

Nikon Film Scanner
SUPER COOLSCAN
8000 ED

Setup

Device Registration
(Windows Only)

Scanning

Film Holders for
the 8000 ED

Nikon Scan

Reference


User's Manual




Scanning Guide

Install Nikon Scan scanner driver software

The procedure for installing the software differs depending on whether you are using a Windows or Macintosh computer.

Windows See  16


Macintosh See  21

Set up the scanner and connect it to your computer

Windows users will need to register the scanner with Windows when connecting the scanner for the first time.


Connect the scanner to the computer. Registration of the scanner as a new device is necessary only under Windows.


Connect the scanner See  25




Register the scanner See  27


Place the film to be scanned in a film holder


Different holders are used for different types of film.

35-mm film (in strips) ▶ Use the FH-835S See  56, 81

35-mm slides ▶ Use the FH-835M See  87

Medium-format (Brownie) film ▶ Use the FH-869S, the FH-869G (available separately), or the FH-869GR (available separately) See  90
See  99
See  103


Medium-format slides ▶ Use the FH-869M (available separately) See  96


Panorama film, electron microscope film, medium-format film ▶ Use the FH-869GR (available separately) See  103

16-mm film (in strips) ▶ Use the FH-816 (available separately) See  107

Microscope slides of prepared tissue samples ▶ Use FH-8G1 (available separately) See  112

Insert the holder into the scanner and scan the film using Nikon Scan

Basic scanning See  61

The scan window See  118

Product Documentation

The documentation for this product includes the manuals listed below. Please be sure to read all instructions thoroughly.

User's Manual (this manual)

This *User's Manual* provides instructions for setting up and using your scanner. It is divided into the following chapters:

Overview

Read this chapter for information on the symbols and conventions used in this manual.

Setup

This chapter contains all you need to know when setting up your scanner for the first time, including how to install Nikon Scan and how to connect your scanner. It also describes how to care for your scanner when it is not in use and how to treat film to ensure the best results when you make a scan.

Device Registration

Before you will be able to use your scanner with a Windows computer, you will need to "register" the scanner with the Windows Device Manager. Read this chapter for information on registering the scanner with different versions of Windows.

Scanning

This chapter describes how to make your first scan.

Film Holders for the 8000 ED

Read this chapter for a description of the holders for scanning different types of film. A description of the optional holders available for the 8000 ED is also included.

Nikon Scan

This chapter provides a quick overview of Nikon Scan, the scanner driver software that controls your scanner. For more information on Nikon Scan, see the *Nikon Scan Software Manual* (on the software manual CD provided with your scanner).

Reference

This chapter contains product specifications and troubleshooting information, including film that cannot be scanned and scanner storage and maintenance.

Nikon Scan Reference Manual (on CD)

The *Nikon Scan Reference Manual* describes how to use Nikon Scan 3, the software that drives your scanner. This manual may be found on the software manual CD, which also contains the software needed to view the manual, Adobe Acrobat Reader 4.0. Instructions for installing Adobe Acrobat Reader 4.0 are given in Step 6 of "Setup" in the *User's Manual*.

For Your Safety

To prevent damage to your scanner or injury to yourself or to others, read the following safety precautions in their entirety before using this equipment. Keep these safety instructions where all those who use the product will read them.

The consequences that could result from failure to observe the precautions listed in this section are indicated by the following symbols:



This icon marks warnings, information that should be read before using the scanner to prevent possible serious injury or death.



This icon marks cautions, information that you should read before using the scanner to prevent damage to the equipment or injury to yourself or to others.



WARNINGS

Do not disassemble or modify

- The interior of the scanner contains areas of high voltage. Removing the scanner's cover could result in fire or electric shock. Contact your dealer or Nikon service office for inspection or repair.
- Do not modify. Modification could result in fire or electric shock.

Do not touch exposed parts

Should the product break open as the result of a fall or other accident, do not touch the exposed parts. Failure to observe this precaution could result in injury or electric shock. Unplug the power cable and take the product to a Nikon-authorized service center for inspection.

Unplug the equipment immediately should you notice anything out of the ordinary

- Should you notice an unusual noise, smell, or smoke coming from the equipment, turn the scanner off at once and unplug the power cable. Continued use could cause fire or electric shock. After ensuring that the equipment is no longer smoking, contact your dealer or Nikon service representative for information on replacement or repair. Do not attempt repairs yourself, as this would be extremely dangerous.
- In the event of damage to the equipment, turn the scanner off at once and unplug the power cable, then contact your dealer or Nikon service representative for information on replacement or repair. Continued use could result in fire or electric shock.

Do not allow foreign objects to enter the scanner

- Do not place vases, flowerpots, cups, cosmetics, vessels containing chemicals or water, or small metal articles on top of the equipment. Should such articles or their contents fall into the equipment, fire, electric shock or malfunction could result.
- In the event that foreign substances or water should find their way into the equipment, turn the scanner off immediately, unplug the power cord and contact your dealer or nearest Nikon service representative. Continued use could result in fire, electric shock or malfunction. Particular care is advised in households with small children.

Do not use in the presence of flammable gas or dust

Failure to observe this precaution could result in explosion or fire.

Keep small objects out of reach of children

Particular care should be taken to prevent infants from putting small parts of the equipment into their mouths. In the event that a child should swallow part of the equipment, contact a physician immediately.

Do not handle the power cable during thunderstorms

Operating the equipment during thunderstorms could result in electric shock. Do not go near the equipment or handle the power cable until after the thunderstorm has passed.

Do not play CD-ROM disks on audio CD players

The CDs provided with this product should not be played back on audio CD equipment. Playing CD-ROMs on an audio CD player could cause hearing loss or damage the equipment.

Use an appropriate power supply

Use an AC power supply of 50/60Hz and a voltage of from 100V–240V. Use a power cord rated for the appropriate voltage.

At voltages of over AC 125V:

Use a power cord that complies with the safety standards of the country in which it is used, that has a plug rated for AC 250V, 15A (NEMA 6P-15) and insulation of SVT type or better, and that is more than AWG18 in thickness.

At voltages of AC 125V or less:

Use a power cord that complies with the safety standards of the country in which it is used, that has a plug rated for AC 125V, 10A and insulation of SVT type or better, and that is more than AWG18 in thickness.

Observe appropriate precautions when handling the power cable

- Do not damage or modify the power cable. Fire or electric shock could result if the cable is placed under heavy objects, exposed to heat or flame, or forcibly tugged or bent.
- In the event that the insulation is damaged and the wires become exposed, contact your retailer or Nikon service office for information on repair or replacement. Continued use could result in fire or electric shock.
- Do not handle the plug when your hands are wet. Doing so could cause electric shock.
- Should you notice dust on or near the metal parts of the plug, remove it with a dry cloth. Continued use could result in fire or electric shock.

CAUTIONS

Do not handle the equipment when your hands are wet

Failure to observe this precaution could result in electric shock.

Keep equipment out of reach of children

Failure to observe this precaution could result in injury.

Install the scanner only as directed in this manual

Failure to observe this precaution could block the scanner's vents and cause the power source to overheat, possibly resulting in fire.

Place on a stable surface

- Do not use the equipment on an unstable surface or on a surface that is not level. The equipment could fall, resulting in injury or in damage to the scanner.
- The scanner contains glass parts. Caution is advised in the event of breakage to prevent injury from broken glass.

Do not place heavy objects on the equipment

Do not place heavy objects on the equipment, as either the objects or the equipment could overbalance or fall, causing injury.

Unplug the equipment before cleaning

For your safety, turn off and unplug the scanner when cleaning the equipment.

Save where indicated otherwise, do not put your fingers into the equipment

Failure to observe this precaution could result in injury.

Unplug the equipment when not in use

For your safety, turn off and unplug the scanner when you do not intend to use it for an extended period. Failure to observe this precaution could result in fire.

Observe appropriate precautions when handling the power cable

- Do not place the power cable in the vicinity of a stove or heater, as this could melt the insulation, resulting in fire or electric shock.
- Unplug the cable by the plug, never by pulling on the cord itself. Failure to observe this precaution could damage the cord, resulting in fire or electric shock.
- Do not plug the power cable into an extension cord or multi-outlet adapter, as this could cause fire or malfunction.

Ground the equipment

- The outlet into which the power cable is plugged must be grounded. Failure to ground the power supply could result in electric shock.
- Do not ground the outlet to a gas or water pipe or a dedicated telephone system earth connector. Failure to observe this precaution could result in fire or electric shock.

Notices

- No part of the manuals included with this product may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form, by any means, without Nikon's prior written permission.
- Nikon reserves the right to change the specifications of the hardware and software described in these manuals at any time and without prior notice.
- Nikon will not be held liable for any damages to film or film rolls resulting from the use of this product.
- While every effort has been made to ensure that the information in these manuals is accurate and complete, we would appreciate it were you to bring any errors or omissions to the attention of the Nikon representative in your area (address provided separately).

Notice for customers in the U.S.A.

Federal Communications Commission (FCC) Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

CAUTIONS

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Nikon Corporation may void the user's authority to operate the equipment.

Interface Cables

Use the interface cables sold or provided by Nikon for your equipment. Using other interface cables may exceed the limits of Class B Part 15 of the FCC rules.

Nikon Inc.,
1300 Walt Whitman Road, Melville, New York
11747-3064, U.S.A.
Tel.: 631-547-4200



Notice for customers in Canada

CAUTION

This class B digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations.

ATTENTION

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Notice Concerning Prohibition of Copying or Reproduction

Note that simply being in possession of material that has been digitally copied or reproduced by means of a scanner, digital camera or other device is punishable by law.

- **Items prohibited by law from being copied or reproduced**

Do not copy or reproduce paper money, coins, securities, government bonds, or local government bonds, even if such copies or reproductions are stamped "Sample."

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Introduction

Thank you for your purchase of a Nikon SUPER COOLSCAN 8000 ED (8000 ED). This manual describes how to care for, install, and use your scanner. Be sure that you have read and understood its contents before using your scanner, and leave it where those who use the scanner will read it.

To make it easier find the information you need, the following symbols and conventions are used:



This icon marks cautions, information that you should read before using your Nikon scanner to prevent damage to the device.



This icon marks notes, information that you should read before using your Nikon scanner.




This icon marks tips, additional information you may find helpful when using your Nikon scanner.




This icon indicates that more information is available elsewhere in this manual or in other documentation.



This symbol indicates that the cross-reference marked with the  icon is to the 8000 ED User's Manual (this manual).



This symbol indicates that the cross-reference marked with the  icon is to the *Nikon Scan Software Manual* (on CD).

Illustrations

The majority of illustrations in this manual are taken from Windows XP Home Edition or Windows XP Professional (hereafter, "Windows XP"). Illustrations from Mac OS are used together with Windows illustrations where operations in the two operating systems differ.

Life-Long Learning

As part of Nikon's "Life-Long Learning" commitment to ongoing product support and education, continually updated information is available on-line at www.nikon-euro.com. Visit this site to keep up-to-date with the latest product information, tips, answers to frequently asked questions (FAQs), and general advice on digital imaging and photography.

Setup

This chapter describes how to set up the scanner, how to install Nikon Scan, and how to connect the scanner. It also describes how to care for your scanner when it is not in use and how to treat film to ensure the best results when you make a scan.

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Before Using Your Scanner

Connecting the Scanner

- Connect the scanner directly to the computer as described in “Connecting the Scanner” (📖 25). The scanner may not function as expected when connected to an IEEE 1394 hub.
- The scanner may not function as expected used with other IEEE 1394 devices. Should you notice a problem with the scanner when used with other IEEE 1394 devices, disconnect the other devices and use the scanner alone.
- Only one scanner can be connected to the computer at a time.

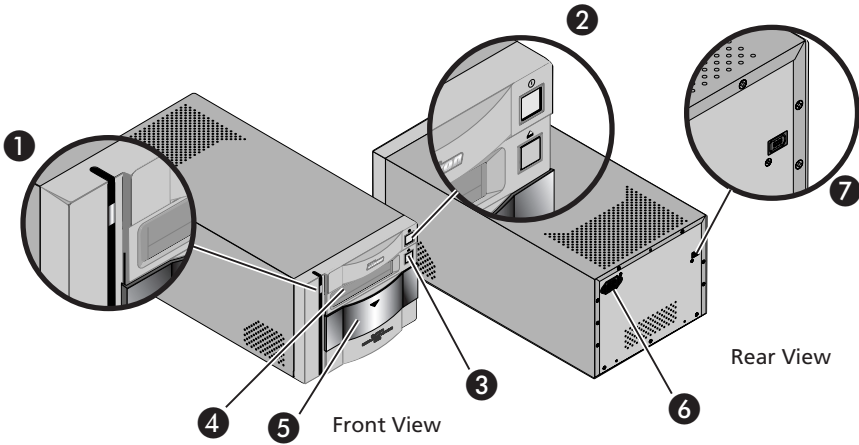
Using the Scanner with a Windows Computer

Before you will be able to use your scanner with a Windows computer, you must register the scanner with the system.

Before registering the scanner, disconnect all other peripherals from the computer and connect only the scanner.

Get to Know Your Scanner

Your Scanner



1 Status LED

This LED blinks slowly (roughly twice every three seconds) when the scanner is in operation. Do not turn the scanner off, remove or insert adapters, or eject or insert film until the LED has stopped blinking and is glowing steadily. If the LED flashes rapidly (about five times a second), a communications error has occurred or there is a problem with the scanner. Turn the scanner off, wait for at least five seconds, and then turn the scanner on again.

The first time you run Nikon Scan, the status LED will emit five series of rapid blinks (each of about three seconds duration) when you first insert a holder with the scanner on or if you start Nikon Scan for the first time with the scanner on and a holder in place. This does not indicate an error. Do not eject the holder.

2 Power switch

Press this switch to turn the scanner on and off.

3 Eject button

Use this button to eject holders from the scanner.

4 Holder Slot

This is where you put holders for different types of film. Don't put anything in this slot except an approved Nikon holder.

5 Sliding cover

Slide the cover down before inserting a holder. To protect your scanner from dust and other foreign objects, be sure ALWAYS to close the cover when no holder is in place.

6 AC connector

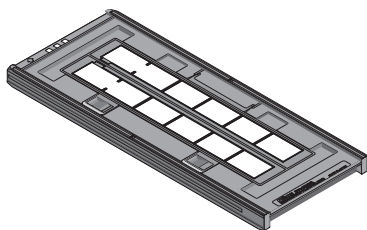
Connect the female end of the power cable here.

7 IEEE 1394/Firewire interface connector

Connect the IEEE 1394/Firewire interface cable here.

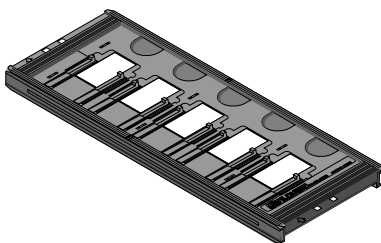
Accessories

After unpacking the scanner, check that the package contains all the items listed below. Contact your retailer immediately should you find that anything is missing or damaged.



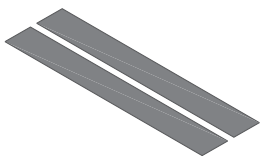
FH-8355 35-mm strip film holder (1)

This holder is used to scan up to two strips of 35-mm film up to six frames in length.



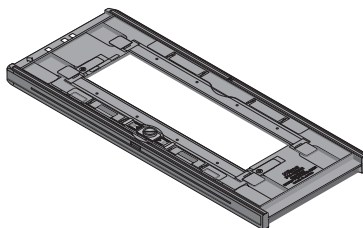
FH-835M 35-mm slide mount holder (1)

Use this holder to scan up to five mounted 35-mm slides.



Masking sheet (2)

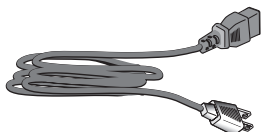
Masking sheets are used with the FH-8355 35-mm strip film holder when scanning a single strip of film or two strips of unequal lengths.



FH-869S medium-format strip-film holder (1)

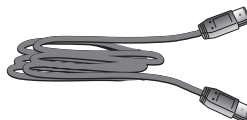
Use this holder to scan medium format (Brownie or 120/220) film strips or 59 mm × 82 mm film for electron microscopes. The number of frames that can be scanned depends on the type of film:

6 × 4.5:	Up to four frames
6 × 6:	Up to three frames
6 × 7 – 6 × 9:	Up to two frames



Power cable (1)

(shape of cable depends on country of sale)



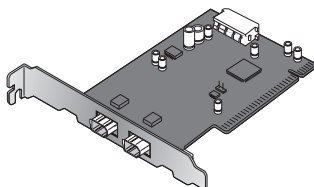
IEEE 1394/Firewire interface cable (1)

Use this cable to connect the scanner to your computer.



Nikon Scan 3.1 CD-ROM (1)

This CD contains driver software for your Nikon scanner. Depending on the country of sale, it may also include a variety of sample software.



IEEE 1394/Firewire interface board (1)

(for Windows and Macintosh; includes user's manual)
If you are using a Windows or old-model (beige) Macintosh G3 desktop computer, you may need to install this PCI board before you will be able to connect your scanner to your computer. This board can not be used with laptop computers or computers not equipped with a PCI slot, and is not required in the case of Macintosh computers with built-in Firewire ports.



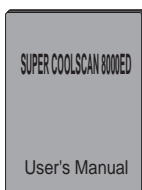
Reference CD (1)

This CD contains a reference manual for the Nikon Scan driver software, together with installers for Adobe Acrobat Reader, the software used to view the manual.



"Open me first" envelope (1)

This envelope contains a packing list, user registration cards, and other important documents.



User's Manual (this manual) (1)



Quick Start Guide (1)

This guide provides you with the information you need to get started with your Nikon scanner.

Keep the Holder Slot Closed

In order to ensure that your scanner always produces the best possible results, remove any holders and close the sliding cover when the scanner is not in use.

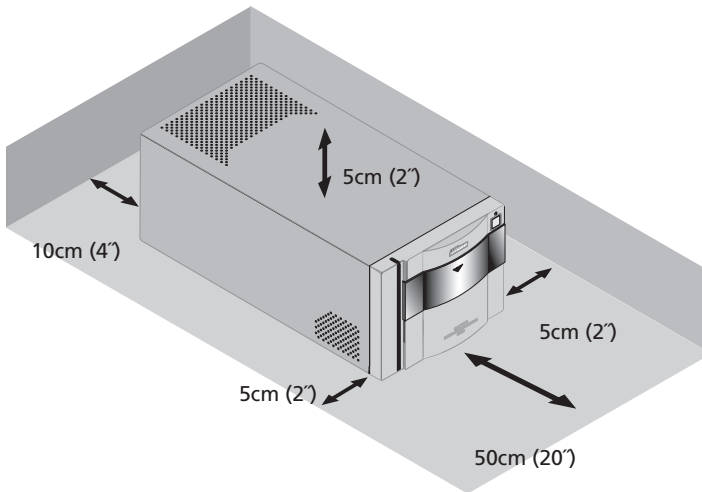
- ✔ *Never remove a holder from the scanner without first checking that the statusLED on the front of the scanner is glowing steadily. Do not insert or remove holders or turn the scanner off while the LED is blinking.*
- ✔ *After using the scanner, eject the holder and turn the scanner off, then close the sliding cover to prevent dirt and dust from accumulating in the scanner.*

Choose a Location

Before connecting the power and interface cables, choose a flat, stable location for your scanner close to the computer and to a suitable power outlet. Do not install your scanner where:

- ✔ *it would be exposed to direct or reflected sunlight*
- ✔ *it would be subject to condensation or to drastic changes in temperature*
- ✔ *it would be exposed to dust or smoke*
- ✔ *it would be exposed to water vapor from a humidifier*
- ✔ *it would be exposed to radio interference from other electronic devices*
- ✔ *the temperature exceeds 35°C (95°F) or falls below 10°C (50°F)*
- ✔ *other objects would block the scanner's vents*

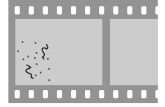
Leave enough space around the scanner to ensure ease of operation: at least 5 cm (2') above and on either side of the scanner, 10 cm (4') behind, and 50 cm (20') in front.



Protect Your Film

The Digital ICE photo retouch function built into your Nikon scanner can be used to eliminate the effects of dust, scratches, and surface defects on your film. To ensure the best possible results and to prevent damage to slides or film, however, be sure to protect your film from dust, fingerprints, and condensation as described below.

✔ *Before inserting film in a holder, remove dirt and dust with a blower to protect the surface of the film from scratches. Dirt and dust can also interfere with the operation of the scanner, causing scanning errors or malfunctions.*



✔ *Fingerprints can be removed with a soft, dry cloth. Be careful not to scratch the surface of the film when removing fingerprints.*



✔ *The film base and emulsion will deteriorate if exposed to high temperatures or humidity. Use the scanner at the temperature and humidity given in the specifications (see below).*

✔ *Sudden changes in temperature and humidity, even when within the limits given in the specifications, can cause condensation on the film. Before using film, check to be sure that no condensation is present.*

✔ *If condensation is present on the film, leave the film out until it dries. Condensation can cause damage when film is inserted in the scanner.*

✔ *The operating temperature and humidity for your scanner are:*

Temperature: +10 – +35°C (+50 – +95°F)

Humidity: 20 – 60%

Connecting IEEE 1394/Firewire Devices

When using the scanner with other devices connected to the same bus, observe the precautions below.

- ✔ *Do not turn other devices on or off or disconnect interface cables while scanning is in progress (i.e., while the scanner status LED is blinking slowly).*
- ✔ *Connect the scanner directly to the computer. The scanner may not function as expected when connected to a hub.*
- ✔ *The scanner may not function as expected when used together with other IEEE 1394/Firewire devices. Should you experience difficulties operating the scanner, we recommend that you disconnect all other devices on the same bus and reconnect the scanner and computer.*
- ✔ *Do not connect two or more scanners of the same type to the same computer simultaneously.*



The description in this manual follows the order of steps you will take when setting up the scanner for the first time, with the result that the instructions on turning the scanner on follow those on cable connection. Please note, however, that as an IEEE 1394/Firewire device, your Nikon scanner can be connected or disconnected while on and can be used immediately following connection. There is no need to turn off or restart the device each time it is connected.

After disconnecting the interface cable, wait a few seconds before plugging it in again.

Installing the IEEE 1394/Firewire Interface Board

If your computer is not already equipped with a built-in IEEE 1394 interface port or a suitable expansion board or card, you can install the IEEE 1394/Firewire interface board provided with your scanner. Detailed instructions may be found in the manual included with the interface board.

Do I Need to Install the IEEE 1394/Firewire Interface Board?

You will not need to install the IEEE 1394 (Firewire) interface board provided with your scanner if:

- Your computer is equipped with a built-in IEEE 1394 (Firewire) port. Macintosh users should note that old-model (beige) G3 computers are not equipped with a built-in Firewire port.
- Your computer is equipped with an IEEE 1394 (Firewire) expansion board or card approved for use with the 8000 ED.

The IEEE 1394 (Firewire) interface board included with your scanner can not be used in laptop computers or in low-profile PCI slots. In these cases, you will need to install one of the interface boards or cards recommended by Nikon. For more information, see the following web site:

http://www.nikon-image.com/en/ei_cs/index.htm

Installing the Interface Board

There are two steps to installing the interface board:

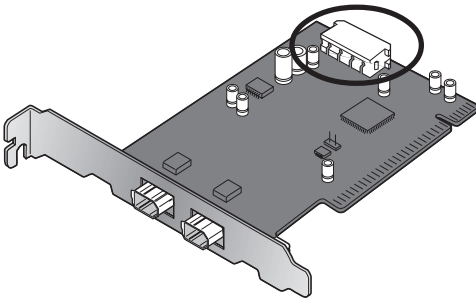
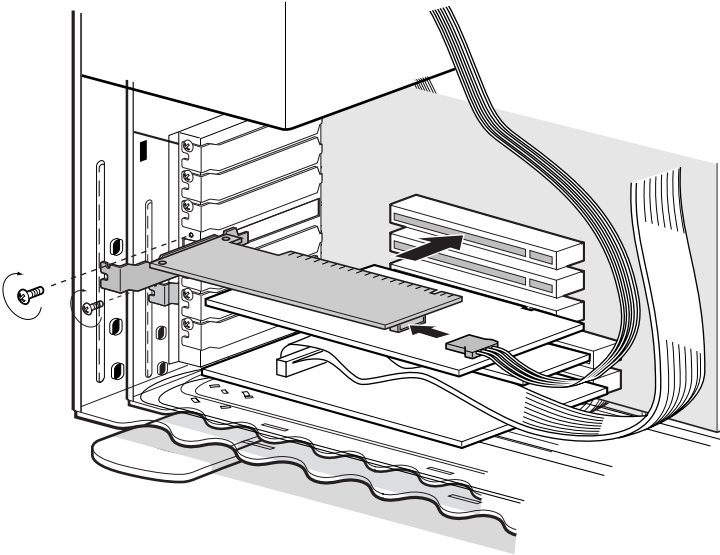
1. Insert the interface board in one of your computer's free PCI slots (📖 10)
2. Install the drivers for the interface board (Windows only; 📖 11–15)

In Windows XP, Windows 2000 Professional, and Windows Me, the necessary drivers will be installed automatically after you install the interface board.

If you are using a computer running Windows 98 SE, you must update the IEEE 1394 driver as instructed on page 17 of this manual before installing the interface board.

Installing the IEEE 1394/Firewire Interface Board in a PCI Slot

After turning the computer off and disconnecting all cables, insert the interface board in one of the computer's PCI slots as shown below. For information on the location of the PCI slots and on installing PCI boards, see the documentation provided with your computer.



If you will be using the interface board with devices that require power to be supplied by the computer, you will need to connect the board to the computer's power supply. You will not need to connect the power supply if you will only be using the 8000 ED, which receives power from an external source.



Do not use force when installing the interface board. Excessive force could damage the computer or the board.

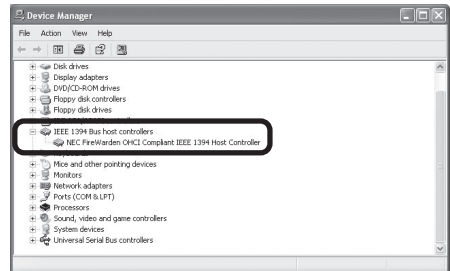
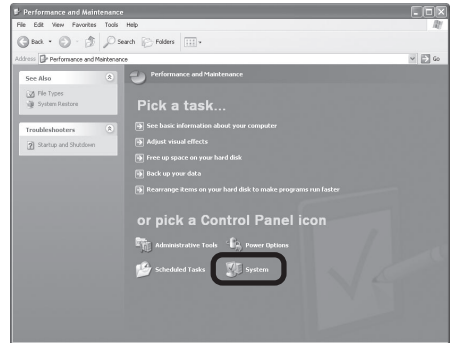
Installing the Drivers for the IEEE 1394/Firewire Interface Board (Windows Only)

After installing the interface board in a PCI slot, closing the computer's case, and reconnecting the cables, turn the computer on and install the board drivers as described below.

Windows XP Home Edition/Windows XP Professional

The first time the computer is powered on with the board in place, Windows will automatically install the necessary drivers. To confirm that the drivers have been installed and are functioning normally:

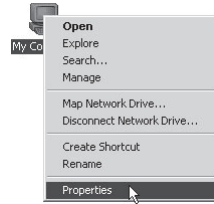
- 1 Select **Control Panel** from the **Start** menu and click the **Performance and Maintenance** icon. In the **Performance and Maintenance** window, click the **System** icon.
- 2 The **System** dialog will be displayed. Select the **Hardware** tab and click **Device Manager...**
- 3 Confirm that a listing for "NEC Firewarden OHCI Compliant IEEE 1394 Host Controller" appears in the **Device Manager**.



Windows 2000 Professional

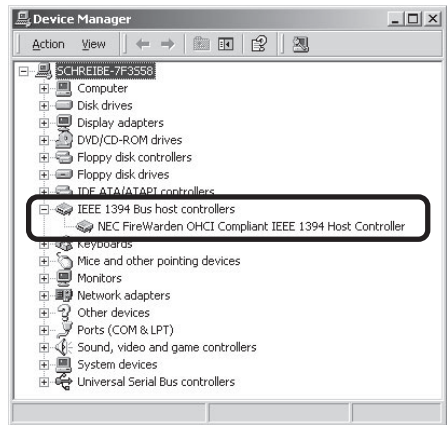
The first time the computer is powered on with the board in place, Windows 2000 will automatically install the board drivers. To confirm that the drivers are installed and functioning normally:

- 1 Click on the **My Computer** icon with the right mouse button and select **Properties** from the menu that appears.



- 2 In the System Properties window, open the Hardware tab and click the **Device Manager** button.

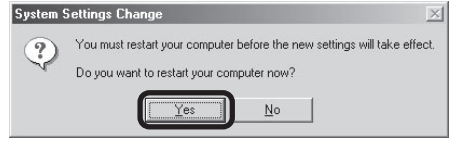
- 3 Check that "NEC Firewarden OHCI Compliant IEEE 1394 Host Controller" appears in the Device Manager under "IEEE 1394 Bus host controllers."



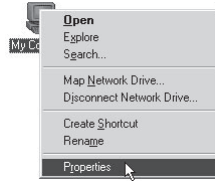
Windows Millennium Edition (Me)

The first time the computer is powered on with the board in place, Windows Me will automatically install the board drivers. To confirm that the drivers are installed and functioning normally:

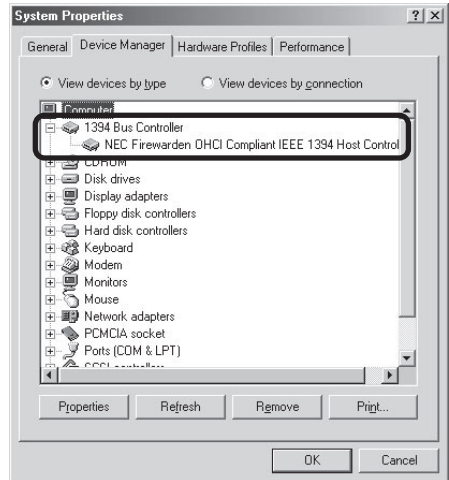
1 The dialog shown at right will be displayed. Click **Yes** to restart your computer.



2 Click on the **My Computer** icon with the right mouse button and select **Properties** from the menu that appears.



3 In the System Properties window, click the Device Manager tab. Check that "NEC Firewarden OHCI Compliant IEEE 1394 Bus Controller" appears in the Device Manager under "1394 Bus Controller."



Windows 98 Second Edition (SE)

1 The first time the computer is powered on with the board in place, the dialog shown at right will be displayed. Click **Next**.



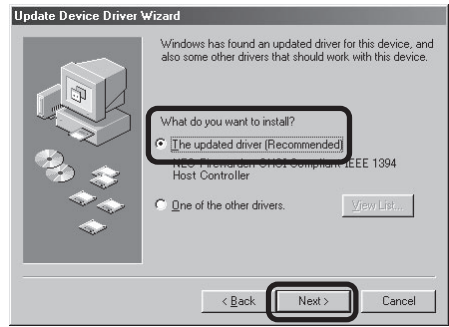
2 Select **Search for the best driver for your device (Recommended)** and click **Next**.



3 The dialog shown at right will be displayed. After making sure that none of the options are selected, click **Next**.



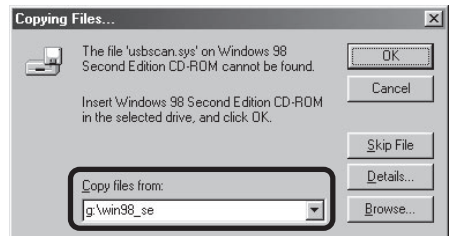
- 4 Select **The updated driver (Recommended) NEC Firewarden OHCI Compliant IEEE 1394 Host Controller** and click **Next**.



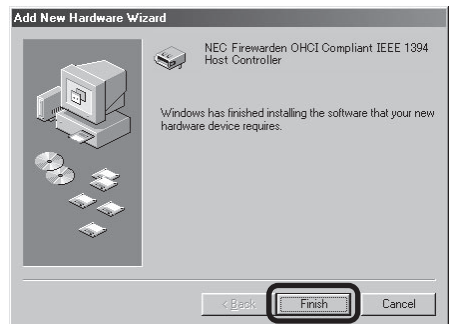
- 5 The dialog shown at right will be displayed. Click **Next**.



- 6 If the Insert Disk dialog is displayed, insert the Windows 98 Second Edition CD into the CD-ROM drive and click **OK**. If the computer displays the message, "The file (file name) on Windows 98 Second Edition CD-ROM could not be found," enter **g:\win98_se** (substitute the drive letter of your CD-ROM drive for "g") in the Copy files from text box and click **OK**.



- 7 The dialog shown at right will be displayed. Click **Finish**. After the installation has been completed, refer to the "Installing the IEEE 1394 Update for Windows 98 Second Edition" (17) and install the update program.



Installing Nikon Scan

Before you can connect your scanner to your computer, you will need to install Nikon Scan 3 driver software for your scanner. The procedure for installing Nikon Scan 3 on Windows computers differs from the install procedure for Macintosh computers.

The Nikon Scan 3 install CD includes two versions of Nikon Scan 3: version 3.1.2 (for Windows and Mac OS 9 or earlier) and version 3.1.3 (for Mac OS X version 10.1.3 or later).

Nikon Scan 3 Version 3.1.2

This version of Nikon Scan will be installed under Windows and Mac OS 9 or earlier.

Nikon Scan 3 Version 3.1.3

This version of Nikon Scan 3 is supported only under Mac OS X (version 10.1.3 or later). It will be installed on Macintosh computers running Mac OS X. The following limitations apply:

- The LS-2000 and COOLSCAN III are not supported.
- The menus and dialogs shown in the Nikon Scan 3 Help file are for version 3.1.2.

Installing Nikon Scan under Windows

Before installing Nikon Scan, turn your computer on and wait for Windows to start up. Check to make sure that:

- The scanner is not connected to your computer.
- Your computer satisfies the Nikon Scan 3 system requirements (see page 5 of the *Nikon Scan Reference Manual* for details).
- No other applications (including anti-virus software) are running.

Installing the IEEE 1394 Update for Windows 98 Second Edition

This section describes how to install the IEEE 1394 update required when using the scanner under Windows 98 Second Edition (SE).

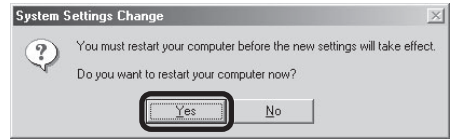
- 1 Turn on your computer and insert the Nikon Scan 3.1 CD in the CD-ROM drive.

The Welcome Window

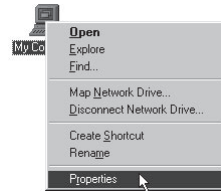
If the installer starts automatically when you insert the Nikon Scan 3.1 CD into the CD-ROM drive, click **Exit** to close the Welcome window.

- 2 Double click on the **My Computer** icon and open the CD-ROM drive.
- 3 Next click on the Nikon Scan 3.1 CD with the right mouse button and select **Explore**. When the Microsoft directory opens, double click the 242975USA8(.EXE) file.

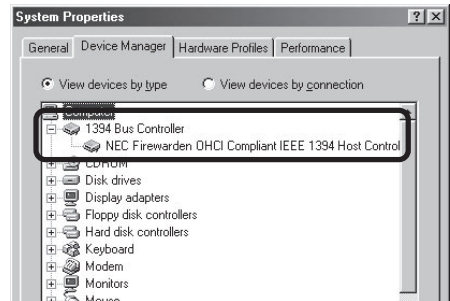
- 4 When the dialog shown at right is displayed, remove the CD from the CD-ROM drive and then click **Yes** to restart your computer.



- 5 Once the computer has restarted, check that the drivers for the interface board have been installed and are functioning normally. Click on the **My Computer** icon with the right mouse button and select **Properties** from the menu that appears.



- 6 In the System Properties window, click the Device Manager tab. Check that "NEC Firewarden OHCI Compliant IEEE 1394 Host Controller" appears in the Device Manager under "1394 Bus Controller."



Installation

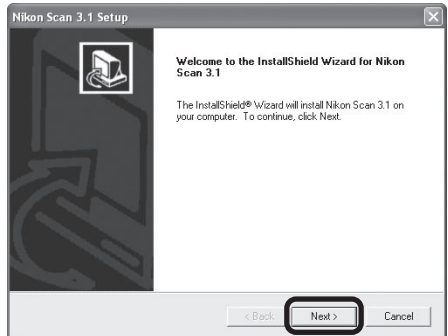
- 1 Insert the Nikon Scan 3 CD into the CD-ROM drive. When the Welcome dialog is displayed, click **Nikon Scan 3**.



Depending on where you purchased your scanner, you may be prompted to select the language in which Nikon Scan's menus and dialogs will be displayed. Choose a language from the list provided.



- 2 The InstallShield Wizard will start. Click **Next**. The license agreement will be displayed; click **Yes** to accept the agreement and continue with installation.



What to do when the CD-ROM does not start automatically.

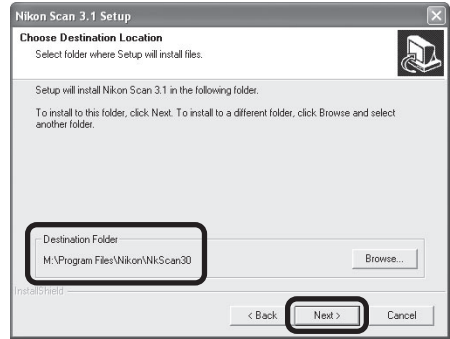
If the Welcome dialog does not appear when the CD-ROM is inserted in the drive:

1. Double click the **My Computer** icon
2. In the My Computer window, click on the CD-ROM drive icon with the right mouse button
3. Select **Autorun** from the menu that appears

Important

Log into the Administrator account when installing Nikon Scan under Windows 2000.

- 3 Click **Next** to install Nikon Scan 3 to the folder for Nikon Scan 3 shown under “Install Location,” or click **Browse...** to choose another location.



- 4 Once the Nikon Scan program files have been copied to disk, a color-space selection wizard will be displayed. Click **Use Wizard** to have the wizard assist you in choosing a color-space profile (recommended) or **Use name list** to choose a custom profile (see the Nikon Scan Software Manual for details).

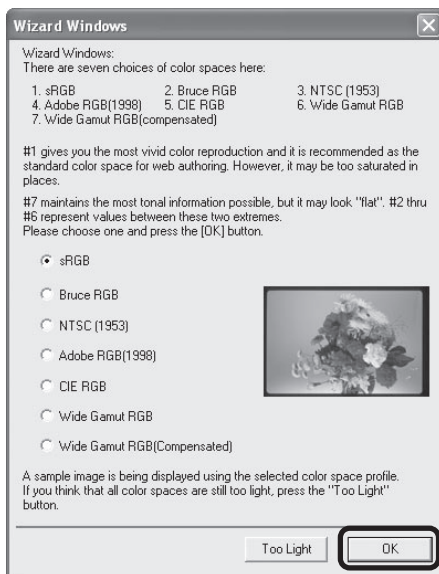


Choosing the correct color-space profile is very important if the scanner is to be used in a professional setting, for example as a part of a production workflow. The *Nikon Scan Reference Manual* contains information about the color management system used in Nikon Scan. Please take time to study the explanations and advice provided. If you have questions about any aspect of color management, we suggest that you contact your national Nikon office, which may be able to provide or recommend training resources.

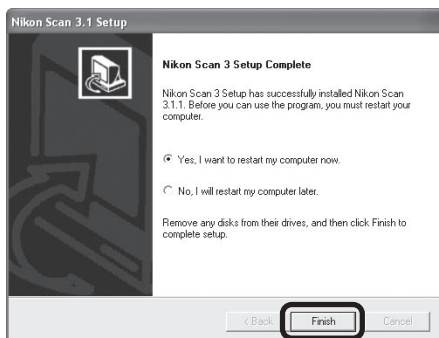
- 5 Clicking **Use Wizard** in the Color Space Wizard dialog displays the dialog shown at right. Click **Windows**.



- 6 Choose **sRGB** from the list of color-space profiles and click **OK**. More information about the different profiles is available in the *Nikon Scan Reference Manual*.



- 7 The installation complete dialog will be displayed. Click **Finish** to exit the InstallShield wizard.



- 8 Once the computer has restarted, take a few moments to view the ReadMe file, which may contain important information that could not be included in this manual. This completes installation of Nikon Scan 3.

Installing Nikon Scan on a Macintosh

Before installing Nikon Scan, turn your computer on and wait for it to start up. Check to make sure that:

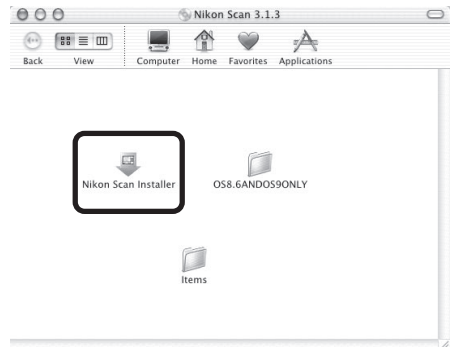
- The scanner is not connected to your computer
- Your computer satisfies the Nikon Scan 3 system requirements (see page 5 of the *Nikon Scan Reference Manual* for details)
- No other applications (including anti-virus software) are running

Installation

- 1 Insert the Nikon Scan 3 CD into the CD-ROM drive. When the Nikon Scan 3.1.2 window opens on the desktop, double-click the **Nikon Scan Installer** icon for the language of your choice.

Mac OS X

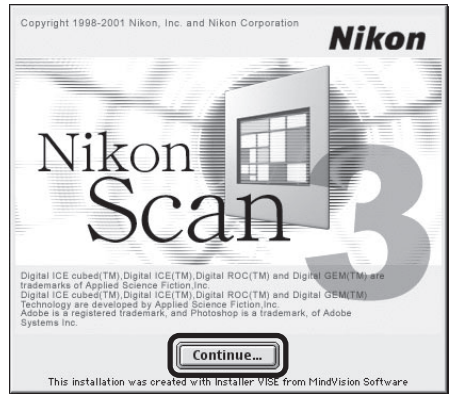
The Nikon Scan 3.1.3 window will open on the desktop. Double-click the Nikon Scan Installer icon for the language of your choice.



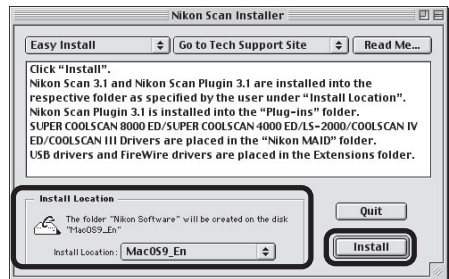
Memory Requirements under Mac OS X

Running Nikon Scan 3.1.3 under Mac OS X requires a minimum of 256 MB of memory, of which 128 MB are required by the operating system and the remainder by Nikon Scan 3.1.3.

- 2 When the installer starts, click **Continue...** to display the license agreement. Clicking **Accept** displays the ReadMe file. Take a few moments to read this file, which may contain important information that could not be included in this manual. After reading the file, click **Continue...**

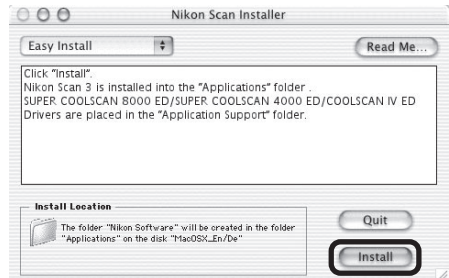


- 3 Choose a location for Nikon Scan from the **Install Location** menu and click **Install**.



Mac OS X

Nikon Scan will automatically be installed to the folder "Applications : Nikon Software" on the startup disk. You can not select an alternate location.



- 4 Once the Nikon Scan program files have been copied to disk, a color-space selection wizard will be displayed. Click **Use Wizard** to have the wizard assist you in choosing a color-space profile (recommended) or **Use name list** to choose a custom profile (see the Nikon Scan Software Manual for details). The color-space profile selected during installation can be changed at any time as detailed in the “Preferences” section of the *Nikon Scan Reference Manual*. Choosing the correct color-space profile is very important if the scanner is to be used in a professional setting, for example as part of a production workflow. More information about the color management system used in Nikon Scan 3 may be found in the *Nikon Scan Reference Manual*.



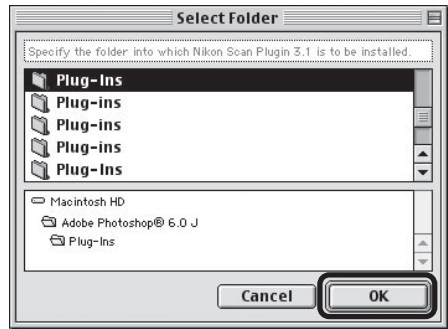
- 5 Clicking **Use Wizard** in the Color Space Wizard dialog displays the dialog shown at right. Click **Macintosh**.



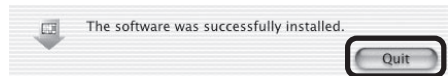
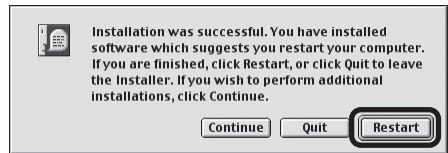
- 6 Choose **Apple RGB** and click **OK**. More information about the different profiles is available in the *Nikon Scan Reference Manual*.



- 7 Nikon Scan 3 can be used to scan images directly into any application that supports Adobe Photoshop 5.0 acquire plug-ins. The installer will display a list of plug-in folders for the applications currently installed on your computer; choose the folders containing Adobe Photoshop plug-ins and click **OK** to copy the Nikon Scan 3.1 plug-in to the selected folders. Click **Cancel** to complete installation without creating a copy of the Nikon Scan 3.1 plug-in.



- 8 A dialog will be displayed stating that installation is complete. Click **Restart** to restart your computer (Mac OS 9 or earlier) or **Quit** to exit the installer (Mac OS X).



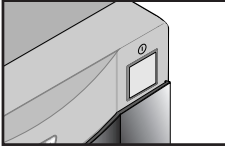
- 9 This completes installation of Nikon Scan 3.

Connecting the Scanner

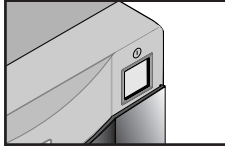
The first time the scanner is connected to a Windows computer, the Device Manager will install the device drivers needed to “register” the scanner with the system (more information on device registration is available on page 27 of this manual).

Connect the Power Cable

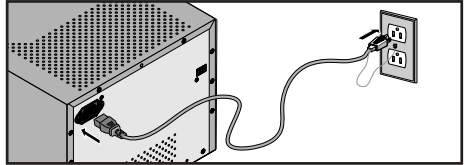
Before connecting the power cables, be sure the scanner is off. Attach the female end of the power cable to the AC connector on the rear of the scanner and insert the male end into a general-purpose (AC 100–240 V, 50/60 Hz) household outlet.



Power off



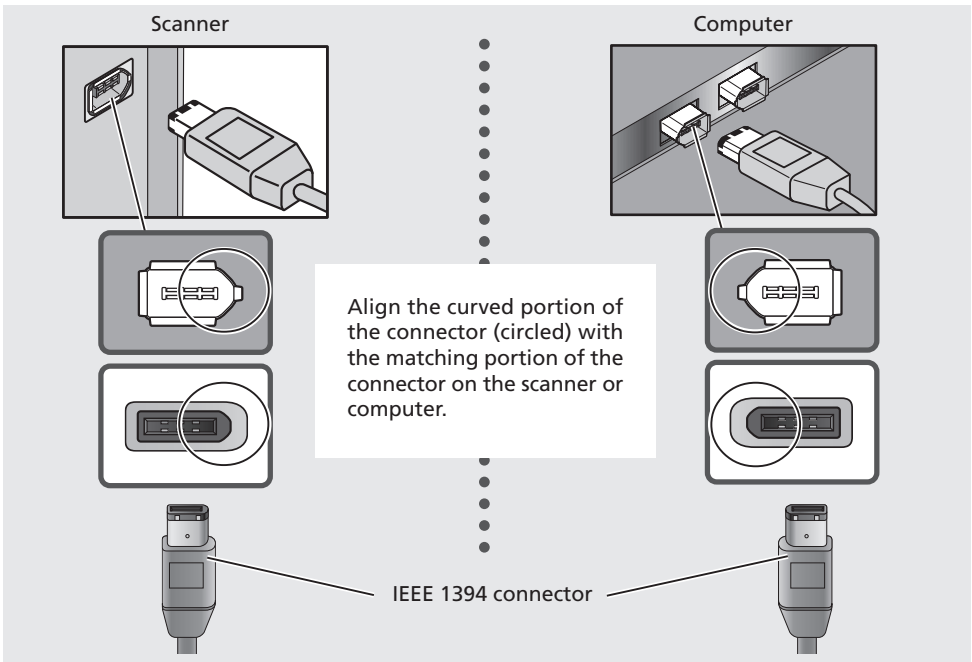
Power on



Connecting the Interface Cable

After confirming that the scanner is off, connect one end of the supplied 6-pin–6-pin IEEE 1394 cable to the scanner, the other to the computer.

Connect the cable as shown. Attempting to insert the connector in another orientation could not only damage the connector, but also damage the scanner or computer or interfere with their correct functioning.

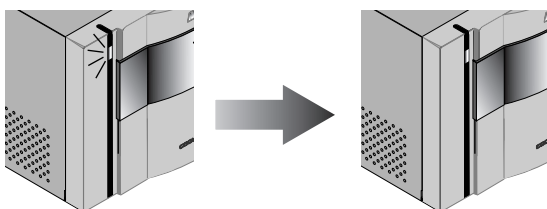
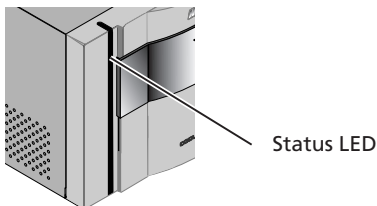


✔ Important

If you are using a computer with a 4-pin DV connector (such as SONY VAIO laptop computers), you will need to purchase a 6-pin–4-pin cable or 6-pin–4-pin adapter.

Turn the Scanner On

Before turning the scanner on for the first time, confirm that the Nikon Scan 3.1 CD is in your computer's CD-ROM drive. Press the power switch to turn the scanner on. When the scanner is turned on, the status LED will blink for a few seconds while the scanner initializes and then glow steadily.



When turning the scanner on, be sure that no holder is inserted. Leaving a holder in place can prevent the scanner from initializing normally.

The status LED should blink slowly (about twice every three seconds) while the scanner initializes. If the LED flashes rapidly (about five times a second), there may be a problem with the scanner or with the connection to your computer. Try turning the scanner off, waiting for five seconds, and then turning the scanner on again.

The first time you run Nikon Scan, the status LED will emit five series of rapid blinks (each of about three seconds duration) when you first insert a holder with the scanner on or if you start Nikon Scan for the first time with the scanner on and a holder in place. This does not indicate an error. Do not eject the holder. If you ejected the holder while the status LED was blinking, turn the scanner off and then on again and restart Nikon Scan.



Pg. For more information on:



27 Device Registration (Windows Only)
131 Troubleshooting

Device Registration

(Windows Only)

The first time you connect the scanner to a Windows computer, you will need to “register” the scanner with the system by installing the hardware drivers.

Windows XP Home Edition/Windows XP Professional	28
Windows 2000 Professional	34
Windows Millennium Edition (Me)	42
Windows 98 Second Edition (SE)	48

Windows XP Home Edition/Windows XP Professional

Registering the Scanner with Windows XP

1 Turn the scanner on

The first time the computer detects the scanner, Windows will display the dialog shown at right. Select the automatic install option and click **Next**.



2 Insert the Nikon Scan 3 CD

Holding down the shift key to prevent the Welcome program from starting automatically, insert the Nikon Scan 3 CD into the CD-ROM drive. The list of drivers shown in step 3 will be displayed.

If the List of Drivers Is Not Displayed

If the list of drivers shown in step 3 is not displayed automatically, select the automatic install option in the dialog shown above and click **Next**.

Logging On

Log on as the Computer Administrator when registering the scanner.

The Welcome Window

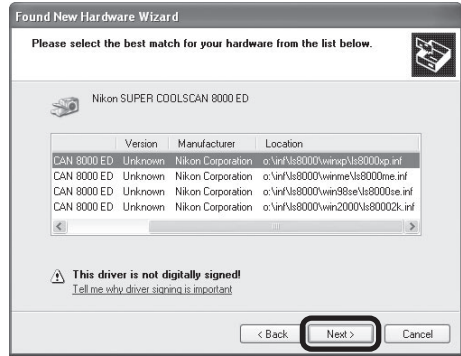
If the Welcome program starts automatically when you insert the Nikon Scan CD, click **Exit** to close the Welcome window.



- 3 Select **ls8000xp.inf**
Select **ls8000xp.inf** in the list of drivers and click **Next**.

"ls8000xp.inf"

If **ls8000xp.inf** is not visible in the list, drag the scroll bar at the right of the list until it is displayed. Be sure to choose the driver that has "xp" in the file name.



- 4 Click **Continue Anyway**
Click **Continue Anyway** to begin installation of the files need to register the scanner.



- 5 Click **Finish**
Click **Finish** to complete installation.

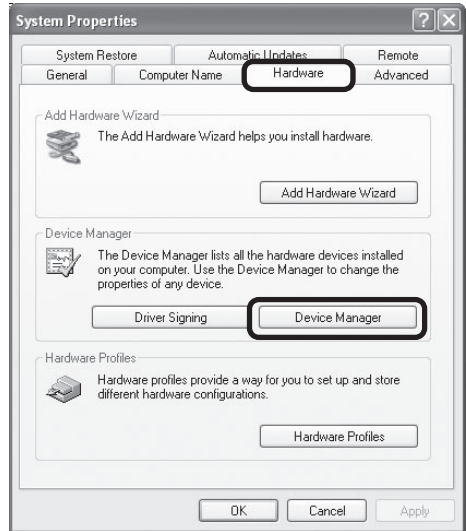


- 6 Confirm device registration
Confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows XP)" (30).

Confirming Device Registration (Windows XP)

After registering the scanner, confirm that the device is working normally as described below.

- 1 Turn the scanner on**
Make sure that the scanner is connected and turned on.
- 2 Open the System Properties dialog**
Select **Control Panel** from the **Start** menu, open **Performance and Maintenance**, and click **System**.
- 3 Display the Device Manager**
The System Properties dialog will be displayed. Open the Hardware tab and click **Device Manager**....

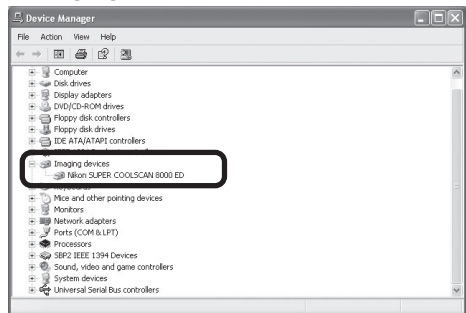


4 Confirm that the scanner is listed under “Imaging devices”

If “Imaging devices” appears in the Device Manager, click the “+” to its left to view the imaging devices currently registered with Windows. Confirm that your scanner is listed.

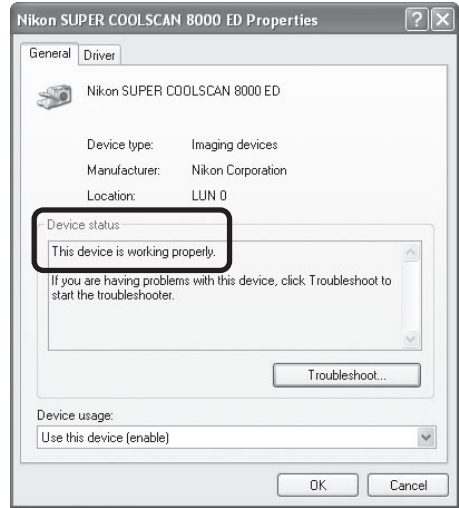
If the Scanner Is Not Listed

If the scanner is not listed under “Imaging devices,” proceed to “Updating the Device Driver (Windows XP)” (32).



5 Confirm that the scanner is working properly

Double-click the listing for your scanner that appears under “Imaging devices.” The scanner Properties dialog will be displayed. Click the General tab and confirm that “This device is working properly” appears under “Device Status.” If another message is displayed, proceed to “Updating the Device Driver (Windows XP)” (📄 32).



Updating the Device Driver (Windows XP)

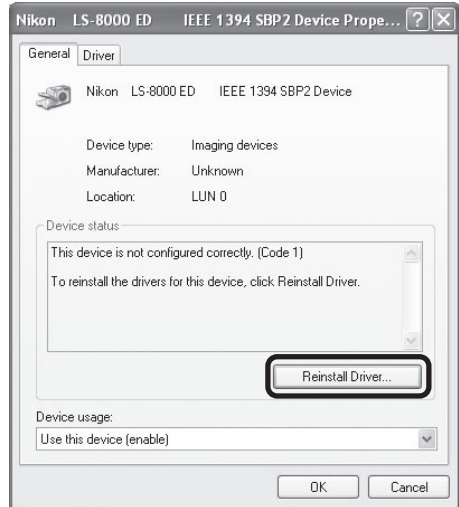
If the scanner is not listed under “Imaging devices” in the Device Manager or the message “This device is working properly” does not appear in the Properties dialog, you will need to reinstall the device driver as detailed below.

1 Open the scanner Properties dialog

Display the Device Manager as described in steps 1–3 of “Confirming Device Registration (Windows XP)” (□ 30). If the scanner is listed under “Other devices” or appears next to a “!”, “?”, or “x”, double-click the entry for the scanner to display the scanner Properties dialog.

2 Click Reinstall Driver...

Open the General tab and click **Reinstall Driver...**



3 Insert the Nikon Scan 3 CD

The dialog shown at right will be displayed. Holding down the shift key to prevent the Welcome program from starting automatically, insert the Nikon Scan 3 CD into the CD-ROM drive. Select the automatic install option and click **Next**.

The Welcome Window

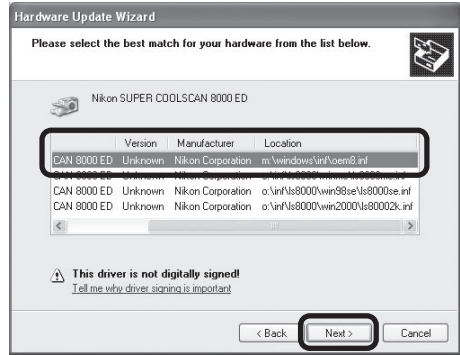
If the Welcome program starts automatically when you insert the Nikon Scan CD, click **Exit** to close the Welcome window.



- 4 Select **Is8000xp.inf**
Select **Is8000xp.inf** in the list of drivers and click **Next**.

"Is8000xp.inf"

If **Is8000xp.inf** is not visible in the list, drag the scroll bar at the right of the list until it is displayed.



- 5 Click **Continue Anyway**
Click **Continue Anyway** to begin installation of the files need to register the scanner.



- 6 Click **Finish**
Click **Finish** to complete installation.



- 7 Confirm device registration
Confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows XP)" (30).

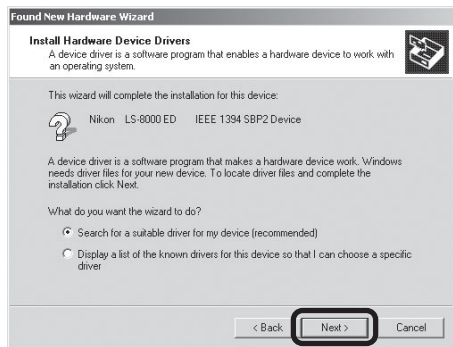
Windows 2000 Professional

Registering the Scanner with Windows 2000 Professional

- 1 Turn the scanner on
The first time the computer detects the scanner, Windows will display the dialog shown at right. Click **Next**.



- 2 Insert the Nikon Scan 3 CD
Holding down the shift key to prevent the Welcome program from starting automatically, insert the Nikon Scan 3 CD into the CD-ROM drive. Select the search option and click **Next**.



Logging On

Log on as the Administrator when registering the scanner.

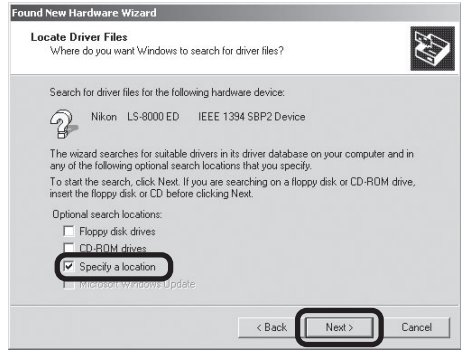
The Welcome Window

If the Welcome program starts automatically when you insert the Nikon Scan CD, click **Exit** to close the Welcome window.



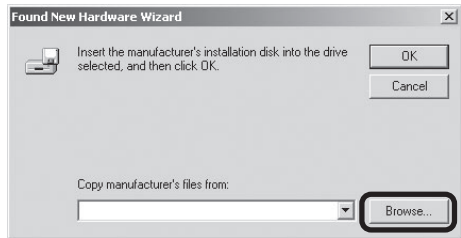
3 Select **Specify a location**

Select **Specify a location** and click **Next**.



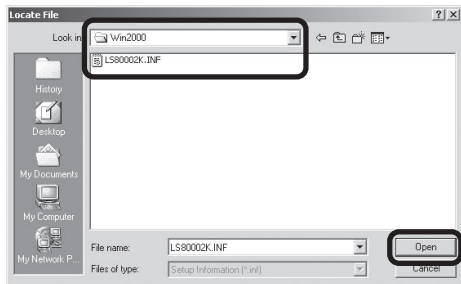
4 Click **Browse...**

When the dialog shown at right is displayed, click **Browse...**



5 Select the Win2000 folder

The Locate File dialog will be displayed. Select the "Nkscan" CD from the **Look in** menu and open each of the "INF," "LS8000," and "Win2000" folders in turn. Select the file **LS80002K.INF** and click **Open**.

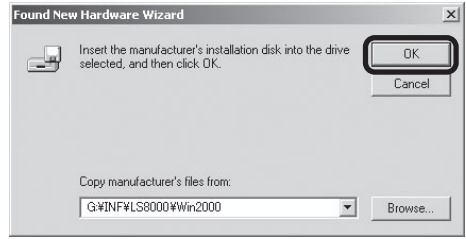


6 Confirm the file path

The dialog shown at right will be displayed. Confirm that the path “\INFLS8000\Win2000” appears after the drive letter of the CD-ROM drive and click **OK**.

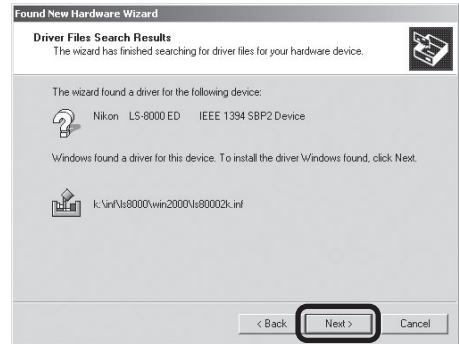
If the Correct Path Is Not Displayed

If the correct path is not displayed, repeat steps 4–6 to select the correct path.



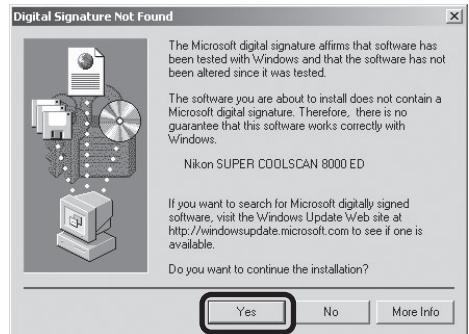
7 Begin installation of the device drivers

Click **Next**.

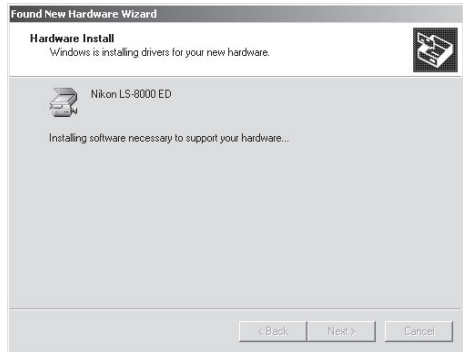


8 Click **Yes**

The dialog shown at right will be displayed. Click **Yes**.



The dialog shown at right will be displayed while Windows registers the scanner.



- 9** Click **Finish**
Click **Finish** to complete installation.



- 10** Restart the computer
Click **Yes** to restart the computer.

- 11** Confirm device registration
Confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows 2000 Professional)" (📖 38).

Confirming Device Registration (Windows 2000 Professional)

After registering the scanner, confirm that the device is working normally as described below.

1 Turn the scanner on

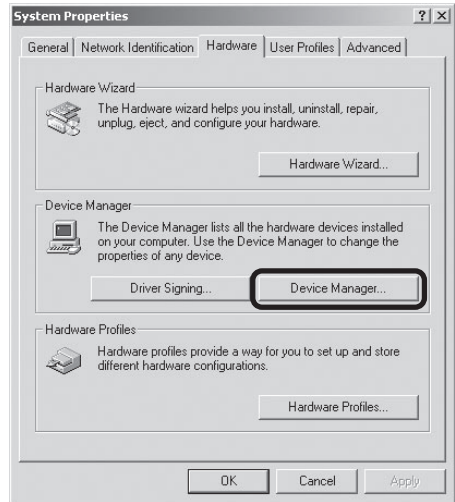
Make sure that the scanner is connected and turned on.

2 Open the System Properties dialog

From the **Start** menu, select **Settings > Control Panel** and double-click the **System** icon.

3 Display the Device Manager

The System Properties dialog will be displayed. Open the Hardware tab and click **Device Manager...**

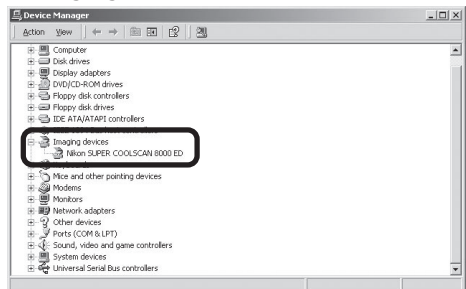


4 Confirm that the scanner is listed under "Imaging devices"

If "Imaging devices" appears in the Device Manager, click the "+" to its left to view the imaging devices currently registered with Windows. Confirm that your scanner is listed.

If the Scanner Is Not Listed

If the scanner is not listed under "Imaging devices," proceed to "Updating the Device Driver (Windows 2000 Professional)" (📖 40).



5 Confirm that the scanner is working properly

Double-click the listing for your scanner that appears under “Imaging devices.” The scanner Properties dialog will be displayed. Click the General tab and confirm that “This device is working properly” appears under “Device Status.” If another message is displayed, proceed to “Updating the Device Driver (Windows 2000 Professional)” (40).



Updating the Device Driver (Windows 2000 Professional)

If the scanner is not listed under “Imaging devices” in the Device Manager or the message “This device is working properly” does not appear in the Properties dialog, you will need to reinstall the device driver as detailed below.

1 Open the scanner Properties dialog

Display the Device Manager as described in steps 1–3 of “Confirming Device Registration (Windows 2000 Professional)” (38). If the scanner is listed under “Other devices” or appears next to a “!”, “?”, or “x”, double-click the entry for the scanner to display the scanner Properties dialog.

2 Click Update Driver...

Open the Driver tab and click **Update Driver...**

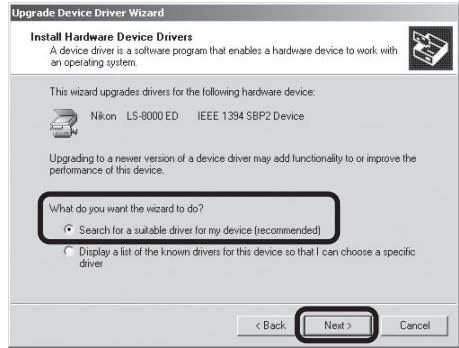


3 Click Next

When the Upgrade Device Driver wizard is displayed, click **Next**.



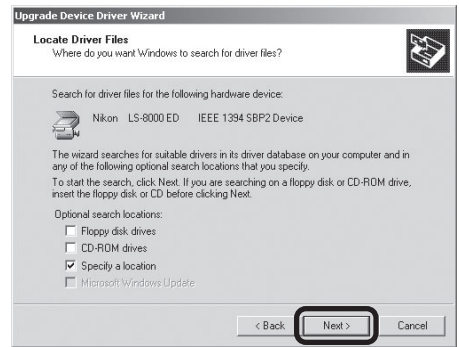
- 4 Select the search option**
Select the search option and click **Next**.



- 5 Insert the Nikon Scan 3 CD**
Holding down the shift key to prevent the Welcome program from starting automatically, insert the Nikon Scan 3 CD into the CD-ROM drive.

The Welcome Window

If the Welcome program starts automatically when you insert the Nikon Scan CD, click **Exit** to close the Welcome window.



- 6 Reinstall the drivers**
Reinstall the drivers as described in steps 3–8 of “Registering the Scanner with Windows 2000 Professional” (📖 35–37).

- 7 Click Finish**
When the Wizard displays a message stating that it has found the drivers for your scanner, click **Finish** to complete installation. If prompted to restart the computer, click **Yes**.



- 8 Confirm device registration**
Confirm that the scanner has been correctly registered with the system as described in “Confirming Device Registration (Windows 2000 Professional)” (📖 38–39).

Windows Millennium Edition (Me)

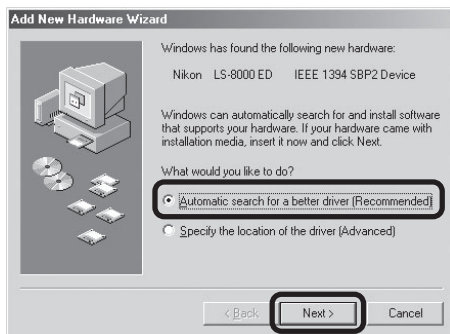
Registering the Scanner with Windows Me

1 Turn the scanner on

The first time the computer detects the scanner, Windows will display the dialog shown at right. After confirming that the Nikon Scan CD is inserted in the CD-ROM drive, select the search option and click **Next**.

Inserting the Nikon Scan CD

If the Nikon Scan CD is not in the CD-ROM drive, insert the disk while holding down the shift key to prevent the Welcome program from starting automatically.

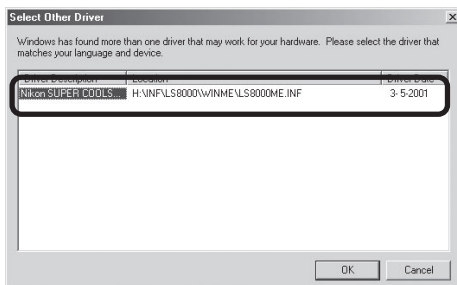


2 Select **LS8000ME.INF**

Select **LS8000ME.INF** in the list of drivers and click **OK**.

"LS8000ME.INF"

Several drivers with similar names may be displayed. Be sure to select **LS8000ME.INF**.



The Welcome Window

If the Welcome program starts automatically when you insert the Nikon Scan CD, click **Exit** to close the Welcome window.



- 3 Click Finish**
Click **Finish** to complete installation.



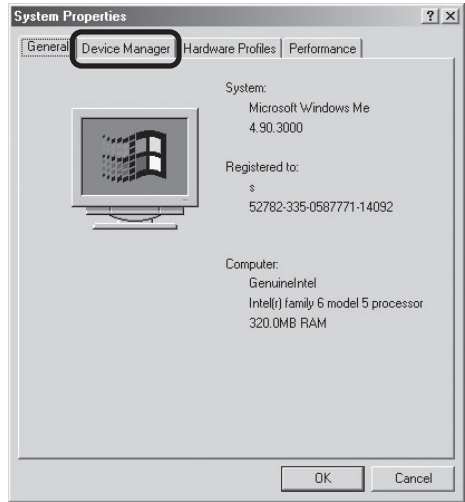
- 4 Restart the computer**
Click **Yes** to restart the computer.

- 5 Confirm device registration**
Confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows Me)" (📖 44).

Confirming Device Registration (Windows Me)

After registering the scanner, confirm that the device is working normally as described below.

- 1 Turn the scanner on**
Make sure that the scanner is connected and turned on.
- 2 Open the System Properties dialog**
From the **Start** menu, select **Settings > Control Panel** and double-click the **System** icon.
- 3 Display the Device Manager**
The System Properties dialog will be displayed. Open the Device Manager tab.

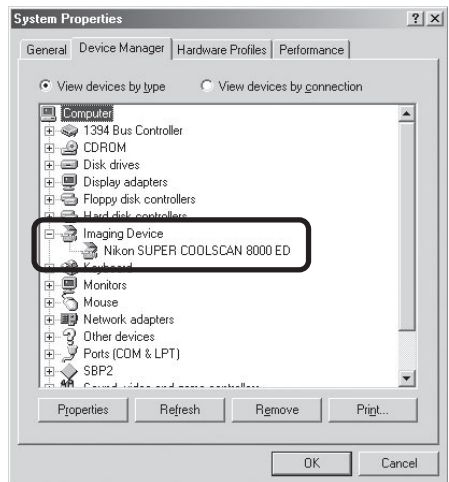


4 Confirm that the scanner is listed under "Imaging Device"

If "Imaging Device" appears in the Device Manager, click the "+" to its left to view the imaging devices currently registered with Windows. Confirm that your scanner is listed.

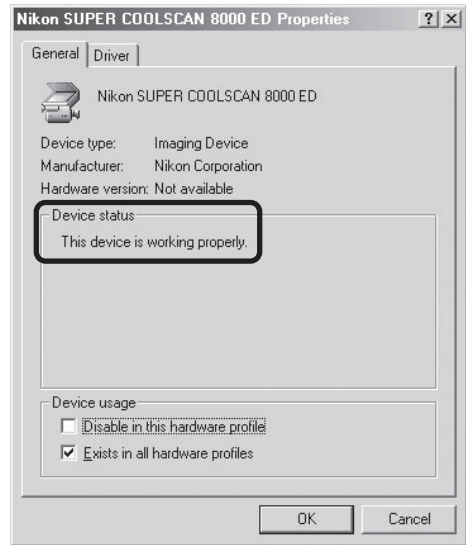
If the Scanner Is Not Listed

If your scanner is not listed under "Imaging Device," proceed to "Updating the Device Driver (Windows Me)" (46).



5 Confirm that the scanner is working properly

Double-click the listing for your scanner that appears under “Imaging Device.” The scanner Properties dialog will be displayed. Click the General tab and confirm that “This device is working properly” appears under “Device Status.” If another message is displayed, proceed to “Updating the Device Driver (Windows Me)” (46).



Updating the Device Driver (Windows Me)

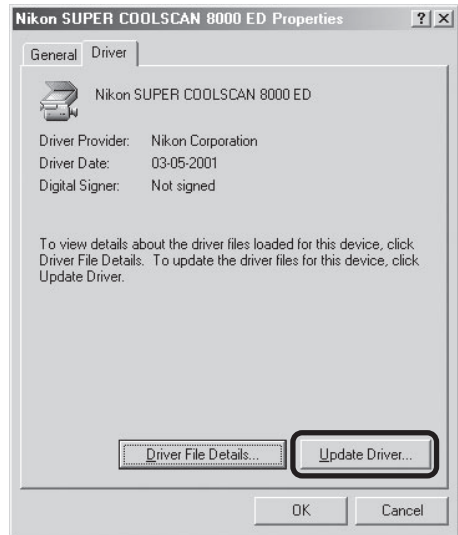
If the scanner is not listed under "Imaging Device" in the Device Manager or the message "This device is working properly" does not appear in the Properties dialog, you will need to reinstall the device driver as detailed below.

1 Open the scanner Properties dialog

Display the Device Manager as described in steps 1–3 of "Confirming Device Registration (Windows Me)" (44). If the scanner is listed under "Other devices" or appears next to a "!", "?", or "x", double-click the entry for the scanner to display the scanner Properties dialog.

2 Click Update Driver...

Open the Driver tab and click **Update Driver...**

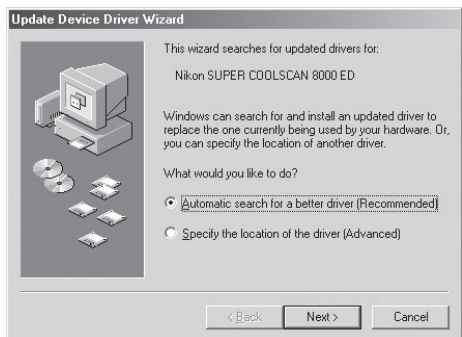


3 Insert the Nikon Scan 3 CD

The Upgrade Device Driver wizard will be displayed. Holding down the shift key to prevent the Welcome program from starting automatically, insert the Nikon Scan 3 CD into the CD-ROM drive.

The Welcome Window

If the Welcome program starts automatically when you insert the Nikon Scan CD, click **Exit** to close the Welcome window.



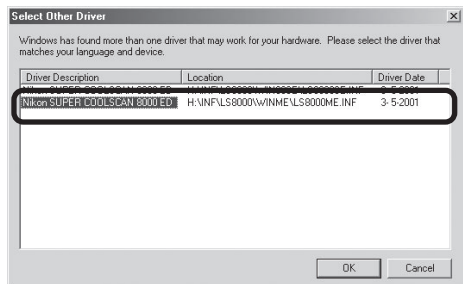
- 4 Select the search option
Select the search option and click **Next**.



- 5 Select **LS8000ME.INF**
Select **LS8000ME.INF** in the list of drivers and click **OK**.

"LS8000ME.INF"

Several drivers with similar names may be displayed. Be sure to select the driver with the path ending in **LS8000ME.INF**.



- 6 Click **Finish**
Click **Finish** to complete installation. If prompted to restart the computer, click **Yes**.



- 7 Confirm device registration
Confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows Me)" (44–45).

Windows 98 Second Edition (SE)

Registering the Scanner with Windows 98 SE

Before beginning device registration, make sure that you have completed the IEEE 1394 update described in “Installing the IEEE 1394 Update for Windows 98 Second Edition” (17).

1 Turn the computer on

Make sure that the computer is on, and that the scanner is off and connected to the computer via the IEEE 1394 cable.

2 Turn the scanner on

Turn the scanner on and wait for Windows to display a message.

If the Insert Disk Dialog is displayed

If a message appears prompting you to insert the Windows 98 Second Edition CD, click **OK** and proceed to step 3a. Do NOT insert the Windows 98 Second Edition CD.



If the Add New Hardware Wizard is displayed

If the dialog shown at right is displayed, click **Next** and proceed to step 3b.

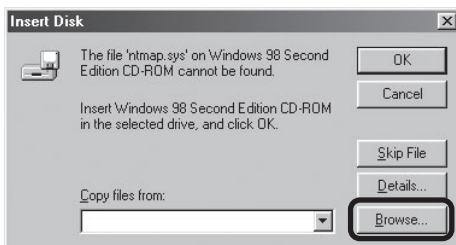


If no message is displayed

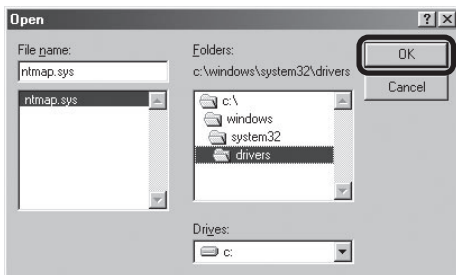
If no message is displayed after sixty seconds, proceed to “Updating the Device Driver (Windows 98 SE)” (53).

3^a Locate “ntmap.sys”

The dialog shown at right will be displayed. Click **Browse**.



Navigate to “C:\windows\system32\drivers” by selecting “C:” from the list of drives and double-clicking in turn on each of the following folders: “windows”, “system32”, and “drivers.” “ntmap.sys” will be selected in the list of files. Click **OK** and confirm that the scanner has been correctly registered with the system as described in “Confirming Device Registration (Windows 98 SE)” (51). This completes device registration.



3b Insert the Nikon Scan 3 CD

The dialog shown at right will be displayed. Holding down the shift key to prevent the Welcome program from starting automatically, insert the Nikon Scan 3 CD into the CD-ROM drive, then select the search option and click **Next**.

The Welcome Window

If the Welcome program starts automatically when you insert the Nikon Scan CD, click **Exit** to close the Welcome window.



4 Select Specify a location

Select **Specify a location** and click **Browse**.



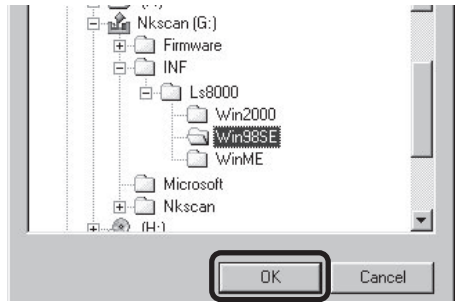
The Welcome Window

If the Welcome program starts automatically when you insert the Nikon Scan CD, click **Exit** to close the Welcome window.



5 Select the Win98SE folder

The Browse for Folder dialog will be displayed. Select the "Win98SE" folder under "Nkscan" > "INF" > "Ls8000" and click **OK**.



6 Confirm the file path

The dialog shown at right will be displayed. Confirm that the path "N\F\LS8000\Win98SE" appears after the drive letter of the CD-ROM drive and click **Next**.

If the Correct Path Is Not Displayed

If the correct path is not displayed, repeat steps 4–6 to select the correct path.



7 Begin installation of the device drivers

Click **Next**.



8 Click **Finish**

Click **Finish** to complete installation.



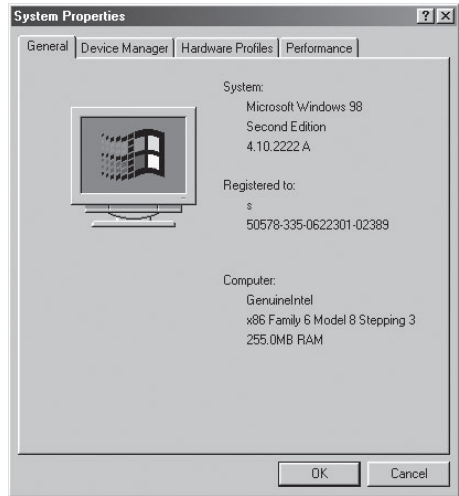
9 Confirm device registration

Confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows 98 SE)" (51).

Confirming Device Registration (Windows 98 SE)

After registering the scanner, confirm that the device is working normally as described below.

- 1 Turn the scanner on**
Make sure that the scanner is connected and turned on.
- 2 Open the System Properties dialog**
From the **Start** menu, select **Settings > Control Panel** and double-click the **System** icon.
- 3 Display the Device Manager**
The System Properties dialog will be displayed. Open the Device Manager tab.

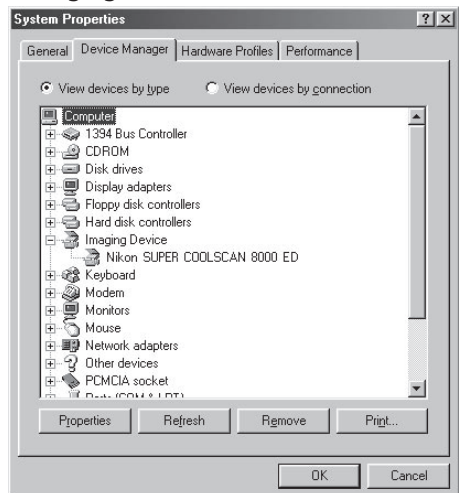


4 Confirm that the scanner is listed under “Imaging Device”

If “Imaging Device” appears in the Device Manager, click the “+” to its left to view the imaging devices currently registered with Windows. Confirm that your scanner is listed.

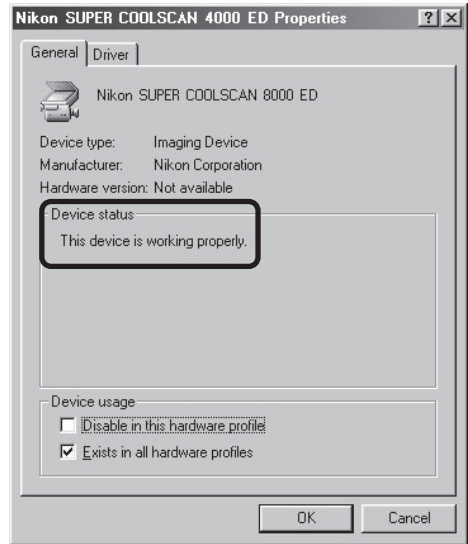
If the Scanner Is Not Listed

If your scanner is not listed under “Imaging Device,” proceed to “Updating the Device Driver (Windows 98 SE)” (53).



5 Confirm that the scanner is working properly

Double-click the listing for your scanner that appears under “Imaging Device.” The scanner Properties dialog will be displayed. Click the General tab and confirm that “This device is working properly” appears under “Device Status.” If another message is displayed, proceed to “Updating the Device Driver (Windows 98 SE)” (53).



Updating the Device Driver (Windows 98 SE)

If the scanner is not listed under "Imaging Device" in the Device Manager or the message "This device is working properly" does not appear in the Properties dialog, you will need to reinstall the device driver as detailed below.

1 Open the scanner Properties dialog

Display the Device Manager as described in steps 1–3 of "Confirming Device Registration (Windows 98 SE)" (51). If the scanner is listed under "Other devices" or appears next to a "!", "?", or "x", double-click the entry for the scanner to display the scanner Properties dialog.

2 Click **Reinstall Driver...**

Open the Driver tab and click **Reinstall Driver...**

3 Click **Next**

When the Update Device Driver wizard is displayed, click **Next**.

4 Select the search option

Select the search option and click **Next**.

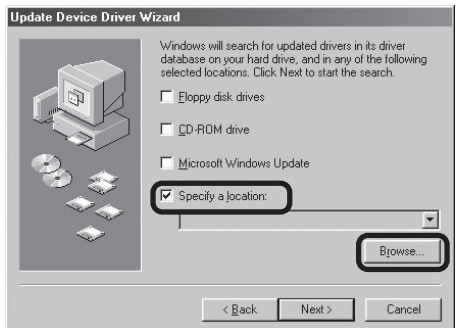
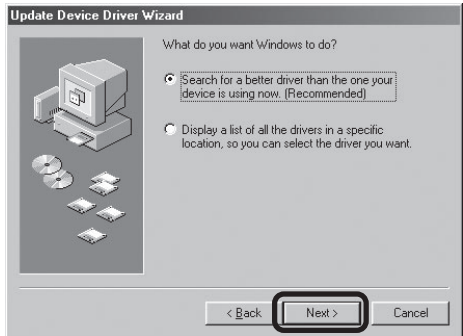


5 Insert the Nikon Scan 3 CD

The dialog shown at right will be displayed. Holding down the shift key to prevent the Welcome program from starting automatically, insert the Nikon Scan 3 CD into the CD-ROM drive, then select **Specify a location** and click **Browse**.

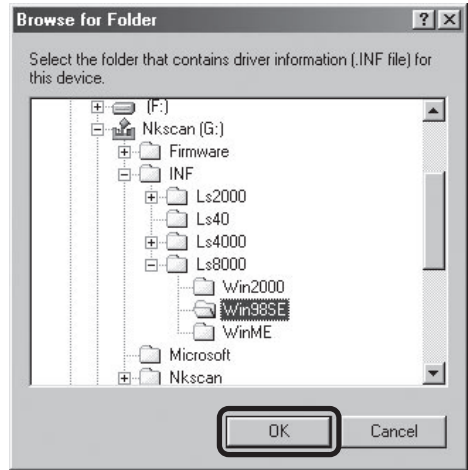
The Welcome Window

If the Welcome program starts automatically when you insert the Nikon Scan CD, click **Exit** to close the Welcome window.



6 Select the Win98SE folder

The Browse for Folder dialog will be displayed. Select the "Win98SE" folder under "Nkscan" > "INF" > "Ls8000" and click **OK** to return to the dialog shown in step 5. Confirm that the path "\INF\LS8000\Win98SE" appears after the drive letter of the CD-ROM drive and click **Next**.



7 Begin installation of the device drivers

A dialog will be displayed stating that Windows has found the drivers for the device. Click **Next**.



8 Click Finish

Click **Finish** to complete installation.



9 Confirm device registration

Confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows 98 SE)" (📖 51–52).

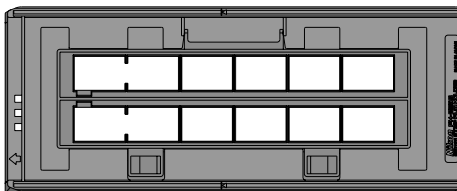
Scanning

This chapter describes how to make your first scan.

Step 1—Ready the Film	56
Step 2—Place the Film in the Holder	58
Step 3—Insert the Holder	60
Step 4—Scan the Slide	61

Step 1—Ready the Film

The holder you will use depends on the type of film scanned. This example illustrates how to scan 35-mm film using the FH-835S film holder provided with your scanner. The FH-835S is used when scanning strips of 35-mm film up to six frames in length. Up to two film strips can be placed in the holder at a time. When scanning a single film strip, or when scanning two strips of different lengths, use the masking sheet to mask the unused apertures in the holder.



FH-835S film holder for 35-mm film strips

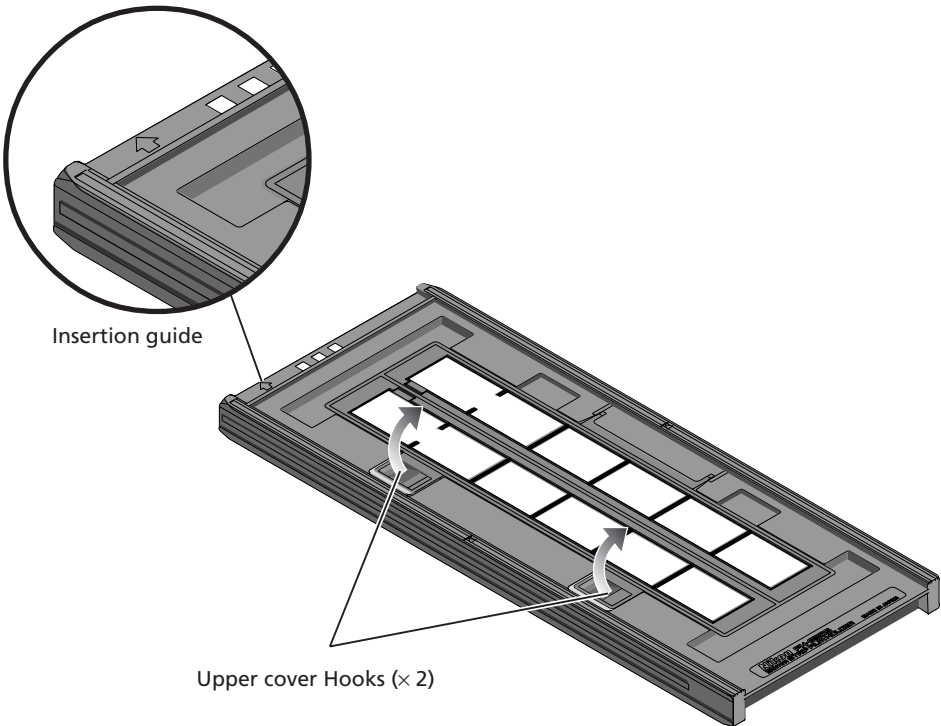


35-mm film



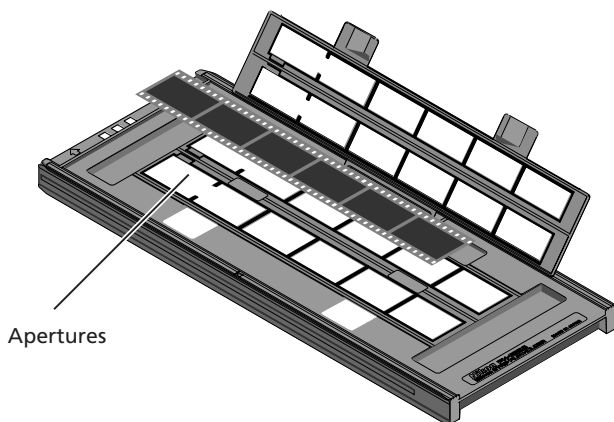
Masking sheets

With the holder oriented so that the insertion guide is to the left, insert your fingers into the holes in the lower portion holder to unlatch the hooks holding the upper cover in place, then open the holder.

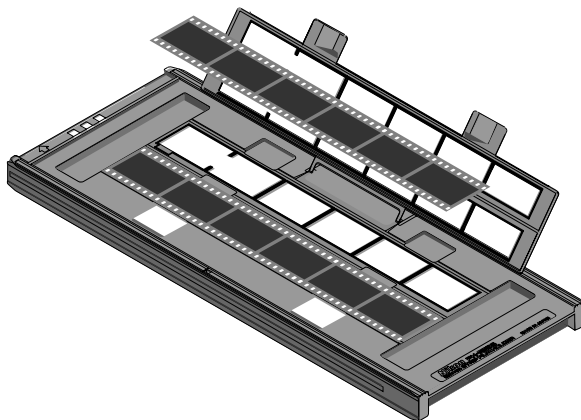


Step 2—Place the Film in the Holder

Place the film to be scanned in the holder with the matte emulsion surface down (the shiny surface up) and the frames aligned with the apertures in the lower portion of the holder.

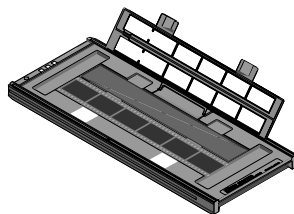


Place the second strip of film in the holder as described above, aligning it with the next row of apertures. Neither strip should be longer than the row of apertures.



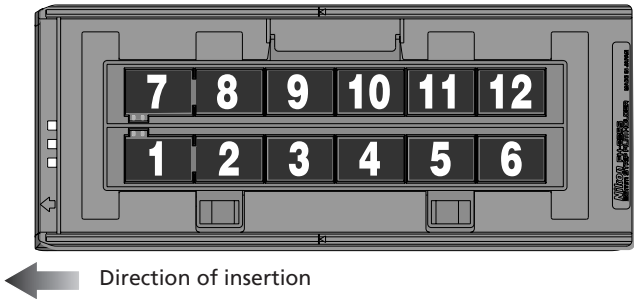
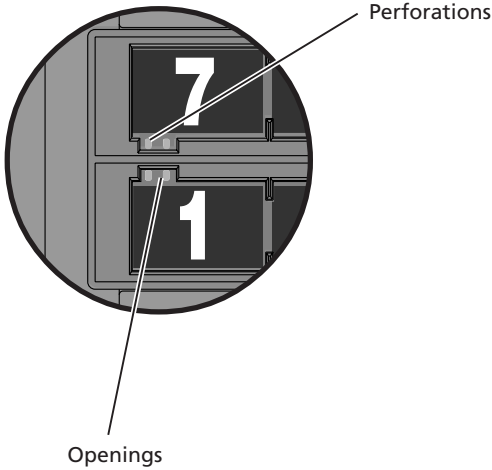
Scanning Single Strips

When scanning film strips one at a time, be sure to cover the remaining apertures with a masking sheet. Place the film at the front of the holder, where frame numbering starts. For more information, see page 81 of this manual.



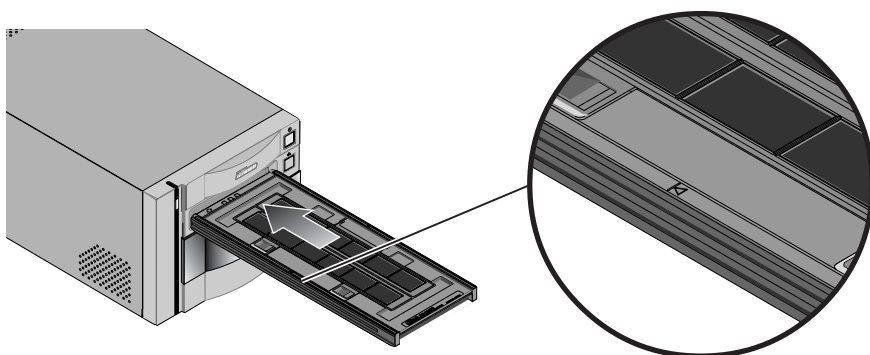
Openings are provided in the upper cover to allow you to adjust the position of film before latching the cover closed. Using these openings, insert a pointed object, such as a pen, in the film perforations and adjust the position of the film so that the frames are aligned with the apertures in the holder.

Close the upper cover so that the latches click into place. Nikon Scan will display thumbnails in the order shown below.



Step 3—Insert the Holder

After confirming that the status LED is glowing steadily, slide a holder into the holder slot as shown below, with the insertion guide up and pointing toward the scanner. Do not insert the holder at an angle. Once the holder has been inserted as far as the insertion guide, the scanner's loading mechanism will be activated and the holder will be fed into the scanner automatically. Remove your hands from the holder when loading starts. Loading will stop when the holder is in scanning position.



Insertion guide

✓ Inserting Holders

Holders can not be inserted into the scanner if the sliding cover is not fully open. When inserting holders in the scanner, do not use force. When a holder is inserted, the scanner readies the loading mechanism. Removing the holder or otherwise interfering with loading can cause scanning errors. Do not attempt to forcibly remove the holder during or after loading. When ejecting the holder, always use the button on the front of the scanner or the eject button in the Nikon Scan scan window.

If the holder does not load automatically when inserted, remove the holder and try again. Before insertion, remove any dust or lint with a blower.

Step 4—Scan the Slide

The actual scan is performed using Nikon Scan (for detailed information on using Nikon Scan, see the *Nikon Scan 3 Software Manual*).

Nikon Scan can be used as a “stand-alone” application for scanning images and saving them to disk as described below. It can also be used to scan images directly into any application that supports TWAIN (Windows) or Adobe Photoshop 5.0 acquire plug-ins (Mac OS 9 or earlier). Nikon Scan can not be used to scan images into third-party applications in Mac OS X.

Windows

Select **Nikon Scan** from the application’s list of “Acquire” or “Import” sources.

Mac OS 9 or Earlier

Before starting the application, make sure that the Nikon Scan 3 plug-in (Nikon Scan Plugin 3.1) has been copied into the **Import/Export** folder in the application’s plug-in folder. You can then scan images into the application by selecting **Nikon Scan** from the application’s list of “Acquire” or “Import” sources.

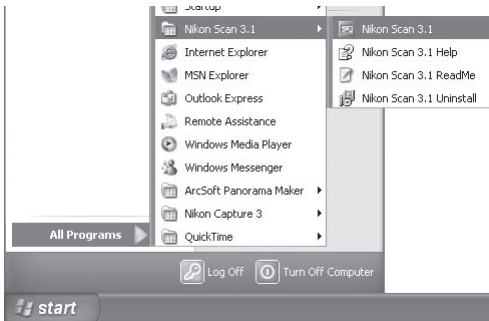
For more information, see the documentation for the application in question.

Making a Scan

Starting Nikon Scan

Windows

From the **Start** menu, select **All Programs > Nikon Scan 3.1 > Nikon Scan 3.1** (Windows XP) or **Programs > Nikon Scan 3.1 > Nikon Scan 3.1** (other versions of Windows).



Mac OS X

Open the folder Applications : Nikon Software : Nikon Scan 3 on the startup disk and double-click the **Nikon Scan 3** icon.



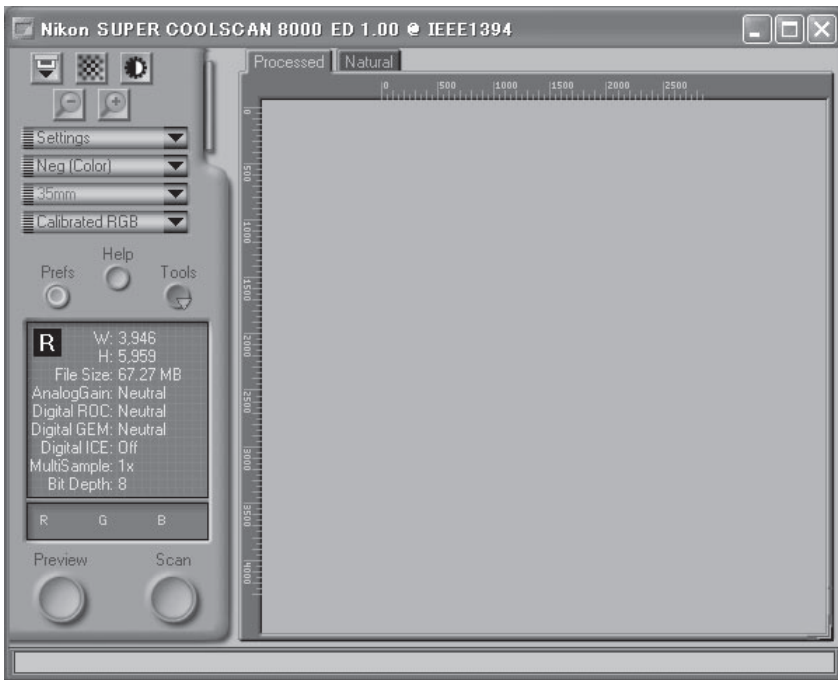
Mac OS 9 or Earlier

Open the Nikon Software folder in the location to which you installed Nikon Scan (the default location is the root directory of the startup disk) and double-click the **Nikon Scan 3.1** icon.



Using Nikon Scan

This example illustrates how to scan 35-mm film using the FH-835S film holder.



Using Nikon scan for the First Time

The first time you run Nikon Scan, the status LED will emit five series of rapid blinks (each of about three seconds duration) when you first insert holder with the scanner on or if you start Nikon Scan for the first time with the scanner on and a holder in place. This does not indicate an error. Do not eject the holder. If you ejected the holder while the status LED was blinking, turn the scanner off and then on again and restart Nikon Scan.

- 1 Choose the type of film to be scanned from the Nikon Scan media-type menu.

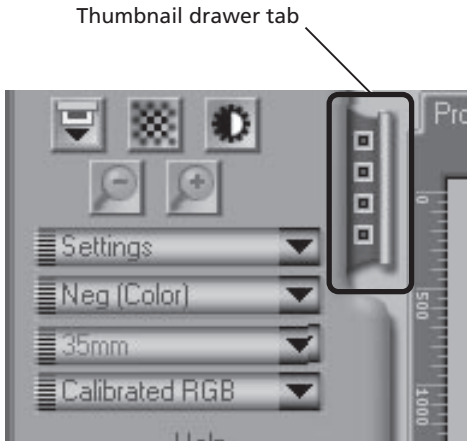




- 2 Choose a color model from the color-model menu. **Calibrated RGB** is the best choice in most circumstances. The **Grayscale** option is for use when scanning black-and-white (monochrome) film, while **CMYK** is intended for professionals who wish to create a file ready for printing on an industrial four-color printer.

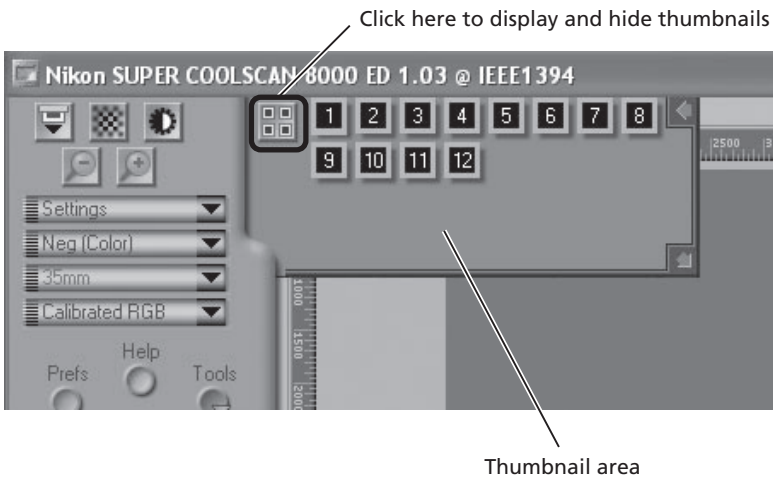


3 Choose the frames to be scanned

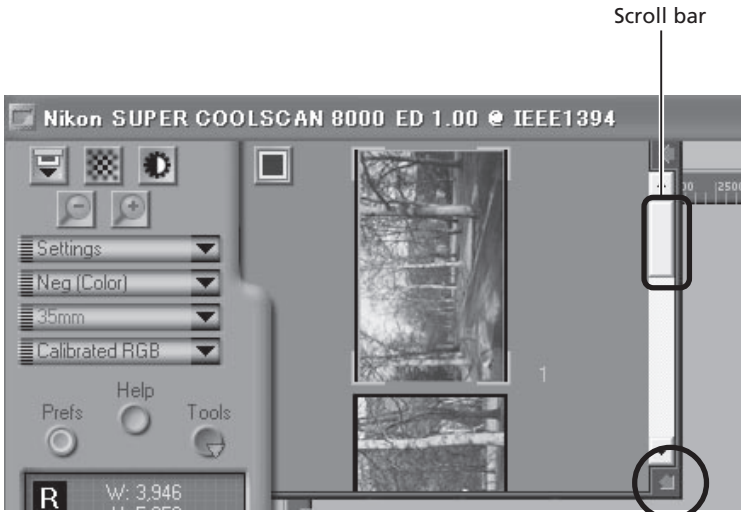
Click the thumbnail drawer tab to open the thumbnail drawer (the thumbnail drawer is not available when the optional FH-869GR rotating glass-covered holder for medium format film is inserted in the scanner).



Frames are identified by frame number (the number of frames displayed varies with the type of holder used). To view frames as small preview images (thumbnails), click the  button. The button will change to ; click the button again to return to the frame-number display.

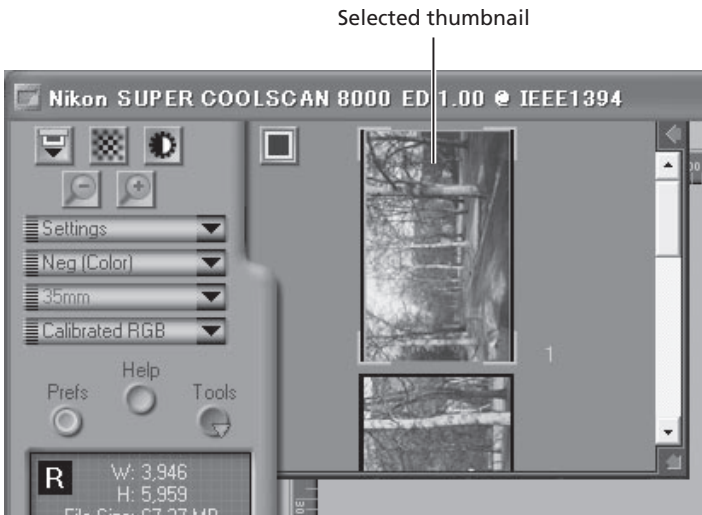


If the thumbnail drawer is too small to display all frames at once, you can enlarge the drawer by dragging the lower right corner, or use the scroll bar to view frames that can not be displayed in the drawer.



Drag to enlarge thumbnail area

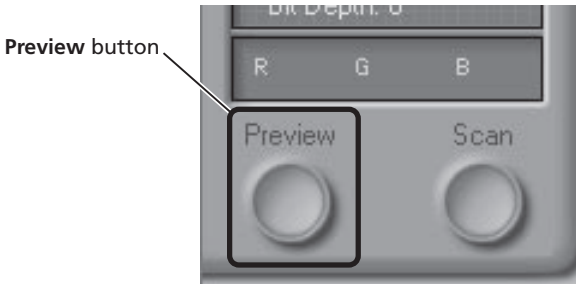
The frame to be scanned can be selected by clicking the associated frame number or thumbnail. To select multiple frames, hold down the Ctrl (Windows) or command (Macintosh) key while clicking frames one at a time, or hold down the shift key while clicking two images to select these images and all frames between them.



Selected thumbnail

4 Click the **Preview** button

Click the **Preview** button to create a preview of the image to be scanned. You can also create a preview by double-clicking a selected frame in the thumbnail drawer.



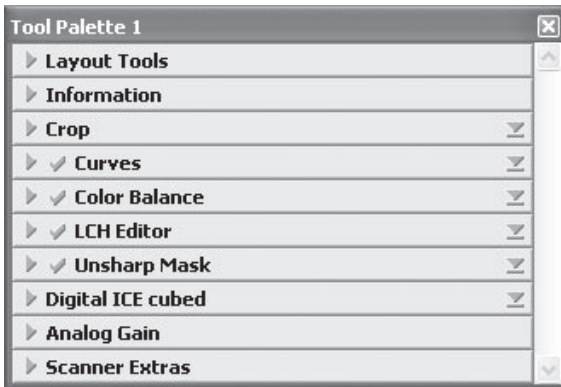
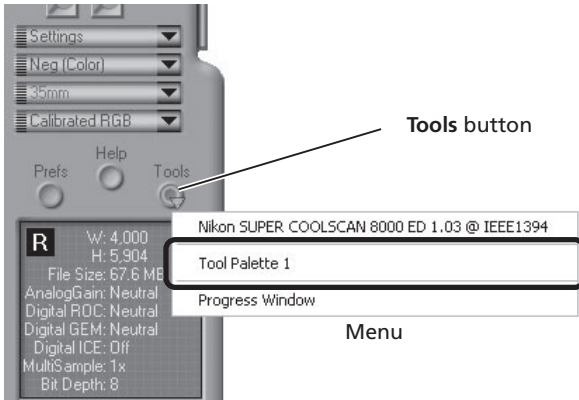
The preview will be displayed in the preview area.



Preview area

5 Adjust scan settings

For steps 6 through 10, you will use the tools in the “Tool Chest.” The Tool Chest is a window of tool palettes, each containing controls for a specific task, such as selecting the area to be scanned, adjusting contrast, color, and sharpness, setting the scan size and resolution, or compensating for defects in the original, such as grain or fading. If the Tool Chest is not already open, you can display the Tool Chest by clicking the **Tools** button in the scan window and selecting **Tool Palette 1** from the menu that appears.



Tool Palette 1




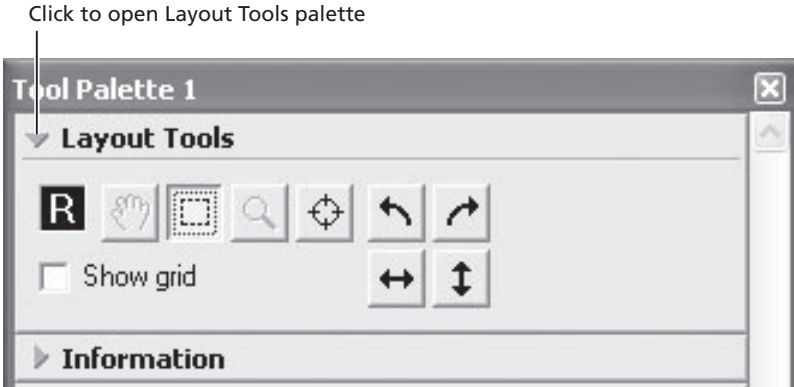
Pg. For more information on:

40 The Tool Chest





6 Rotate or flip the image

If necessary, you can rotate or flip the preview image. Click the triangle at the top left corner of the Layout Tools palette in the Tool Chest to view the controls in the Layout Tools palette.

In this example, the  button is used to rotate the image 90 ° to the right.



The image in the preview area can be rotated and flipped using the following four buttons:

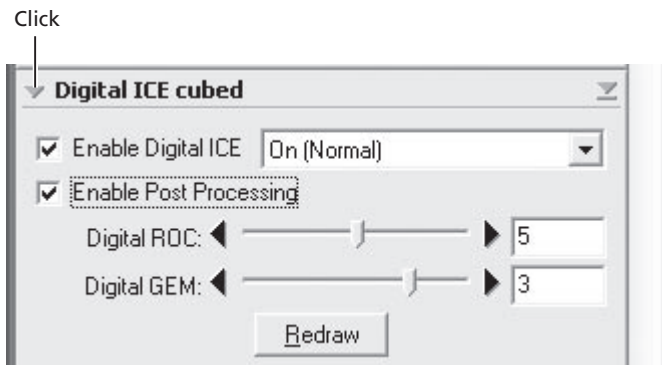
-  Rotate the image ninety degrees to the right
-  Rotate the image ninety degrees to the left
-  Flip the image horizontally
-  Flip the image vertically

Any flips and rotations performed on the image are reflected in the orientation of the letter "R" in the Layout Tools palette.



7 Compensate for defects

Click the triangle at the top left corner of the Digital ICE cubed (Digital ICE³) palette in the Tool Chest to view the controls in the Digital ICE cubed palette (for more information on Digital ICE³, see page 51 of the *Nikon Scan 3 Software Manual*).



Digital ICE

To remove dust and scratches from the image, check **Enable Digital ICE** and select **Normal** or **Fine** from the **Digital ICE** menu. A setting of **Fine** can be used to remove very fine scratches or barely visible dust, although this may sometimes result in reduced sharpness. The effects of Digital ICE can be viewed by clicking the **Preview** button to refresh the preview image.

Digital ROC, Digital GEM

To restore faded colors or reduce the effects of film grain, first check **Enable Post Processing**. Faded colors can be restored adjusting the **Digital ROC** (for Restoration of Color) slider, while the image can be processed to minimize grain using the **Digital GEM** (for Grain Equalization and Management) slider. The default values for these sliders are 5 and 3, respectively. Setting the sliders to zero turns the options off, while moving the sliders to the right increases their effect. To view the effects of Digital ROC or Digital GEM in the preview image, click the **Redraw** button.


Important

Because of the complexity of the processing involved, Digital ICE³ operations require additional time to perform. The time required is determined in part by the processing power of your computer and in part by the size of the image.

Pg. For more information on:

 51 Digital ICE³

8 Select a crop

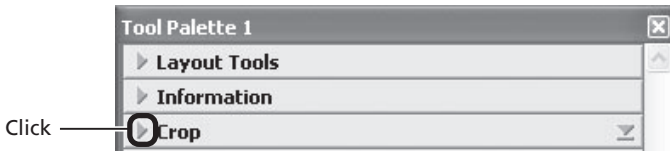
Select a portion of the image for scanning. This selection is referred to as the “crop.” Click the Crop tool () in the Layout Tools palette and drag the mouse to select a crop. The borders of the crop are indicated by a dotted line.



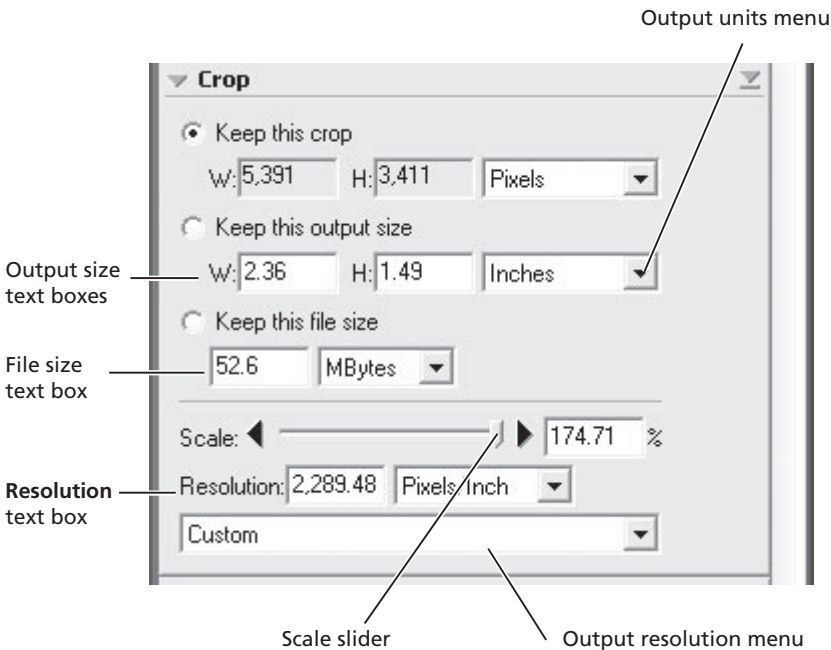
The size of the crop can be changed by dragging its boundaries. To change the position of the crop, place the cursor inside the selected area and drag it to a new location.

9 Choose an output size and resolution

If desired, you can specify the dimensions and resolution of the final image ("output size and resolution"). Click the triangle at the top left corner of the Crop palette to view the controls in the Crop palette.



The Crop palette contains three options for determining output size: **Keep this crop**, **Keep this output size**, and **Keep this file size**.



- **Keep this crop**

Choose **Keep this crop** when you want to select the precise area to be scanned using the mouse, then adjust the output resolution and size according to how the image will be used. Enter a value for resolution suited to the device on which the image will be printed or displayed in the Resolution text box, or select a resolution that matches the device from the options listed in the output resolution menu. You can then choose the units for output size from the output units menu and enter a value for either **Width** or **Height** in the output size text boxes. The other dimension will be adjusted automatically to maintain the crop selected in the preview area.

- **Keep this output size**

Choose this option when you want to select the general area to be scanned using the mouse, then specify the exact dimensions of the image to fit it into a pre-determined space, for example in a magazine or on a web page. Follow the directions above to select the output resolution and output units, then enter the desired values for **Width** and **Height** in the output size text boxes. The crop selected in the preview area will automatically be adjusted to maintain the crop at these proportions.

- **Keep this file size**

Choose this option when you want to select the general area to be scanned using the mouse and then specify the exact file size of the final image, for example to keep file sizes to a minimum for storage or electronic transfer, or because you have been asked for a file of a certain size. Enter a value for file size in the file size text box and select the units for file size from the menu to its right.

10 Adjust color, contrast, and sharpness

Color, contrast, brightness, and sharpness can be adjusted as necessary using the tool palettes listed below. For more information, see the *Nikon Scan 3 Software Manual* (on CD).

Curves

The Curves palette makes it possible to adjust color balance and contrast in specific portions of the tone range. For example, you can selectively enhance detail in dark portions of the image (shadow), brighten mid-tones, or bring out details in highlights. Changes can be made to all the component colors in the image or only to specific color components (channels).

Color Balance

The Color Balance palette can be used to adjust brightness, contrast, and color balance over the entire tone range.

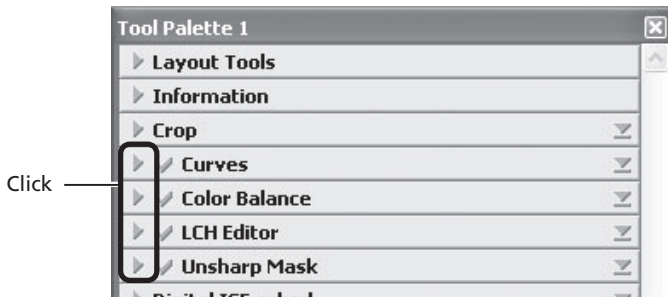
LCH Editor

The LCH Editor is used to adjust brightness and contrast in specific portions of the tone range, edit chroma to modify color saturation, or “vividness,” and change one set of hues (or colors) in the image to a different color.

Unsharp Mask

The tools in the Unsharp Mask palette sharpen outlines, either throughout the image or only where specific colors predominate.

To open any of the above palettes, click the triangle at its top left corner.



Pg. For more information on:

- 63 Curves
- 76 Color Balance
- 78 The LCH Editor
- 85 Unsharp Mask

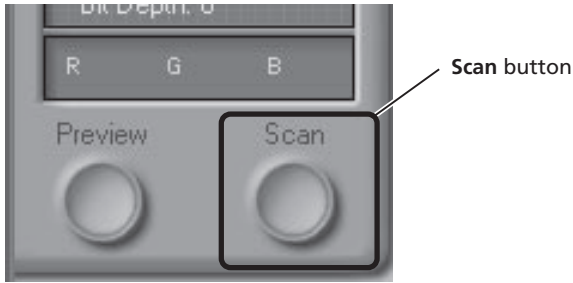
To view the effects of any changes that have been made and compare them with the original, use the Processed and Natural tabs in the preview area to switch back and forth between the processed and original image. The image produced when you click the **Scan** button to open the image in the host application will be the same as the image in the Processed tab.

The Processed/Natural Tabs

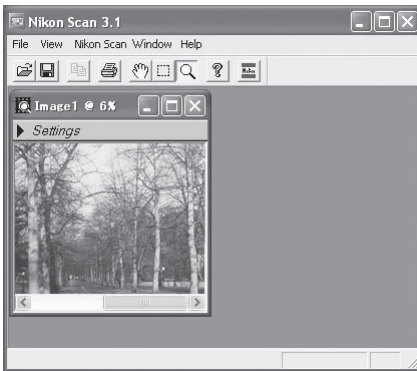


When using Nikon Scan as a stand-alone application, you can use the Ctrl-T (Windows) or ⌘-T (Macintosh) keyboard shortcut to switch between the Processed and Natural tabs.

11 Click the **Scan** button to begin scanning.



When scanning is complete, the image will be displayed in an image window.



Windows



Macintosh


Scanned images can be saved and reopened for editing in another application, such as Photoshop.

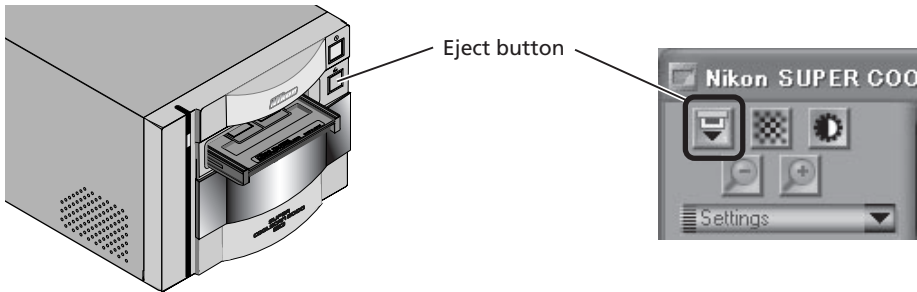
Image Windows

You can close the scan window if it blocks your view of the image in the image window.

12 Scan additional images

To scan additional images after closing the scan window, select the scanner from the **Nikon Scan > Tools** menu. In Windows, you can also open the scan window by selecting **Open TWAIN Source** from the **File** menu. If you are using Nikon Scan to scan images directly into another application, open the scan window by selecting **Nikon Scan** from the application's list of "Acquire" or "Import" sources. You can then repeat steps 1 to 11 (pages 63–75) to scan additional images.

To scan additional strips of film, remove the holder from the scanner by pressing the scanner eject button or clicking the eject  button in the Nikon Scan scan window.



Important

The holder will automatically be ejected if you turn the scanner off and then on again.

Caution

Do not, under any circumstances, touch the holder as it is being ejected from the scanner. Wait for the holder to be fully ejected and then remove the holder from the scanner.

The holder will not be ejected if the eject button in the scan window is clicked when the sliding cover on the front of the scanner is not fully open. Open the slot cover fully before clicking the eject button.

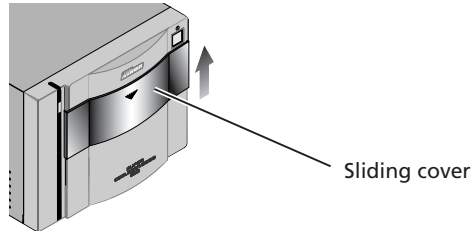
13 Exit Nikon Scan and turn the scanner off

13-1. Eject the holder

Press the eject button to eject the holder (see step 12).

13-2. Close the sliding cover

Slide the cover closed.



13-3. Exit Nikon Scan

If you are using Nikon Scan as a "stand-alone" application, choose **Exit** (Windows) or **Quit** (Macintosh) from the **File** menu to exit Nikon Scan. If you are using Nikon Scan to scan images directly into another application, simply close the scan window by clicking the close box.

13-4. Turn the scanner off

If you are using a Macintosh or a computer running Windows XP or Windows 2000 Professional, wait for the status LED to stop blinking and then turn the scanner off by pressing the power button. If you are using Windows Me or Windows 98 SE, you must first remove the scanner from the system as described below.

Windows Me

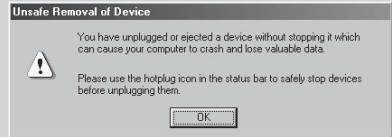
Shut down the computer. Once the computer has turned off, press the power button to turn the scanner off.

Windows 98 SE

Click the "Unplug or Eject Hardware" button in the taskbar and select **Stop Nikon SUPER COOLSCAN 8000 ED** from the menu that appears.

A message will be displayed stating that the scanner can be safely removed from the system; click **OK** and follow the on-screen instructions to terminate the transfer of data between the scanner and the computer. You can then turn the scanner off by pressing the power button.


If you fail to perform this step before disconnecting the scanner or turning it off, the dialog shown at right will be displayed.





Film Holders for the 8000 ED

This chapter describes how to insert film in the various types of film holder available for the 8000 ED.


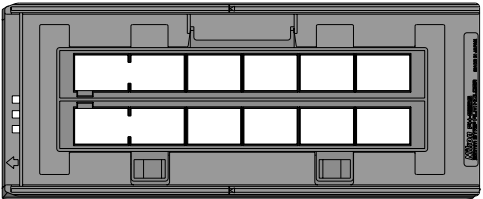
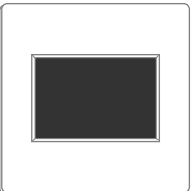
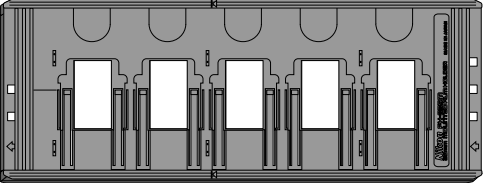

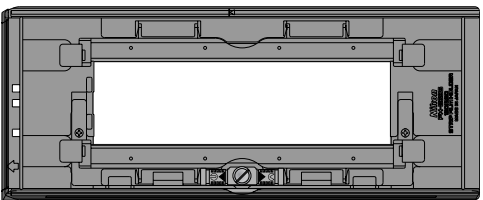


Holders Provided with Your Scanner	80
Optional Holders	94



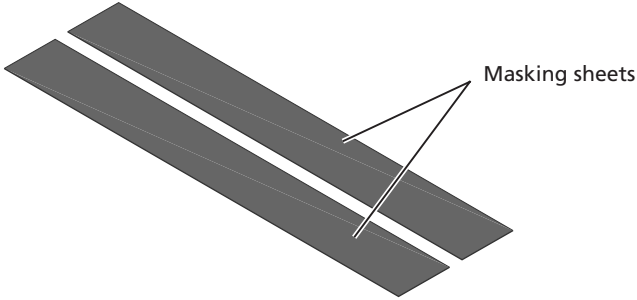
Holders Provided with Your Scanner

Three holders are provided with your scanner, each for use with a different type of film.

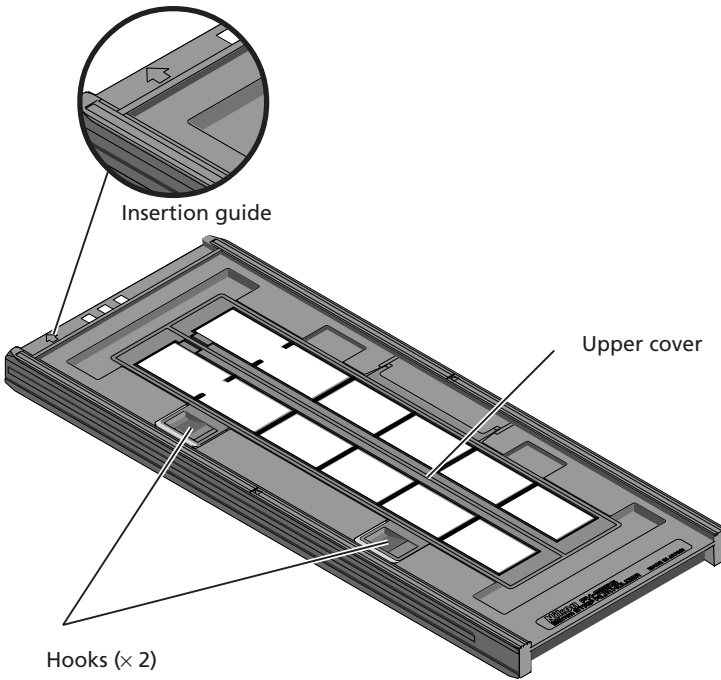
When scanning	Use
	
<p>35-mm film strips up to six frames in length</p>	<p>FH-835S holder for 35-mm film strips The FH-835S can be used to scan two strips of film up to six frames in length.</p>
	
<p>Mounted 35-mm slides</p>	<p>FH-835M holder for mounted 35-mm slides The FH-835M can be used to scan up to five slides at a time.</p>
	
<p>Medium-format (120/220) film strips</p>	<p>FH-869S holder for Brownie film The FH-869S can be used to scan strips of 120/220 film or 59 × 82 mm film for electron microscopes.</p>

Using the FH-835S Holder for 35-mm Film Strips

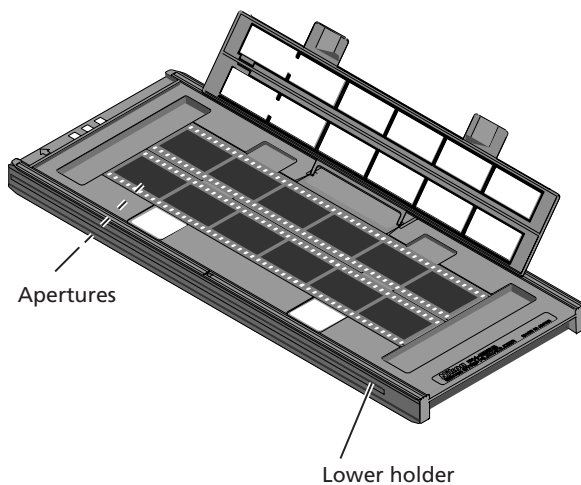
The FH-835S is used when scanning strips of 35-mm film up to six frames in length. Up to two film strips can be placed in the holder at a time. When scanning a single film strip, or when scanning two strips of different lengths, use the masking sheet to mask the unused apertures in the holder (📄 84).



With the holder oriented so that the insertion guide is to the left, insert your fingers into the holes in the lower portion holder to unlatch the hooks holding the upper cover in place, then open the holder.



Place the film to be scanned in the holder with the matte emulsion surface down (the shiny surface up) and the frames aligned with the apertures in the lower portion of the holder.

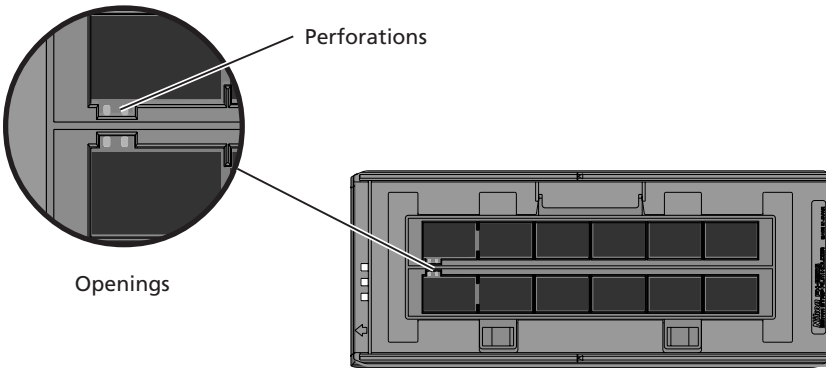


✓ Cautions

Use only one type of film at a time. Do not place negative and positive film in the holder at the same time.

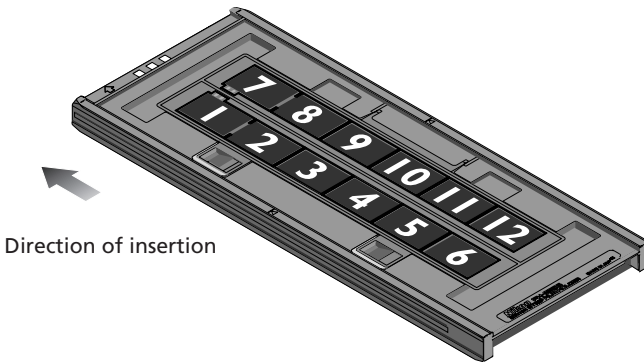
To avoid damaging the film, use a blower to remove dust and lint from the film and holder. Leaving dust, lint, or other foreign objects on the film or holder during scanning could result in reduced image quality or in damage to the film.

Openings are provided in the upper cover to allow you to adjust the position of film before latching the cover closed. Using these openings, insert a pointed object, such as a pen, in the film perforations and adjust the position of the film so that the frames are aligned with the apertures in the holder.



Close the upper cover so that the latches click into place.

Thumbnails are displayed in the thumbnail drawer in the scan window in the order shown below.

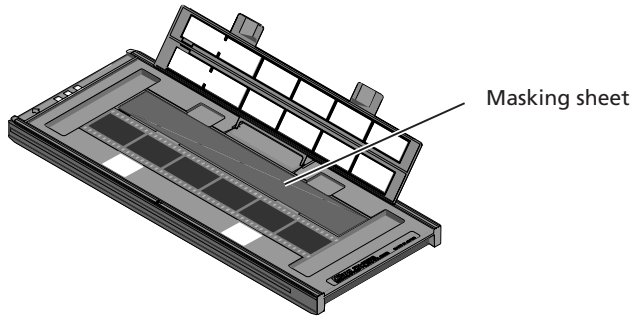


Caution

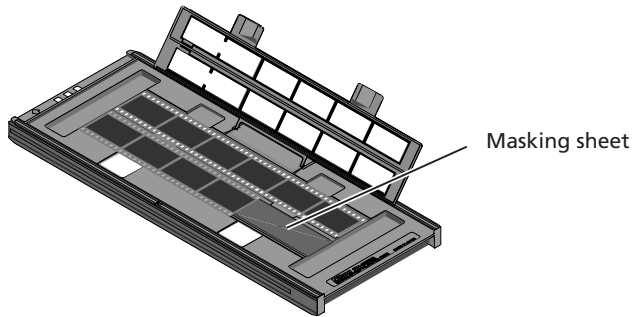
When adjusting the position of the film, care should be observed to avoid damaging the perforations. Do not attempt to adjust the position of the film when the holder is latched. Failure to observe this precaution could result in damage to the film.

Masking Sheets

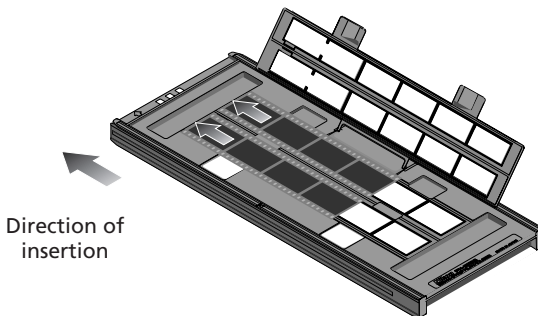
When scanning film strips one at a time, be sure to cover the remaining apertures with a masking sheet. Make sure to place the film strip on the left side and the mask strip of the right side with respect to the direction of insertion as shown below.



When scanning two strips of different lengths, cover any open apertures by cutting a masking sheet into the appropriate lengths and placing it over the apertures. Leaving apertures open when scanning film of different lengths can interfere with accurate color reproduction.



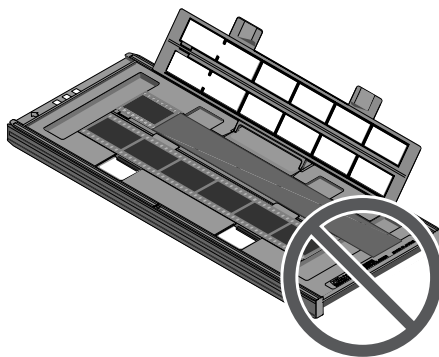
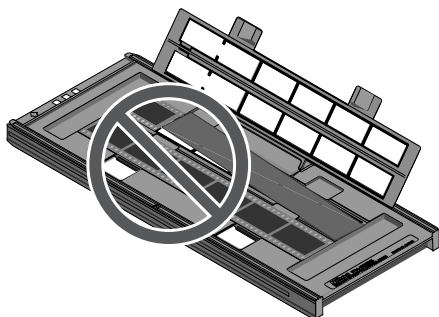
When scanning two film strips containing less than six frames but of equal length, place the film so that it covers the apertures at the end of the holder that will be inserted in the scanner.



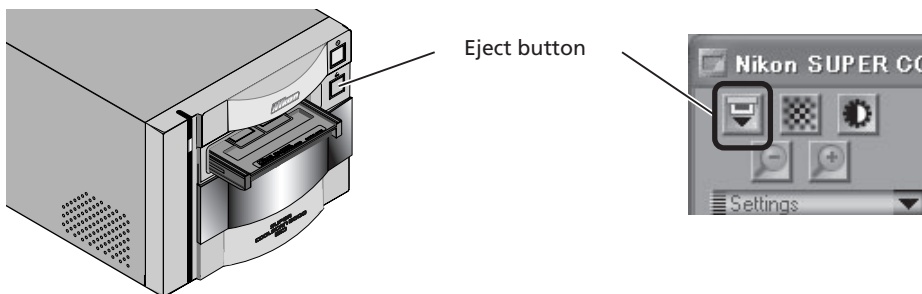
Leaving the apertures at the front of the holder uncovered can interfere with accurate color reproduction.

✓ Inserting Film and Masking Sheets

Cut the masking sheets to the length needed to cover open apertures. Make sure that the film and masking sheets are inserted between the guides. If you insert the holder into the scanner with film riding up on the guides, the film holder may jam in the scanner.

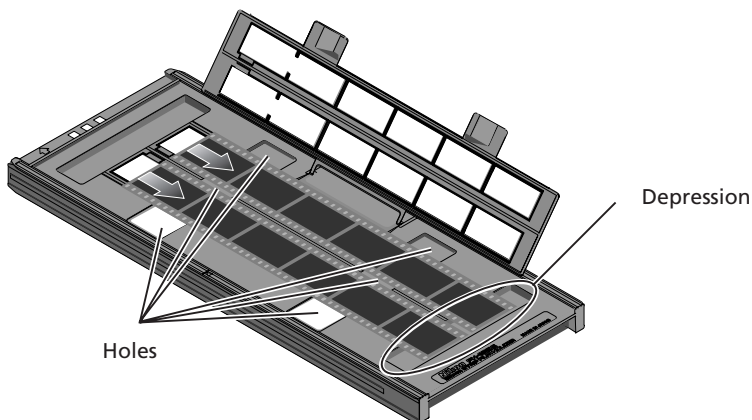


Once scanning is complete, press the eject button on the front of the scanner or click the eject button in the scan window to eject the holder. Remove the holder and close the sliding cover.



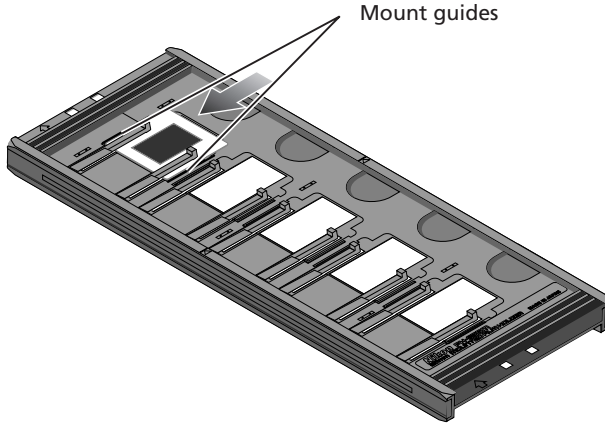
Removing Film from the Holder

Open the holder as described above and remove the film. Insert your fingers in the holes in the lower holder and pick the film up by its edges. If the edges of the film are not accessible, tilt the holder so that the film slides to the edge of the depression at the end of the lower holder and then remove the film.

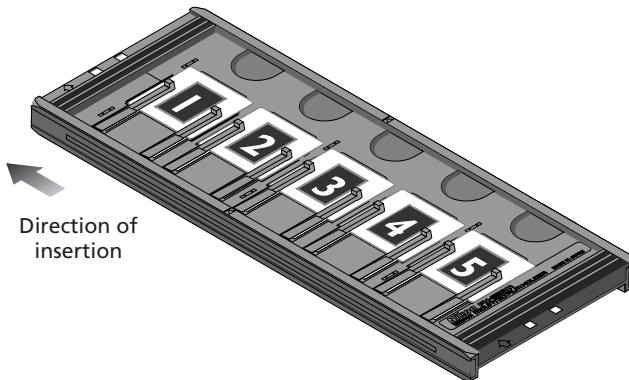


Using the FH-835M Holder for Mounted 35-mm Slides

The FH-835M is used when scanning mounted 35-mm slides. Up to five slides can be placed in the holder at a time. Insert the slides with the matte emulsion surface down (the shiny surface up). Slide the mounts into place between the guides, oriented to match the apertures in the holder. Stop when the slide comes into contact with the base of the clips.



Thumbnails are displayed in the thumbnail drawer in the scan window in the order shown below.



Cautions

Mounts must be 1.0–3.2 mm in thickness. Other mounts can not be used.

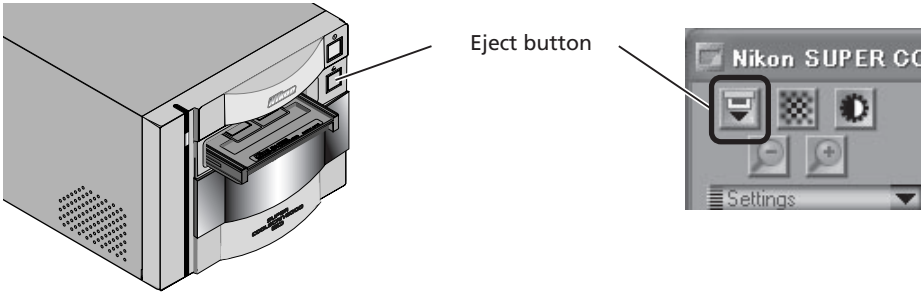
Do not use force when inserting slides. Failure to observe this precaution could damage the clips that hold the mounts in place. Should you encounter resistance, try inserting the slides at a slight angle.

Be sure to insert slides between the guides. The scanner may not be able to adjust focus correctly if slides are placed on top of the guides. Inserting the slides on top of the guides could also damage the clips that hold the mounts in place.

Do not leave slides in the holder for extended periods. Failure to observe this precaution could deform the clips that hold the slides in place.

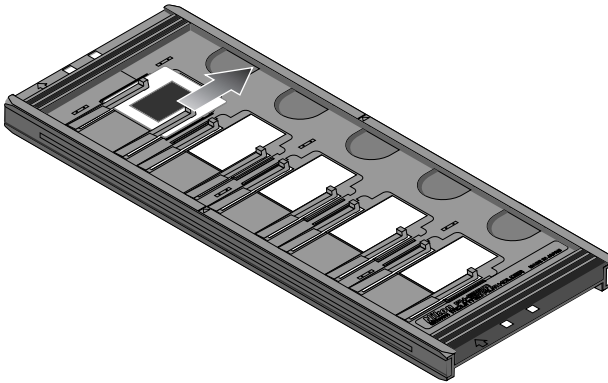
To avoid damaging the film, use a blower to remove dust and lint from the film and holder. Leaving dust, lint, or other foreign objects on the film or holder during scanning could result in reduced image quality or in damage to the film.

Once scanning is complete, press the eject button on the front of the scanner or click the eject button in the scan window to eject the holder. Remove the holder and close the sliding cover.



Removing Slides from the Holder

Slide the mounts out from under the clips that hold them in place.



✓ Cautions

Do not use force when removing the slides. Failure to observe this precaution could result in damage to the clips that hold the slides in place. Do not lift the slides up until they have been fully removed from the clips.

Using the FH-869S Holder for Brownie Film

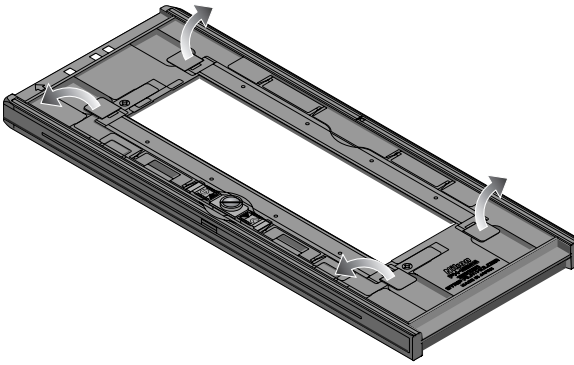
The FH-869S is used when scanning medium-format (120/220) or 59 mm × 82 mm film for electron microscopes. The number of frames that can be scanned depends on the type of film:

6 × 4.5: up to four frames

6 × 9: up to three frames

6 × 7–6 × 9: up to two frames

Insert your fingers in the depressions and unlatch the hooks, then open the upper holders.



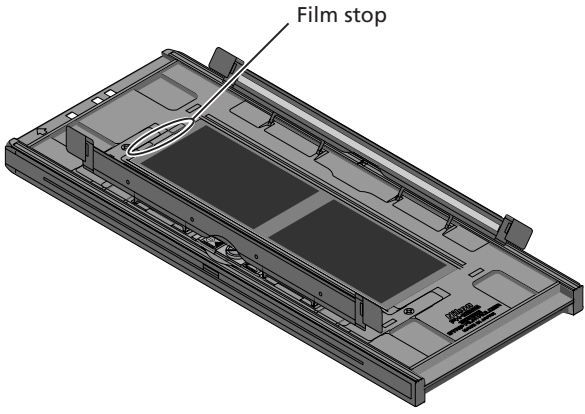
✓ Cautions

Use only one type of film at a time. Do not place negative and positive film in the holder at the same time.

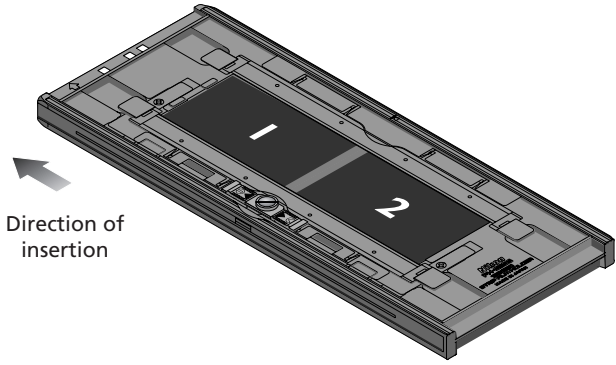
Be sure to place the end of the film against the stop. Leaving a gap between the film and the stop could interfere with accurate color reproduction.

To avoid damaging the film, use a blower to remove dust and lint from the film and holder. Leaving dust, lint, or other foreign objects on the film or holder during scanning could result in reduced image quality or in damage to the film.

Insert the film with the matte emulsion surface down (the shiny surface up), with the end of the film against the stop, then lower the upper holders until they click into place.



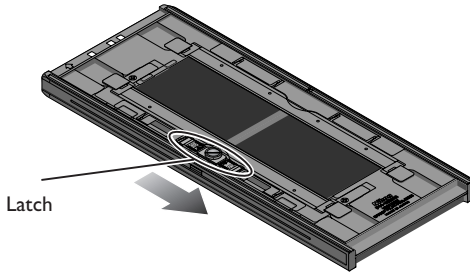
Thumbnails are displayed in the thumbnail drawer in the scan window in the order shown below.



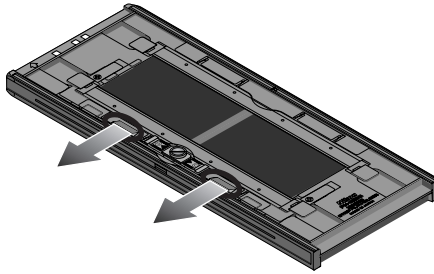
Curled Film

Follow the steps below to remove curl from medium-format film.

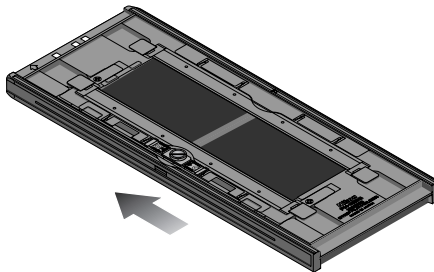
- 1 Slide the latch in the direction indicated by the arrow.



- 2 Slide the movable base outwards by pushing the grips lightly with your fingers to remove curl from the film. Do not apply excessive force, as this could push the film out of alignment (to prevent this, press the upper holder slightly downwards before sliding it outwards).

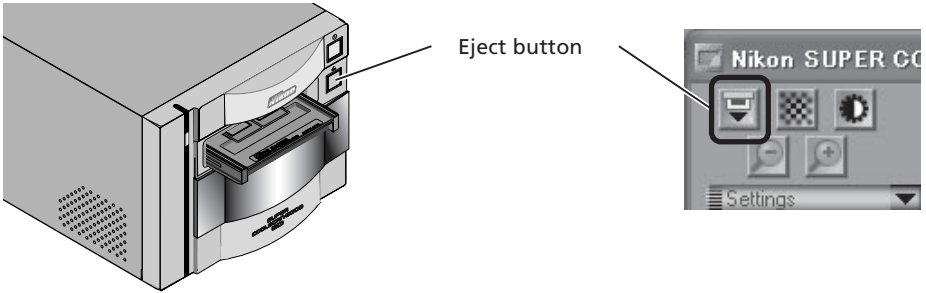


- 3 After adjusting the position of the movable base, turn the locking screw clockwise to tighten it.



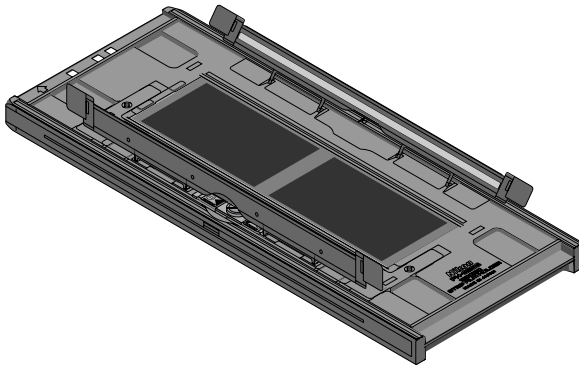
Film that has more than 10 mm of curl can not be used. Use the optional FH-869G glass-covered brownie film holder or optional FH-869GR glass-covered rotating brownie film holder. Do not leave the film in the holder for extended periods, as it may leave marks in the film.

Once scanning is complete, press the eject button on the front of the scanner or click the eject button in the scan window to eject the holder. Remove the holder and close the sliding cover.




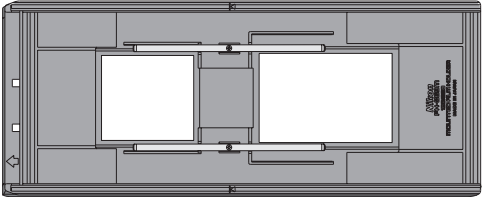

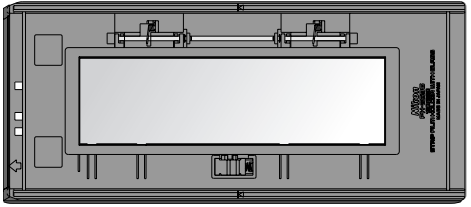

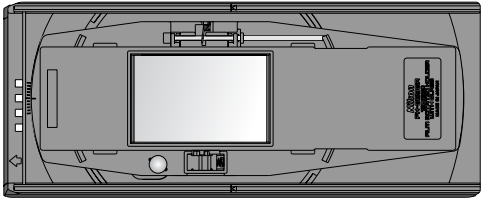
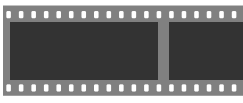
Removing Film from the Holder


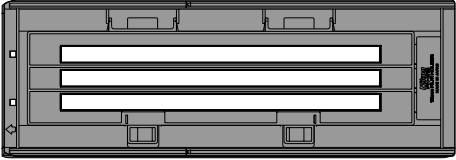

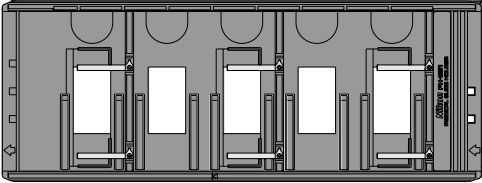
Open the upper cover and take hold of the film by the edge at the rear of the holder.



Optional Holders

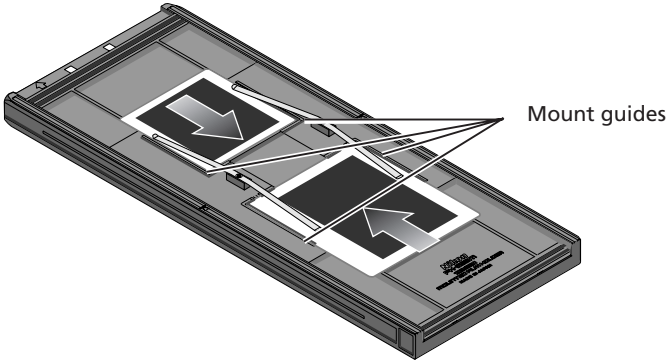
Five types of holder are available for separate purchase, each for use with a different type of film.

When scanning	Use
 <p data-bbox="98 507 356 555">Mounted medium-format film</p>	 <p data-bbox="490 507 920 529">FH-869M holder for mounted Brownie film</p> <p data-bbox="389 533 1022 555">The FH-869M can be used to scan 6 × 4.5, 6 × 6, 6 × 7, or 6 × 9 slides.</p>
 <p data-bbox="94 852 360 874">Medium-format film strips</p>	 <p data-bbox="439 852 972 874">FH-869G glass-covered holder for Brownie film strips</p> <p data-bbox="389 877 1022 928">The FH-869G can be used to scan strips of medium-format (120/220) film or 59 mm × 82 mm electron microscope film.</p>
 <p data-bbox="94 1139 360 1161">Medium-format film strips</p>	
 <p data-bbox="156 1362 304 1385">Panorama film</p>	<p data-bbox="418 1203 994 1225">FH-869GR glass-covered rotating holder for Brownie film</p> <p data-bbox="389 1228 1022 1305">The FH-869GR can be used to scan medium-format (120/220) film, 59 mm × 82 mm film for electron microscopes, or frames of panorama film 24 × 58 mm or 24 × 65 mm in size.</p>

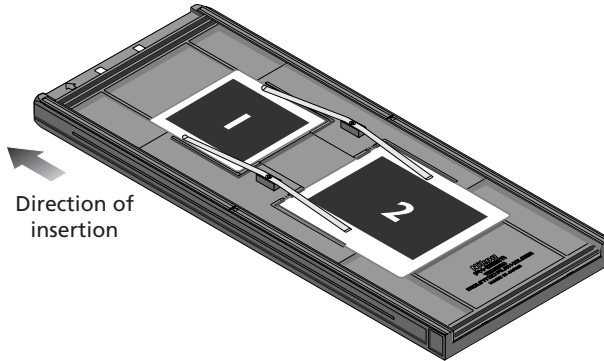
When scanning	Use
 <p data-bbox="120 502 365 555">16-mm film strips up to twenty frames in length</p>	 <p data-bbox="588 502 850 526">FH-816 16-mm film holder</p> <p data-bbox="400 528 1037 580">The FH-816 can be used to scan from one to three strips of 16-mm film up to twenty frames in length</p>
 <p data-bbox="117 849 367 924">Glass 26 mm × 76 mm microscope slides of prepared tissue samples</p>	 <p data-bbox="605 849 833 873">FH-8G1 medical holder</p> <p data-bbox="400 874 1037 927">The FH-8G1 can be used to scan up to three prepared glass 26 mm × 76 mm microscope slides</p>

Using the FH-869M Holder for Mounted Brownie Film

The FH-869M is used when scanning mounted medium-format (Brownie) film. It can be used to scan up to two slides, one 6×4.5 or 6×6 , the other 6×7 , 6×8 , or 6×9 . Place the 6×4.5 or 6×6 slide at the front of the holder, the 6×7 , 6×8 , or 6×9 slide at the back. Insert the slides with the matte emulsion surface down (the shiny surface up). Slide the mounts into place between the guides, oriented to match the apertures in the holder. Stop when the slide comes into contact with the base of the guides.



Thumbnails are displayed in the thumbnail drawer in the scan window in the order shown below.



✓ Cautions

Do not place negative and positive film in the holder at the same time.

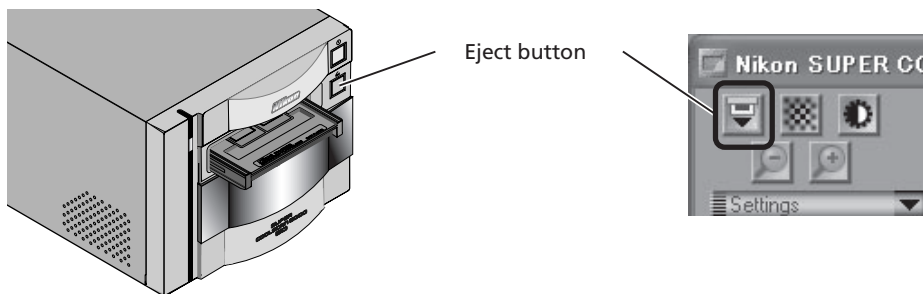
To avoid damaging the film, use a blower to remove dust and lint from the film and holder. Leaving dust, lint, or other foreign objects on the film or holder during scanning could result in reduced image quality or in damage to the film.

Mounts must be 1.0–3.2 mm in thickness. Other mounts can not be used.

Do not use force when inserting slides. Failure to observe this precaution could damage the clips that hold the mounts in place. Should you encounter resistance, try inserting the slides at a slight angle.

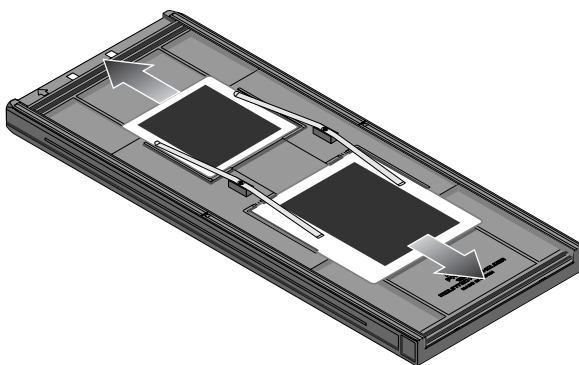
Be sure to insert slides between the guides. The scanner may not be able to adjust focus correctly if slides are placed on top of the guides. Inserting the slides on top of the guides could also damage the clips that hold the mounts in place.

Once scanning is complete, press the eject button on the front of the scanner or click the eject button in the scan window to eject the holder. Remove the holder and close the sliding cover.



Removing Slides from the Holder

Slide the mounts out from under the clips that hold them in place.



✓ Cautions

Do not leave the film in the holder for extended periods, as it may deform the clips that hold the slide mounts in place.

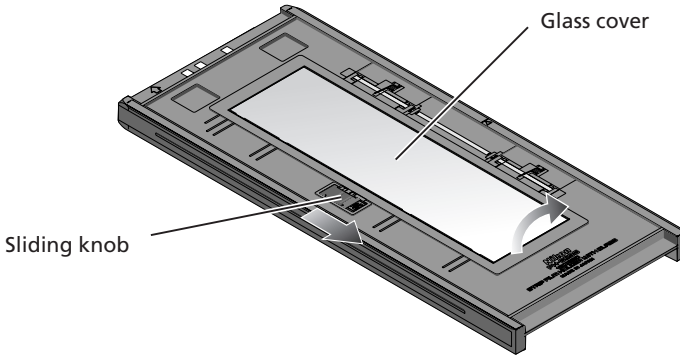
Do not use force when removing slides from the clips. Failure to observe this precaution could result in damage to the clips. Lift the slides up only once they are clear of the clips.

Using the FH-869G Glass-Covered Holder for Brownie Film

The FH-869G is used when scanning medium-format (120/220) or 59 mm × 82 mm film for electron microscopes. The number of frames that can be scanned depends on the type of film:

- 6 × 4.5: up to four frames
- 6 × 6: up to three frames
- 6 × 7–6 × 9: up to two frames

Slide the knob in the direction shown below and open the glass cover.



✓ Cautions

Use only one type of film at a time. Do not place negative and positive film in the holder at the same time.

Be sure to align the end of the film with the film line on the holder. Leaving a gap between the film and the line could interfere with accurate color reproduction.

Multiple single-frame strips of film can be inserted in the holder at the same time, but be sure not to mix positive and negative film.

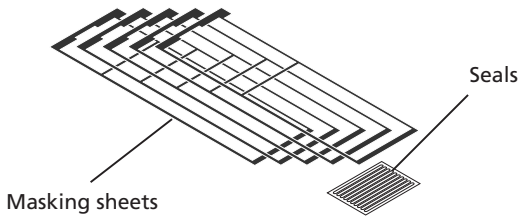
The bottom side of the glass cover has been treated to prevent interference. Avoid leaving fingerprints or other stains on the glass.

To avoid damaging the film, use a blower to remove dust and lint from the film and holder. Leaving dust, lint, or other foreign objects on the film or holder during scanning could result in reduced image quality or in damage to the film.

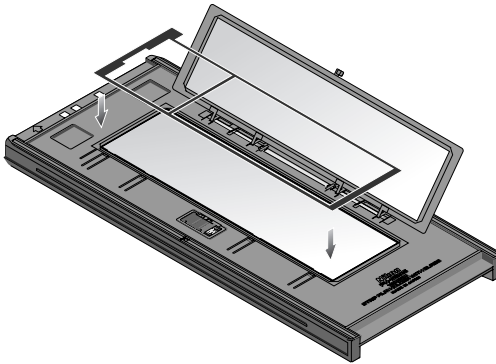
A "Newton ring" interference pattern may appear when scanning film that has been folded or otherwise deformed. This can be prevented by placing a masking sheet under the film.

Placing Seals Between Frames

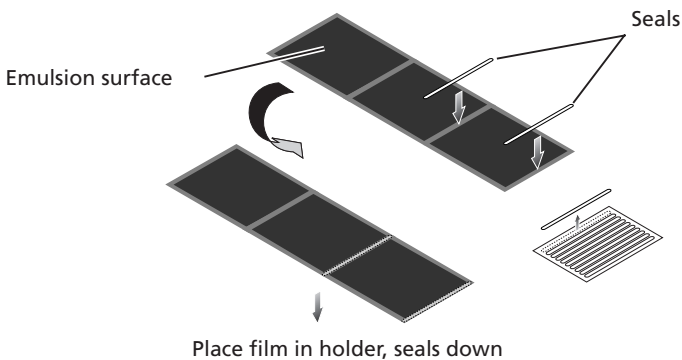
Newton's rings (a radial interference pattern) may appear when you scan film that has been bent out of shape or otherwise distorted. When scanning film that has been folded or twisted, attach seals to the emulsion surface of the film between all frames but the first and second, and then place the film on the masking sheet emulsion side down (shiny surface up). Seals can be reused.



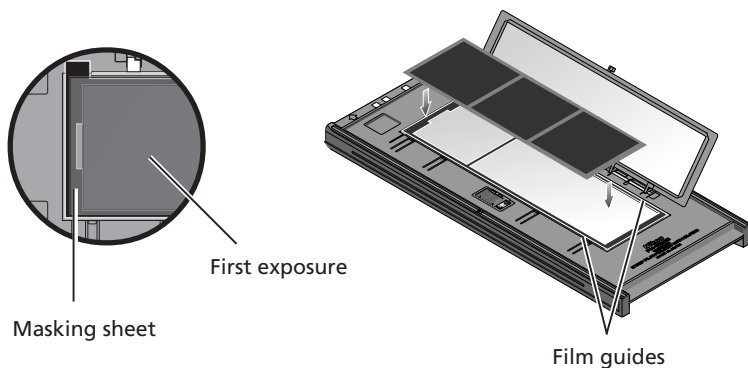
- 1 Place a masking sheet of the appropriate size in the holder.



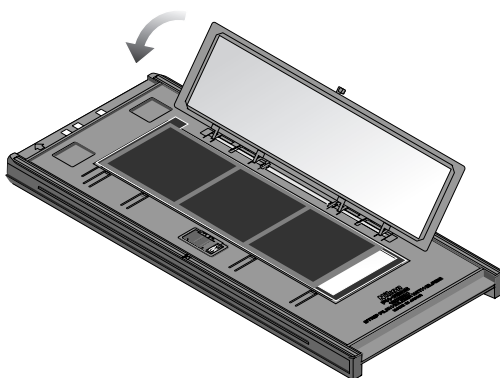
- 2 Place seals on the emulsion surface of the film between all but the first two frames.



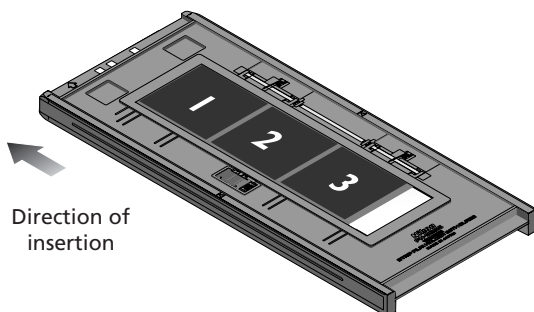
- 3 With the shiny surface of the film up (the emulsion side with seals in place down), place the film between the film guides with the beginning of the first exposure against the inner edge of the masking sheet.



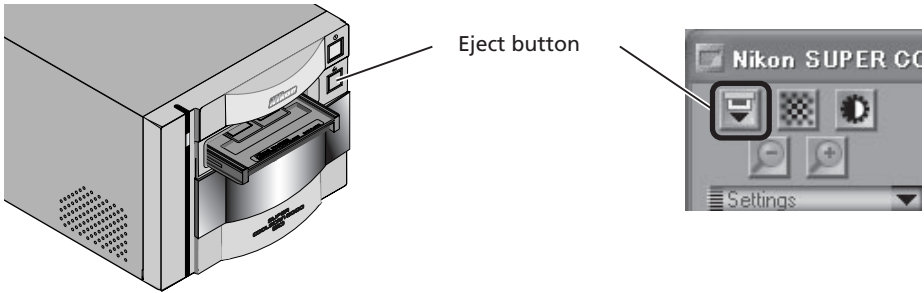
- 4 Snap the cover closed.



- 5 Insert the holder as shown. The frames will appear in the thumbnail drawer in the order shown below.

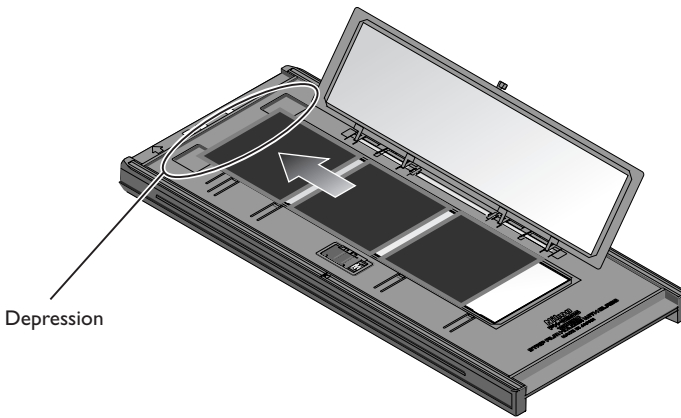


Once scanning is complete, press the eject button on the front of the scanner or click the eject button in the scan window to eject the holder. Remove the holder and close the sliding cover.



Removing Film from the Holder

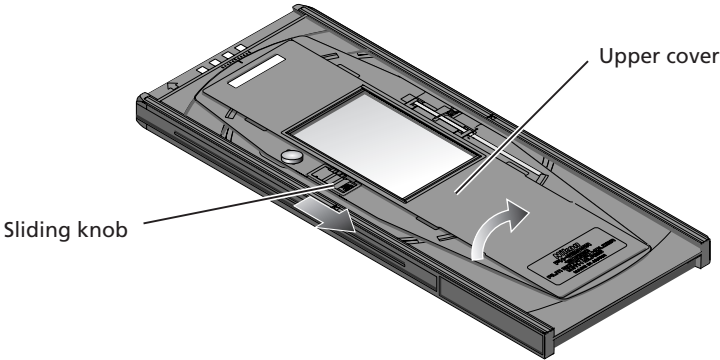
Open the glass cover and tilt the holder so that the film slides to the depressions in the lower holder, then insert your fingers in the depressions and remove the film.



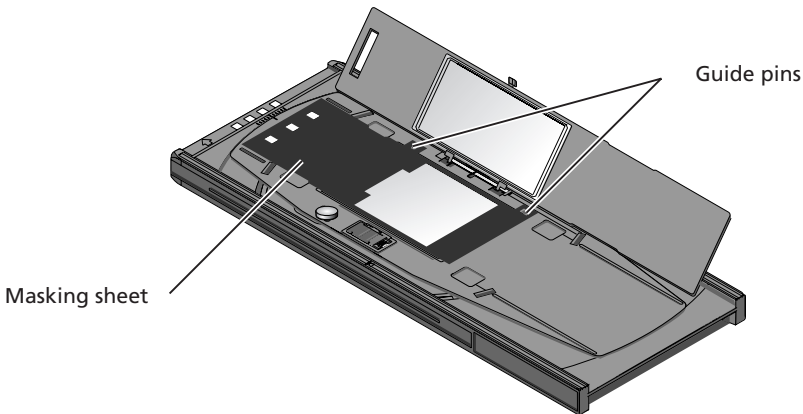
Using the FH-869GR Glass-Covered Rotating Holder for Brownie Film

The FH-869GR is used when scanning medium-format (120/220) film, 59 mm × 82 mm film for electron microscopes, or 24 × 65 panorama film. Film can be adjusted by $\pm 5^\circ$ to compensate for camera angle. Multi-frame strips can be scanned one frame at a time without cutting the film into strips one frame long.

Slide the knob in the direction shown below and open the upper cover.

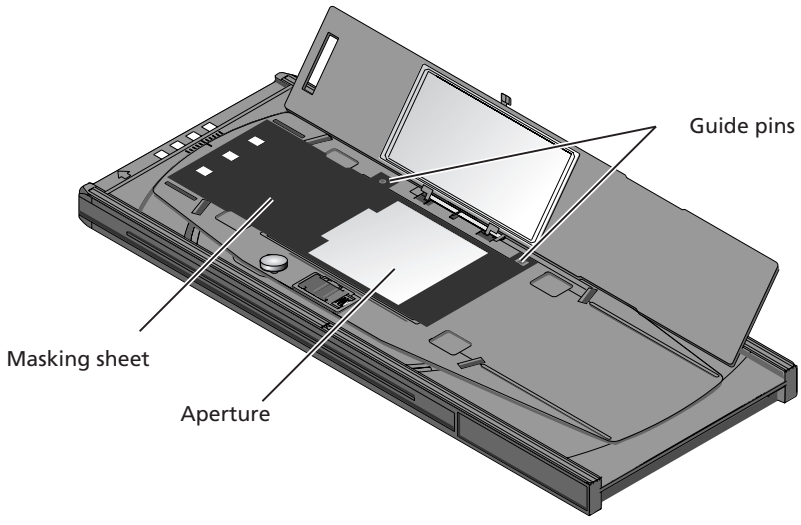


Place a masking sheet appropriate to the size of film to be scanned in the holder, aligning the holes in the masking sheet with the guide pins in the holder. Place the film between the guide rails, with the matte emulsion surface down (shiny side up). Align the frame to be scanned with the aperture in the masking sheet. Close the upper cover so that the latch clicks into place.

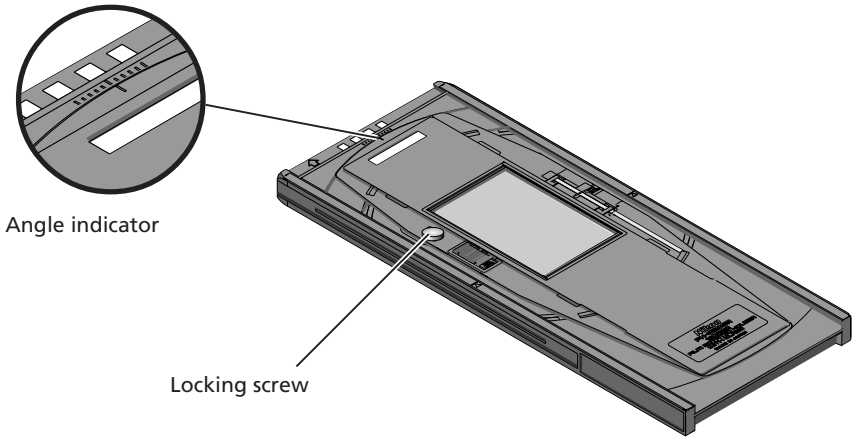


When scanning with the FH-869GR, be sure to use a mask suited to the film to be scanned and to align the frame to be scanned with the aperture in the masking sheet.

When using a 59mm by 82 mm electron microscope film, a 6 by 9 masking sheet should be used.



The film angle can be adjusted up to $\pm 5^\circ$. Loosen the locking screw by rotating it counter-clockwise and adjust the film angle, using the marks at the front of the holder as a guide (each mark is equivalent to 1°). Once you have adjusted the film to your satisfaction, rotate the locking screw clockwise to tighten it.



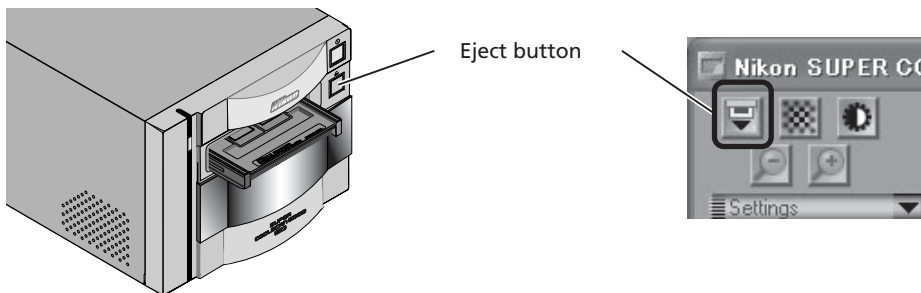
✓ Cautions

Use only one type of film at a time. Do not place negative and positive film in the holder at the same time.

Use a mask that matches the film scanned. Failure to observe this precaution could interfere with accurate color reproduction.

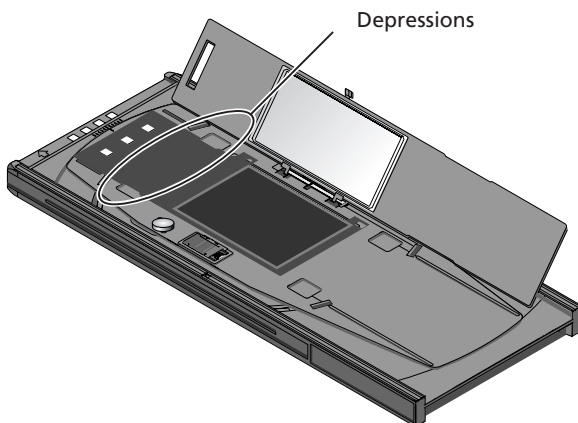
To avoid damaging the film, use a blower to remove dust and lint from the film and holder. Leaving dust, lint, or other foreign objects on the film or holder during scanning could result in reduced image quality or in damage to the film.

Once scanning is complete, press the eject button on the front of the scanner or click the eject button in the scan window to eject the holder. Remove the holder and close the sliding cover.



Removing Film from the Holder

Open the upper cover and insert your fingers in the depressions in the lower holder to pick the film up by its edges.



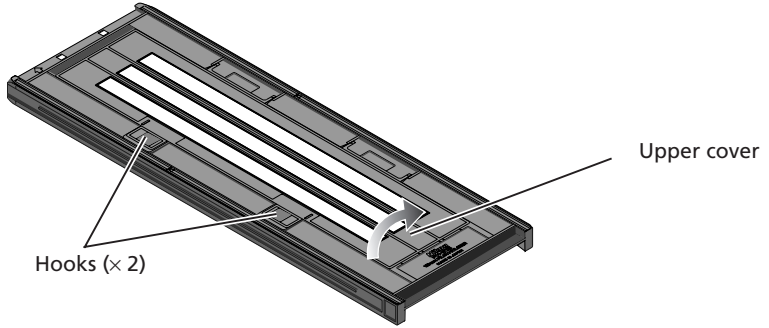
✓ Caution

The bottom side of the upper cover has been treated to prevent interference. Avoid leaving fingerprints or other stains on the glass.

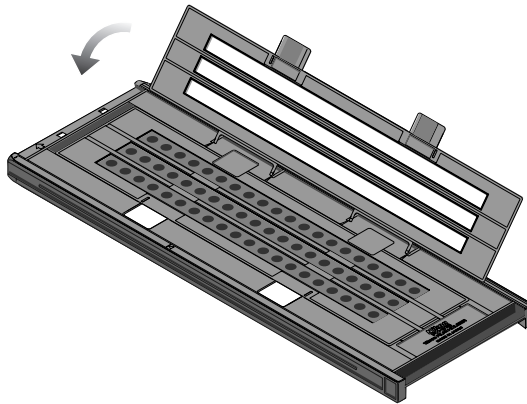
Using the FH-816 Holder for 16-mm Film Strips

The FH-816 is used when scanning strips of 16-mm film up to twenty frames in length. Up to three film strips can be placed in the holder at a time.

Insert your fingers into the holes in the lower portion holder to unlatch the hooks holding the upper cover in place, then open the holder.



Place the film to be scanned in the holder with the matte emulsion surface down (the shiny surface up) and the frames aligned with the apertures in the lower portion of the holder. Close the upper cover so that the latches click into place.



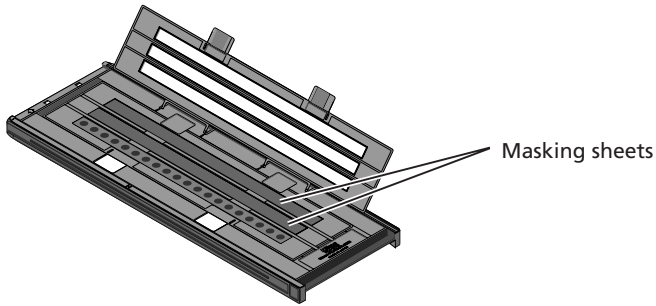
Cautions

Use only one type of film at a time. Do not place negative and positive film in the holder at the same time.

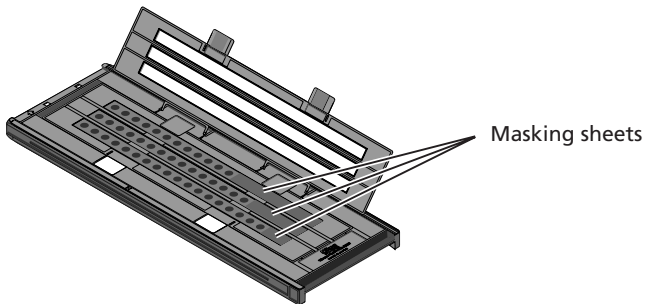
To avoid damaging the film, use a blower to remove dust and lint from the film and holder. Leaving dust, lint, or other foreign objects on the film or holder during scanning could result in reduced image quality or in damage to the film.

Masking Sheets

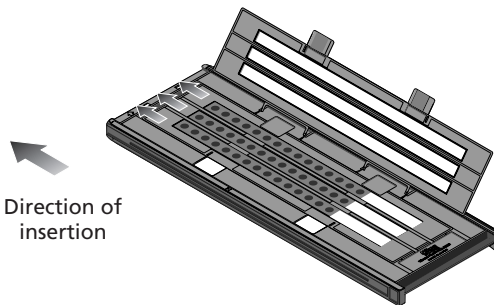
When scanning film one or two strips at a time, be sure to cover the remaining apertures with a masking sheet.



When scanning two or three strips of different lengths, cover any open apertures by cutting a masking sheet into the appropriate lengths and placing it over the apertures. Leaving apertures open when scanning film of different lengths can interfere with accurate color reproduction.



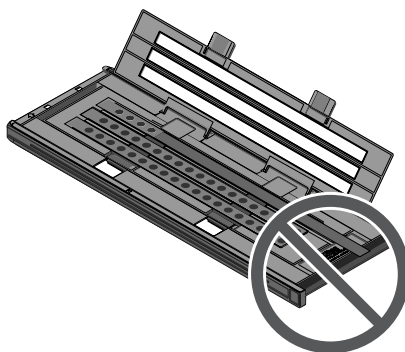
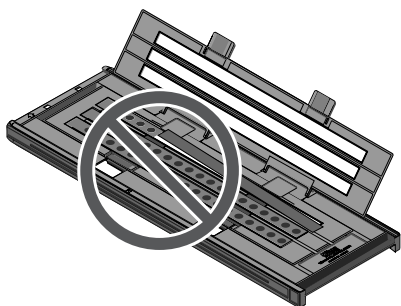
When scanning three film strips containing less than twenty frames but of equal length, place the film so that it covers the apertures at the end of the holder that will be inserted in the scanner.



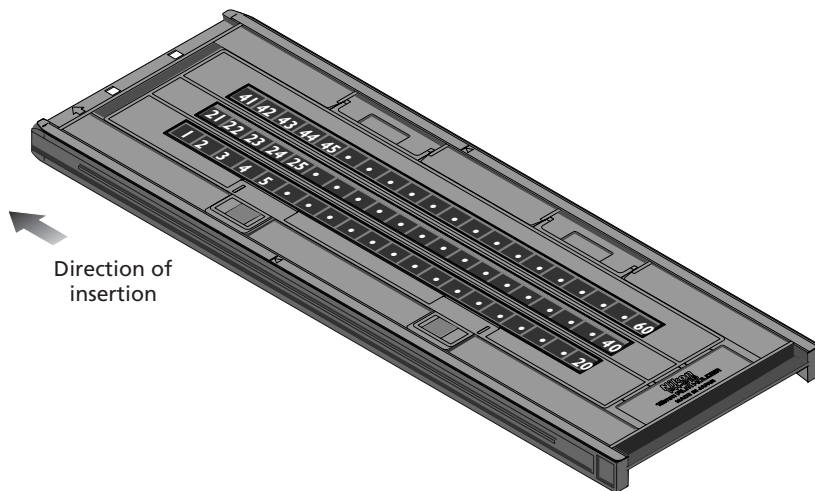
Leaving the apertures at the end of the holder that will be inserted in the scanner uncovered can interfere with accurate color reproduction.

✓ Inserting Film and Masking Sheets

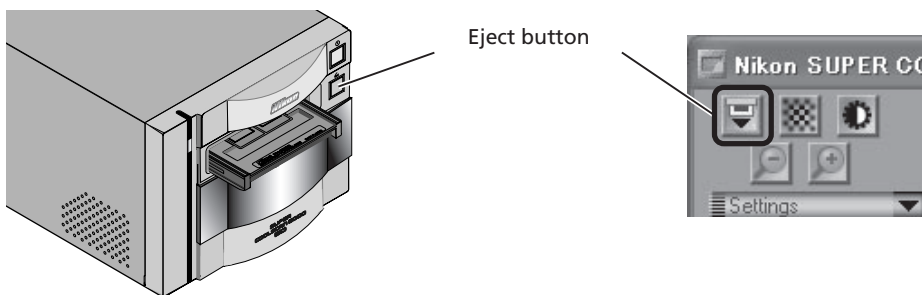
Make sure that the film and masking sheets (☞ 108) are inserted between the guides. If you insert the holder into the scanner with film riding up on the guides, the film holder may jam in the scanner.



Thumbnails are displayed in the thumbnail drawer in the scan window in the order shown below.

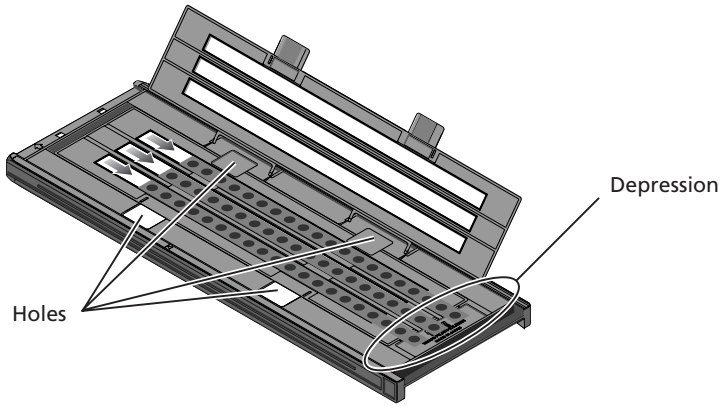


Once scanning is complete, press the eject button on the front of the scanner or click the eject button in the scan window to eject the holder. Remove the holder and close the sliding cover.



Removing Film from the Holder

Open the holder as described on page 107 and remove the film. Insert your fingers in the holes in the lower holder and pick the film up by its edges. If the edges of the film are not accessible, tilt the holder so that the film slides to the edge of the depression at the end of the lower holder.



Using the FH-8G1 Medical Holder

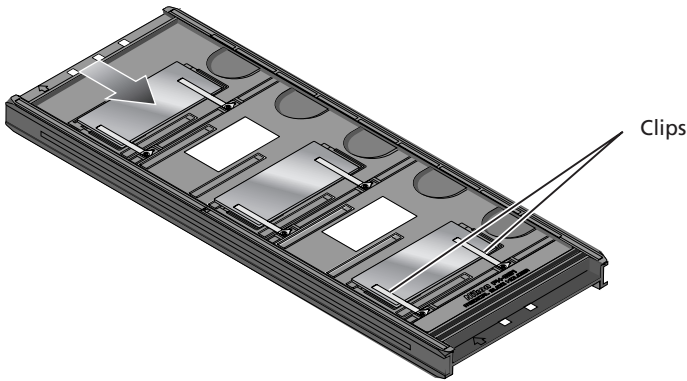
The FH-8G1 is used when scanning 26 mm × 76 mm glass microscope slides containing prepared tissue samples. Up to three slides can be placed in the holder at a time. Slides must conform to the following specifications:

Total thickness: 2 mm or less

Dimensions (slide): width 26 mm, length 76 mm, thickness 0.8–1.5 mm

Dimensions (cover): width 25 mm or less, length 60 mm or less, thickness 0.18 mm or less

Insert the slides under the clips. Slides should be inserted between the guides, with the cover facing upwards. Stop when the slide comes into contact with the base of the clips.



✓ Cautions

Do not use force when inserting slides. Failure to observe this precaution could damage the clips that hold the mounts in place. Should you encounter resistance, try inserting the slides at a slight angle.

Be sure to insert slides between the guides. The scanner may not be able to adjust focus correctly if slides are placed on top of the guides. Inserting the slides on top of the guides could also damage the clips that hold the mounts in place.

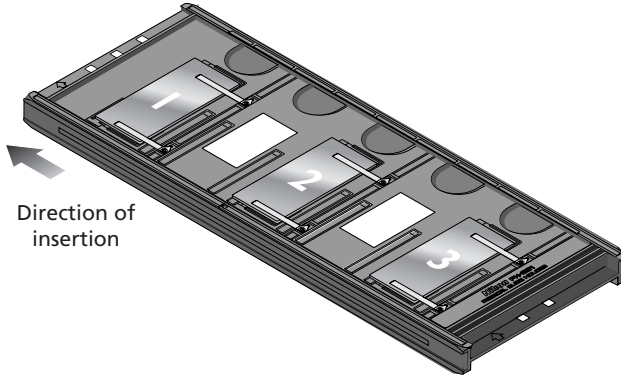
Do not leave the slides in the holder for extended periods, as it may deform the clips that hold the slide mounts in place.

Use a blower to remove dust and lint from the slides and holder. Leaving dust, lint, or other foreign objects on the slides or holder during scanning could result in reduced image quality.

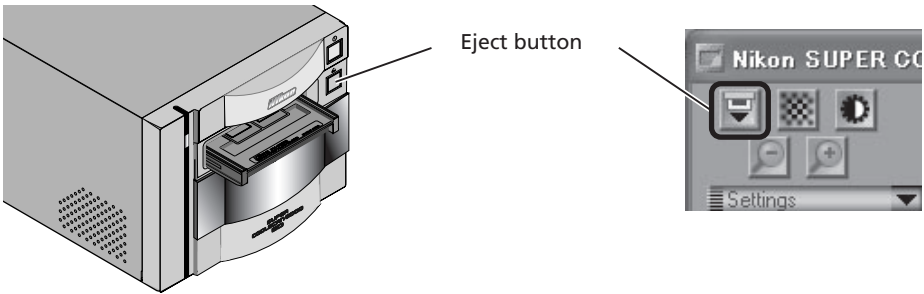
Do not use Digital ICE³ when scanning microscope slides. When Digital ICE³ is used, noise may appear in the preview image or final scan.

The FH-8G1 can also be used to scan mounted 35-mm film. You should not, however, place microscope slides and 35-mm slides in the holder at the same time.

Thumbnails are displayed in the thumbnail drawer in the scan window in the order shown below.

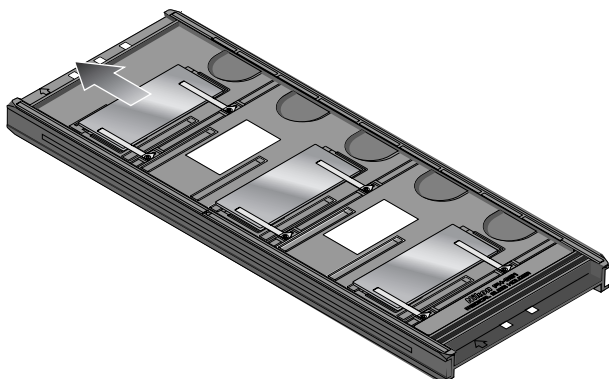


Once scanning is complete, press the eject button on the front of the scanner or click the eject button in the scan window to eject the holder. Remove the holder and close the sliding cover.



Removing Slides from the Holder

Slide the slides out from under the clips that hold them in place.



Cautions

Do not use force when removing slides from the clips. Failure to observe this precaution could result in damage to the clips. Lift the slides only once they are clear of the clips.



Nikon Scan

This chapter provides a brief overview of Nikon Scan, the software that drives your Nikon scanner. For more information, see the *Nikon Scan 3 Software Manual*, available in pdf format on the Nikon Software Manual CD provided with your scanner.

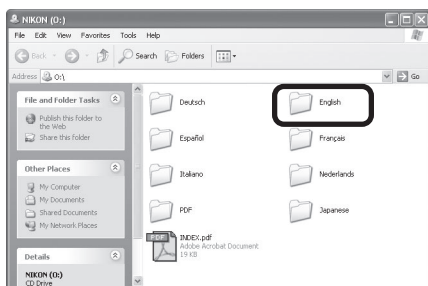
Viewing the <i>Nikon Scan 3 Software Manual</i>	116
The Scan Window	118



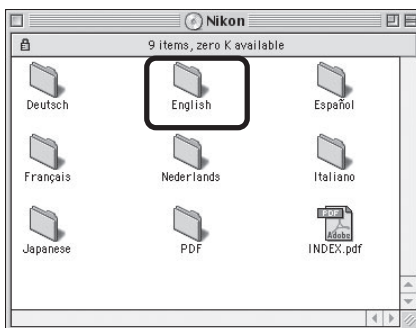
Viewing the Nikon Scan 3 Reference Manual

Your Nikon scanner is controlled using Nikon Scan driver software, which must be installed before you can use your scanner. The operating manual for Nikon Scan may be found on the reference CD provided with your scanner, where it is stored in Adobe Acrobat Portable Document Format (pdf). To view the manual, you will require Adobe Acrobat Reader 4.0 or later. English, German, Spanish, French, Italian, Japanese, and Dutch versions of Adobe Acrobat Reader 4.0 can be found on the reference CD. To install Acrobat Reader, follow the instructions below.

- 1 Insert the software manual CD in the CD-ROM drive. Macintosh users can proceed to Step 3.
- 2 (Windows only) Double-click the **My Computer** icon. In the My Computer window, double-click the CD-ROM drive labeled "Nikon."
- 3 The Nikon window will open on the desktop. Double-click the folder for the language of your choice.



Windows



Macintosh

- 4 Double-click the Setup (Windows) or installer (Macintosh) icon.



Windows

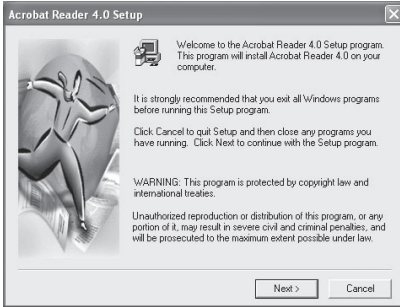


Macintosh

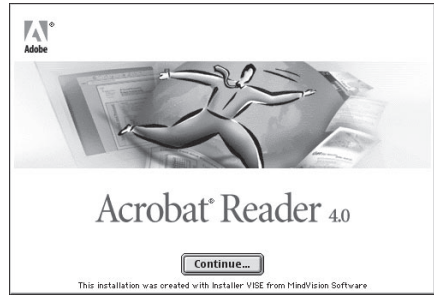


To get the most from your scanner, please read the documentation provided.

5 Follow the on-screen instructions to complete installation.

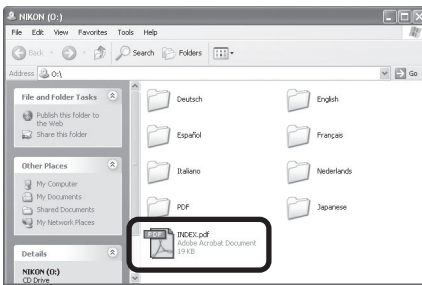


Windows

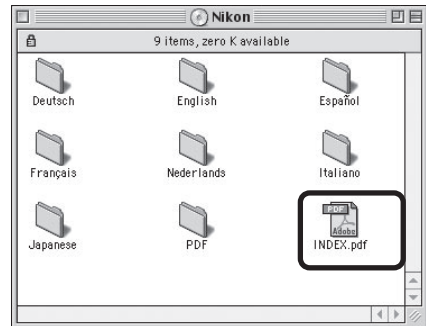


Macintosh

Once installation is complete, you will be able to view the *Nikon Scan Reference Manual* by double-clicking the **INDEX.pdf** icon in the root directory of the reference CD and choosing a language from the menu that appears.



Windows



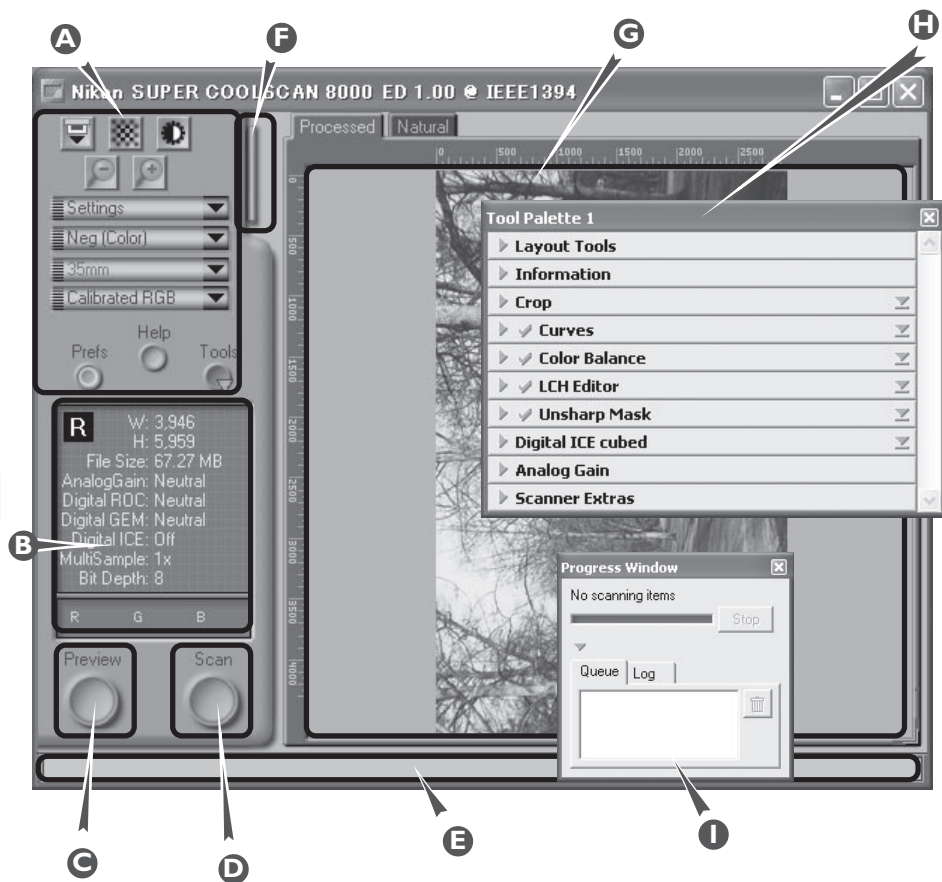
Macintosh

Important

When installing *Nikon Scan*, be sure to exit all other programs, including virus-checking software and Adobe Acrobat Reader. If desired, before installing *Nikon Scan* you can print the "Getting Started" section of the Reference manual, which details the installation process.

The Scan Window

The Parts of the Scan Window



A Control area

Contains the most frequently used scanning and preview controls.

B Information panel

Provides information on current scan settings.

C Preview button

Click to preview the frame to be scanned. The preview shows how the image will look when it is scanned.

D Scan button

Click to scan the selected portion of the image into the host application.

E Interactive help

Gives a brief tip about the control under the mouse cursor.

F Thumbnail drawer tab

Click to select frames to be scanned from multi-frame film.

G Preview area

The preview image is displayed here.

H Tool chest

Contains tools for:

- setting the image orientation and choosing the portion of the image to be scanned
- controlling the physical dimensions and file size of the image when opened in the host application
- enhancing color, contrast, and sharpness
- removing the effects of scratches, dust, fading, and film grain
- controlling scanner settings

I Scan Progress window

Shows what actions are being performed, and gives a log of automated tasks.

The Control Area

Eject Button



Ejects the holder from the scanner.

Autofocus Button



Click to focus the scanner on the center of the image, or control-click (Windows) or option-click (Macintosh) to select a new focus point.



Autoexposure Button



Before scanning, the scanner needs to gather information about the image to adjust exposure for best results. Click this button to adjust exposure.

Zoom Buttons



Click the  button to zoom in on the current crop, enlarging it to fill the preview area. Click the  button to zoom out.

Settings Menu



Using the options in this menu, you can reset the scanner to default settings, or save scanner settings suited to particular scanning conditions and recall them as desired.

Color Model Menu



Select a color model according to the capacities of your image editing software and whether the image is destined for output on a commercial four-color printing press or display on a monitor.

Media Type Menu 1



When using the FH-869S or optional FH-869G or FH-869GR holders for medium format film, choose a setting that matches the media in the scanner (6 × 4.5, 6 × 6, 6 × 7, 6 × 8, 6 × 9, etc.)

Media Type Menu 2



Adjusts scanner settings to match the media in the scanner.

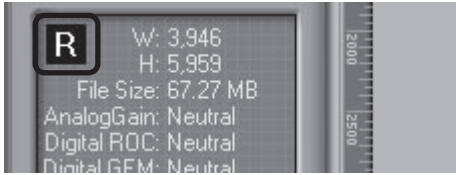
Window Buttons



- Prefs: click to open the preferences dialog
- Help: click to open the Nikon Scan help file
- Tools: open the Tool Chest or Scan Progress windows

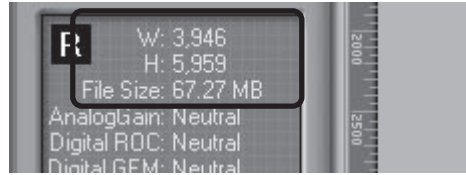
The Information Panel

Orientation



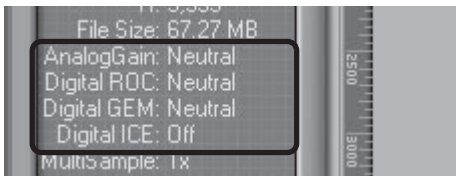
Shows the orientation of the preview image relative to the original, reflecting any flips or rotations that have been performed.

Dimensions/File Size



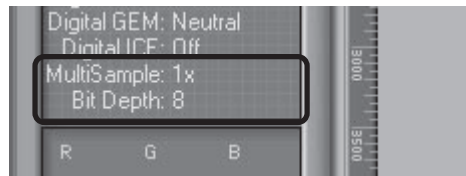
Gives the height and width of the current crop in pixels, and the size of the file that will result if the crop is scanned at the current output size and resolution.

Image Enhancement



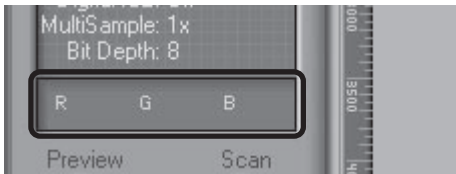
Indicates whether Digital ICE³ and analog gain are in effect. Remember to use Digital ICE³ only when needed, as turning Digital ICE³ on can substantially increase scanning times.

Scanner Extras



Indicates the current bit depth (which determines the maximum number of colors in the image), whether multi-sample scanning is in effect, and the selected scanning mode (single or three line).

Color Values



Gives the color values for the pixel under the cursor in the Natural tab (top row) or Processed tab (bottom row). Only the top row is displayed if no changes have been made to color settings in the Processed tab.

The Preview Button



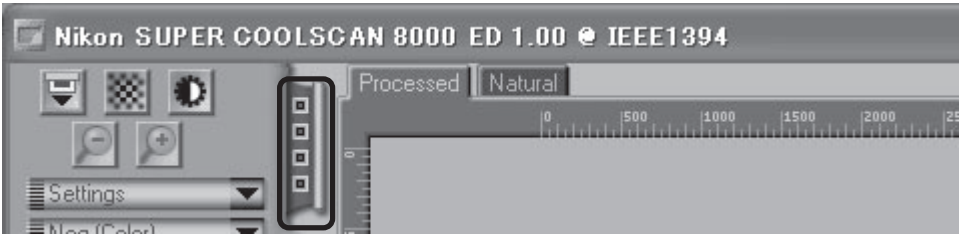
Clicking this button displays a preview of the image to be scanned (if multiple frames are selected in the thumbnail drawer, a preview will be performed for each frame). You will need to create a new preview after changing the media type or using the zoom buttons.


The Scan Button



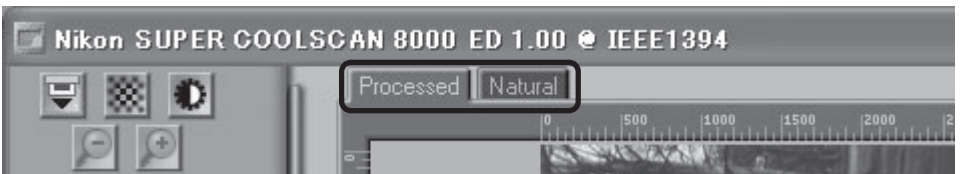
Scans the image and opens it in the host application (if multiple frames are selected in the thumbnail drawer, each frame will be scanned and opened in a separate window).

The Thumbnail Drawer Tab



Clicking this tab opens the thumbnail drawer, where you can select the frame to be scanned by clicking the associated frame number. To view the frames as small previews (thumbnails), click the  button. Multiple frames can be selected by clicking each frame in turn while holding down the control (Windows) or command (Macintosh) key, or by holding down the shift key while clicking two frames to select these frames and all the frames between them.

The Processed/Natural Tabs



These tabs allow for a quick “before-and-after” comparison showing the effects of any changes made to the image using the tools in the Tool Chest. The Processed tab how the image will look when scanned at current settings, the Natural tab shows how the image looked before processing.

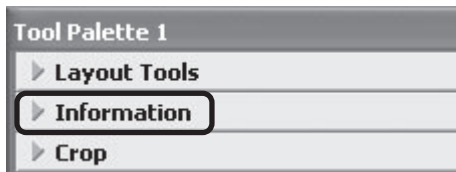
The Tool Chest

Layout Tools



Use these tools to select the portion of the image to be scanned (the "crop") and to rotate and flip the image prior to scanning. You can also select a new focus area and scroll images that have been opened in Nikon Scan after scanning.

Information



Gives the height and width of the current crop and the coordinates of its top left corner. The color value display shows the color of the pixel under the cursor before and after processing.

Crop



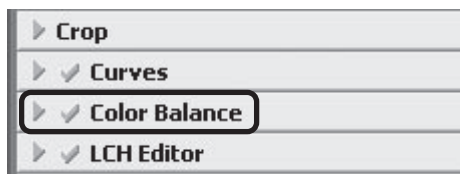
This is where you adjust the resolution and size of the image according to the output device (printer or monitor) on which the image will be displayed.

Curves



One of three color editing tools offered by Nikon Scan, the curves tool is useful when adjusting contrast and making changes to color balance that effect only a specific portion of the tone range (shadows, mid-tones, or highlights).

Color Balance



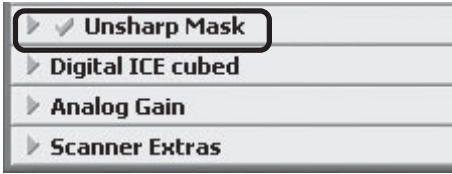
Use the color balance tools to make adjustments to brightness, contrast, and color balance that affect the entire image.

LCH Editor



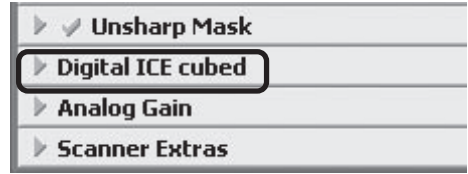
Like the Curves tool, the LCH editor can be used to adjust brightness and contrast in shadows, mid-tones, and highlights. It also incorporates hue and chroma editors, which provide extremely flexible tools for adjusting color.

Unsharp Mask



Unsharp mask increases the sharpness of the image by making edges more distinct, either over the entire image or in areas where specific colors are prominent.

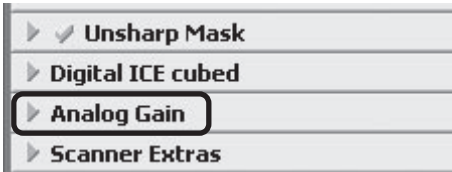
Digital ICE Cubed



Three tools are available:

- Digital ICE: reduces the effects of dust and scratches
- Digital ROC: restores colors lost through fading
- Digital GEM: reduces the effect of film grain

Analog Gain



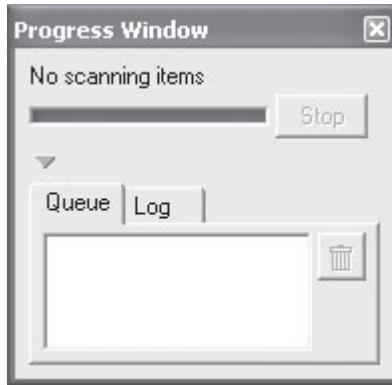
Using analog gain, you can adjust colors by directly altering the exposure value for each of the colored elements in the scanner's light source.


Scanner Extras

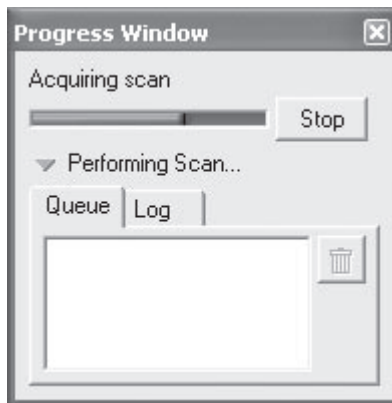


These tools offer control over features specific to your scanner.

The Scan Progress Window



This window shows the progress of preview and scan operations. The current task can be cancelled by clicking the Stop button. Tasks that have yet to be performed are listed in the Queue tab and can be cancelled by selecting the task and clicking the  button. When performing multiple (batch) scans, the tasks completed are listed in the Log tab.




The progress of preview and scan operations is indicated as shown above.



Reference

This chapter includes maintenance tips, troubleshooting instructions, product specifications, and an index.



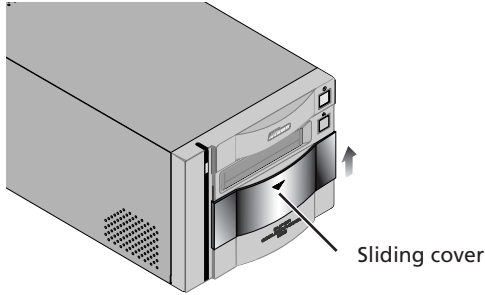
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Maintenance

Caring for Your Scanner

Storing the Scanner

When not using the scanner, turn it off, remove any holders from the scanner, and slide the cover closed as shown below.



If you will not be using the scanner for an extended period, turn off and unplug the scanner. Store the scanner where:

- the temperature is between minus twenty and plus sixty degrees Centigrade ($-4^{\circ}\text{F} - +140^{\circ}\text{F}$)
- the humidity is between twenty and ninety percent (no condensation)

Servicing Your Scanner

Your scanner is a precision machine. We recommend that you take the scanner and holders to an authorized Nikon service representative once every one to two years for inspection, and once every three to five years for servicing (a fee is charged for these services). Frequent inspection and servicing are particularly recommended in the case of scanners used in commercial applications.

Caution

When not using the scanner, close the cover to prevent the accumulation of dust inside the device.

Cleaning the Scanner

Before cleaning the scanner, turn it off and unplug the power cord. The front of the scanner is made of plastic, and consequently cannot be cleaned with volatile cleaners such as alcohol or paint thinner. Use a blower to blow off dust or wipe the surface with a dry cloth. Remove dirt from the metal rear panel of the scanner using a soft, dry cloth. If this is not sufficient to remove all dirt, clean with a cloth that has been slightly dampened with a neutral detergent or liquid soap.

Transporting the Scanner

Follow the steps below to prepare the scanner for transport.

- 1 Turn the scanner on and remove any holders.
- 2 Close the sliding cover.
- 3 Wait for the status LED on the front of the scanner to stop blinking.
- 4 Turn the scanner off.
- 5 Disconnect the power and interface cables.
- 6 Package the scanner in the original packing materials.

Cautions

Nikon scanners are certified for use in the country or region of sale. Transportation and use outside the country or region of sale are at the user's own risk and responsibility.

Where the original packing materials are not available, package the scanner carefully in materials at least as shock resistant as the originals.

Caring for Holders

Storage

When not using the holders, remove them from the scanner. If you will not be using a holder for an extended period, store it where:

- the temperature is between minus twenty and plus sixty degrees Centigrade (–4°F – +140°F)
- the humidity is between twenty and ninety percent (no condensation)

Cleaning

When cleaning the holder, do not use volatile cleaners such as alcohol or paint thinner. Use a blower to remove dust. Clean dirt from the holder with a soft dry cloth, or dampen the cloth with a neutral detergent to remove particularly stubborn stains, drying once cleaning is complete.

Transport

Package the holder in the original packing materials for transport.





Cautions










Where the original packing materials are not available, package the holder carefully in materials at least as shock resistant as the originals.










Work with the holder and scanner on a table or other flat, stable surface. The holder or scanner could be damaged should either fall to the floor.

Troubleshooting

Should you encounter problems with your scanner, refer to the following section and the troubleshooting section in the *Nikon Scan Reference Manual* before consulting your retailer or Nikon representative.

Problem	Possible Cause	
<p>The scanner does not turn on (the status LED does not light)</p>	<ul style="list-style-type: none"> • The power cable is not properly connected After confirming that the scanner is off, reconnect the power cable. • The scanner is off Turn the scanner on. • The power supply to scanner has been interrupted Try plugging a different device into the outlet used by the scanner to determine whether the problem is caused by a failed fuse or circuit breaker. 	 25  26 –
<p>Holders can not be inserted or removed</p>	<ul style="list-style-type: none"> • The sliding cover is not fully open Slide the cover down until it is fully open. 	 60
<p>The status LED flashes rapidly (scanner not connected to computer or computer off)</p>	<ul style="list-style-type: none"> • A scanner hardware malfunction has occurred Turn the scanner off and disconnect it from the computer. Wait five seconds, then turn the scanner on again. If the problem persists, contact your retailer or Nikon service representative for advice. 	–

Problem	Possible Cause	
<p>The status LED flashes rapidly (scanner connected to computer)</p>	<ul style="list-style-type: none"> • A connection error or scanner hardware malfunction has occurred Turn the scanner and computer off and disconnect the scanner from the computer. Wait five seconds, then turn the scanner on again. If the status LED flashes rapidly, a hardware malfunction has occurred. Contact your retailer or Nikon service representative for advice. If the status LED blinks slowly at first and then glows steadily, turn the scanner off and reconnect it to your computer, then start your computer and turn the scanner on. If the status LED flashes rapidly after the scanner is reconnected and turned on, there may be a problem with the interface between the scanner and the computer. Try the following measures to resolve the problem: • Disconnect all other devices that use same interface as the scanner • Re-install Nikon Scan • Update the device drivers for IEEE 1394/Firewire interface (Windows 98 SE only) • Update the device drivers for your scanner (Windows only) 	 8  148  17  27
<p>The quality of scanned images is poor</p>	<ul style="list-style-type: none"> • The film is not properly placed in the holder Eject the holder and reposition the film. • The holder was moved during scanning or scanner was subjected to shock or vibration Do not use the scanner where it will be subject to shock or vibration. Failure to observe this precaution could result in malfunction. • Settings are improperly adjusted in Nikon Scan Refer to the <i>Nikon Scan Software Manual</i> for information on adjusting scanner settings, or try resetting scanner settings to factory defaults. • The glass in the optional glass-covered holder (available separately) requires cleaning Remove dust from the glass with a blower and wipe off any stains with a soft cloth. 	 79  6  88  99

Problem	Possible Cause	
<p>Your computer does not recognize the scanner</p>	<ul style="list-style-type: none"> • The scanner is off Turn the scanner on. 	 26
	<ul style="list-style-type: none"> • The interface cable is not properly connected After confirming that the scanner is off, reconnect the cable. 	 25
	<ul style="list-style-type: none"> • The scanner was turned on with a holder inserted After removing the holder and turn the scanner off and then on again. 	 26
	<ul style="list-style-type: none"> • Another device or program using the same interface conflicts with the scanner or Nikon Scan Remove all other hardware connected to the same bus as the scanner. If the scanner is connected to a hub, extension cable, or other adapter, disconnect the adapter and connect the scanner directly to the computer. If this does not solve the problem, uninstall other software that uses the same interface and re-install Nikon Scan. 	 148
	<ul style="list-style-type: none"> • Your computer system does not meet the minimum system requirements See the <i>Nikon Scan Software Manual</i> for more information on system requirements. 	 5
	<ul style="list-style-type: none"> • The interface board is not compatible with Nikon Scan Confirm that your IEEE 1394 (Firewire) interface board or card is supported under Nikon Scan. At present, operation has been confirmed only with the IEEE 1394 interface board provided with your scanner. Operation is not guaranteed with built-in IEEE 1394 ports or with expansion boards or cards other than that provided with the scanner. More information on PCMCIA IEEE 1394 cards and on built-in IEEE 1394 interfaces is available on the web sites listed on page ix of this manual. If your computer or expansion board or card is not compatible with Nikon Scan, install the board provided with your scanner (desktop computers) or use a Nikon-approved PCMCIA IEEE 1394 card (laptop computers). 	 9
	<ul style="list-style-type: none"> • The interface board is not correctly installed Check the documentation for your IEEE 1394 or Firewire interface board. 	<p>–</p>
	<ul style="list-style-type: none"> • The device driver for your scanner is missing or corrupted (Windows only) Check that the driver is correctly installed • Nikon Scan is not correctly installed Uninstall and re-install the software. 	 27  148

Specifications

Scanner Specifications

SUPER COOLSCAN 8000 ED (LS-8000 ED)

- Film**
- 35-mm film: Positive and negative film, both color and monochrome, may be used. Film may be scanned in one or two strips of up to six frames or as 35-mm slides using mounts 1.0–3.2 mm thick. Up to three frames of panorama film with frame sizes of 24 × 58 mm or 24 × 65 mm can also be scanned.
 - Medium-format (Brownie) film: Positive or negative, 6 × 4.5, 6 × 6, 6 × 7, 6 × 8, or 6 × 9 film may be used, either in strips of four (6 × 4.5), three (6 × 6), or two (6 × 7, 6 × 8, or 6 × 9) frames or as mounted slides 1.0–3.2 mm thick.
 - 16-mm film: Positive and negative film, both color and monochrome, may be used.
 - Prepared slides: Prepared slides 26 × 76 mm in size can be scanned.

Aperture and scan range

25.4 × 37.5 mm, 4,000 × 5,904 pixels (35-mm film scanned using FH-835S)

37.5 × 25.6 mm, 5,905 × 4,032 pixels (35-mm slides scanned using FH-835M)

56.9 × 42.5 mm, 8,964 × 6,696 pixels (6 × 4.5 Brownie film*)

56.9 × 56.9 mm, 8,964 × 8,964 pixels (6 × 6 Brownie film*)

56.9 × 70.0 mm, 8,964 × 11,016 pixels (6 × 7 Brownie film*)

56.9 × 77.5 mm, 8,964 × 12,204 pixels (6 × 8 Brownie film*)

56.9 × 83.7 mm, 8,964 × 13,176 pixels (6 × 9 Brownie film*)

56.9 × 83.7 mm, 8,964 × 13,176 pixels (film for electron microscopes*)

15.0 × 21.48 mm, 2,362 × 3,384 pixels (16-mm film scanned using FH-816)

46.02 × 24.0 mm, 7,248 × 3,780 pixels (prepared tissue sample scanning using FH-8G1)

*When scanned using the FH-869S or optional FH-869G

Scanning system

Light source

Fixed-optical, movable-media parallel single-pass scanning-system

Three (R, G, B) LEDs

Sensor

Slit (transmitted) light source with rod and disperser

Color separation

10,000-pixel, three-line, monochrome linear CCD image sensor

Optical resolution

Performed by RGB color LEDs

Maximum 4,000 pixels per inch

Analog-to-digital (A/D) conversion

14 bits per color (RGB)

Focus

Autofocus

Scanning time

Duration of Scanning on processes

Scanning time when using FH-835M holder			
ICE	ROC	GEM	Scan, single frame
—	—	—	55 s
✓	—	—	1 m 20 s
—	✓	—	1 m 15 s
—	—	✓	2 m 50 s
—	✓	✓	2 m 25 s
✓	✓	—	1 m 35 s
✓	—	✓	3 m 00 s
✓	✓	✓	2 m 40 s

FH-869S holder for Brownie film (6 x 9)			
ICE	ROC	GEM	Scan, single frame
—	—	—	2 m 50 s
✓	—	—	6 m 50 s
—	✓	—	5 m 30 s
—	—	✓	14 m 20 s
—	✓	✓	12 m 15 s
✓	✓	—	9 m 10 s
✓	—	✓	17 m 55 s
✓	✓	✓	15 m 35 s

Computer: FMV715GTX6 (Pentium 4, 1.5 GHz)
RAM: 1 GB
OS: Windows 2000
Interface board: IEEE 1394 interface board provided with scanner
Input resolution: 4000 dpi
Scan bit depth: 8 bit
CMS: On
Media: Positive

Interface

IEEE1394

Power supply

AC 100–240 V, 50/60 Hz

Operating environment

- Temperature: +10 – +35°C (+50 – +95°F)
- Humidity: 20–60%

Dimensions

245 × 485 × 200 mm/9.64" × 19.09" × 7.87" (W × D × H)

Holder Specifications

FH-835S Holder for 35-mm Strip Film

Film One to two strips of 35-mm film containing a maximum of six frames each
Dimensions 130 × 320 × 17 mm/5.12" × 12.60" × 0.67" (W × D × H)
Weight Approximately 200 g/7.1 oz

FH-835M Holder for 35-mm Slide Mounts

Film One to five mounted 35 mm slides, 1.0–3.2 mm in thickness and 49.0–50.8 mm in width
Dimensions 130 × 345 × 17 mm/5.12" × 13.58" × 0.67" (W × D × H)
Weight Approximately 180 g/6.4 oz

FH-869S Holder for Brownie Strip Film

Film 6 × 4.5: 1–4 frames
6 × 6: 1–3 frames
6 × 7, 6 × 8, 6 × 9: 1–2 frames
5.9 × 8.2 cm film for electron microscopes
Dimensions 130 × 320 × 17 mm/5.12" × 12.60" × 0.67" (W × D × H)
Weight Approximately 290 g/10.4 oz

Specifications for Optional Holders

FH-869G Glass-Covered Holder for Brownie Film

Film	6 × 4.5:	1–4 frames
	6 × 6:	1–3 frames
	6 × 7, 6 × 8, 6 × 9:	1–2 frames
	5.9 × 8.2 cm film for electron microscopes	
Dimensions	130 × 300 × 17 mm/5.12" × 11.81" × 0.67" (W × D × H)	
Weight	Approximately 300 g/10.7 oz	

FH-869GR Glass-Covered Rotating Holder for Brownie Film

Film	6 × 4.5:	1–4 frames
	6 × 6:	1–3 frames
	6 × 7, 6 × 8, 6 × 9:	1–2 frames
	5.9 × 8.2 cm film for electron microscopes	
	35-mm panorama film (frame size 24 × 58.24 or 24 × 65 mm)	
Angle adjustment	±5°	
Dimensions	130 × 320 × 17 mm/5.12" × 12.60" × 0.67" (W × D × H)	
Weight	Approximately 330 g/11.8 oz	

FH-869M Holder for Brownie Slide Mounts

Film	Up to two medium-format mounts, one 6 × 4.5 or 6 × 6, the other 6 × 7, 6 × 8, or 6 × 9	
Dimensions	130 × 320 × 17 mm/5.12" × 12.60" × 0.67" (W × D × H)	
Weight	Approximately 170 g/6.1 oz	

FH-816 Holder for 16-mm Film

Film	One to three strips of 16-mm film containing a maximum of twenty frames each	
Dimensions	130 × 375 × 17 mm/5.12" × 14.76" × 0.67" (W × D × H)	
Weight	Approximately 250 g/8.9 oz	

FH-8G1 Medical Holder

Media	Up to three prepared glass microscope slides of the dimensions listed below, totaling no more than 2 mm in thickness including slide glass, cover glass, and cement	
	Slide glass: 26 × 76 × 0.8–1.5 mm/1.02" × 2.99" × 0.03"–0.06" (W × D × H)	
	Cover glass: 25 × 60 × 0.18 mm/0.98" × 2.36" × 0.01" or less	
Dimensions	130 × 345 × 17 mm/5.12" × 13.58" × 0.67" (W × D × H)	
Weight	Approximately 190 g/6.8 oz	

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