **46, 54**

Troubleshooting **69**

U

Unit dialog box **30**

Unit settings dialog box **30**

V

Verifying the image **35**

Z

Zooming **39**

No part of this guide may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form by any means without the prior written permission of Canon Inc.

Canon Inc. makes no warranties for damages resulting from corrupted or lost data due to the operation or malfunction of hardware and software.

While every effort has been made to ensure that the information contained in this guide is accurate and complete, no liability can be accepted for any errors or omissions. Canon Inc. reserves the right to change the specifications of the hardware and software described within this guide at any time without prior notice.

Please take note that international copyright laws prohibit the scanning of copyright-protected materials for any uses other than for personal use.

Macintosh, Power Macintosh and ColorSync are trademarks of Apple Corporation.
Adobe and Adobe Photoshop are trademarks of Adobe Systems Incorporated.

Canon Customer Support Help Desk

CANON (UK) LTD.

Canon House, Manor Road, Wallington, Surrey SM6 0AJ, United Kingdom

For technical support, please contact the 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

CANON FRANCE S.A.

Centre d'Affaires Paris-Nord, 93154 Le Blanc-Mesnil Cedex, France

Standard: (1) 49 39 25 25

Hotline: (1) 49 39 28 90

Télécopie: (1) 49 39 25 50

CANON DEUTSCHLAND GmbH

Europark Fichtenhain A10, 47807 Krefeld, Postfach 528, 47705 Krefeld, Germany

TEL: 02151/345-0

FAX: 02151/345-102

CANON- Hotline-Service

Customer Support: 02151/349-555

Info-Desk: 02151/349-566

Mailbox: 02151/349-577

Telefax: 02151/349-588

CANON OY AB

Kornetintie, 3, 00380 Helsinki, Finland

CANON SVENSKA AB

S-127 88, Skärholmen, Sweden

CANON DENMARK

Vasekaer 12, DK-2730 Herlev, Denmark

CANON NORGE AS

Hallagerbakken 110, Boks 33, Holmia 1201 Oslo, Norway

CANON BENELUX NEDERLAND B.V.

Neptunusstraat 1, 2132 JA Hoofddorp, The Netherlands

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

Bessenveldstraat 7, 1831 Diegem, Belgium

CANON GmbH

Zetschegasse 11, 1232 Wien, Austria

CANON (SCHWEIZ) A.G.

Industriestrasse 12, CH-8305 Dietlikon, Switzerland

CANON ESPAÑA S.A.

C/Joaquín Costa No 41, 28002 Madrid, Spain

CANON ITALIA S.p.A

Via Mecenate 90-20138 Milano, Italy

TEL: 02 50921

FAX: 02 268 44235

Helpdesk

TEL: 02 669 84383

CANON EUROPA N.V.

Bovenkerkerweg 59-61, P.O. Box 2262, 1180 EG Amstelveen, The Netherlands

CANON INC.

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

Art Direction: Yosbisuke Kuramoto, CDS Inc., Tokyo, Japan
Design: Sumio Koike, J-Cat Communications, Vancouver, Canada
Writing: Ayako Tanaka, CDS Inc., Tokyo, Japan
Translation: Christian R.P. Cowley, Concise Communications Corporation, Vancouver, Canada
Illustration: Torahiko Omura, Moma-room, Tokyo, Japan
Cover Photo: Hideyuki Igarashi & Sumio Koike, J-Cat Communications, Vancouver, Canada
Other Photos: Yosbisuke Kuramoto, CDS Inc., Tokyo, Japan

Canon