35mm/IX240 Film Scanner

SUPER COOLSCAN 4000 ED

35mm/IX240 Film Scanner

COOLSCAN IV ED

User's Manual

Product Documentation

The documentation for this product includes the manuals listed below. Please be sure to read all instructions thoroughly to get the most from your Nikon scanner.

User's Manual (this manual)
This manual provides instructions for setting up and using your scanner.

Nikon Scan 3 Reference Manual (on CD)
This electronic manual provides complete operating instructions for the software that makes your scanner run, Nikon Scan 3. It is available on the reference CD provided with your scanner, where it can be viewed using Adobe Acrobat Reader 4.0 (available on the reference CD) or later. Installation and viewing instructions are included in the *User's Manual*.

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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, film rolls, or APS film cartridges 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:

Nikon	4000 ED
FCC Tested To Comply With FCC Standards	
FOR HOME OR OFFICE USE	

Nikon	COOLSCAN IV ED
FCC Tested To Comply With FCC Standards	
FOR HOME OR OFFICE USE	

- 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.
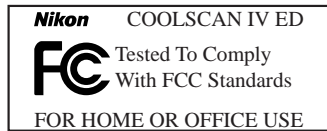
CAUTIONS

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.

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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.

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.

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.

☑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.

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Overview

Thank you for your purchase of a Nikon 4000 ED (SUPER COOLSCAN 4000 ED) or COOLSCAN IV ED film scanner. This manual provides information on safety precautions, scanner setup, and operation for 4000 ED and COOLSCAN IV ED film scanners. Please read these instructions before using your scanner, and keep this manual where all those who use the device will read it.

Reading This Manual

This manual is for use with both 4000 ED and COOLSCAN IV ED film scanners. It is divided into the following chapters:

Getting the Most from Your Scanner
This chapter contains tips to ensure that you always get the best possible results when using your scanner. Be sure to read this section before using your Nikon product.

Setup Guide
This chapter provides instructions on setting up your scanner, and takes you step-by-step through the process of making your first scan.

Nikon Scan Quick Reference
This section gives a brief overview of the driver software for your scanner, Nikon Scan. More detailed information on using Nikon Scan may be found in the *Nikon Scan 3 Reference Manual*, which is available in electronic format on the reference CD included with your scanner.

Reference
This chapter provides troubleshooting instructions for film that can not be used in the strip-film adapter, together with information on caring for your scanner.

Appendices
The appendix contains instructions on installing the IEEE 1394/Firewire interface board provided with the 4000 ED and on updating the Windows IEEE 1394 drivers when using the 4000 ED under Windows 98 Second Edition (SE).

✐ Illustrations

The majority of the windows and dialogs for Nikon Scan shown in this manual are those for the Windows version when run under Windows 98SE. Save where otherwise noted, the operations described apply to both the Windows and Macintosh versions of Nikon Scan.

To make it easier to 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 *4000 ED/ COOLSCAN IV ED User's Manual* (this manual).

This symbol indicates that the cross-reference marked with the 👁 icon is to the *Nikon Scan 3 Reference Manual* (on CD).

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.

Getting the Most from Your Scanner

The information in this chapter will help ensure that you always get the best possible results when using your scanner. Be sure to read this section before using your Nikon product.

Keep the Adapter Slot Closed

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

☑

Never remove an adapter from the scanner without first ejecting the film and checking that the status LED on the front of the scanner is glowing steadily. Do not insert or remove adapters, insert or eject film, or turn the scanner off while the LED is blinking.

After using the scanner, eject the film from the adapter and turn the scanner off, then remove the adapter and close the sliding cover.

Sliding cover
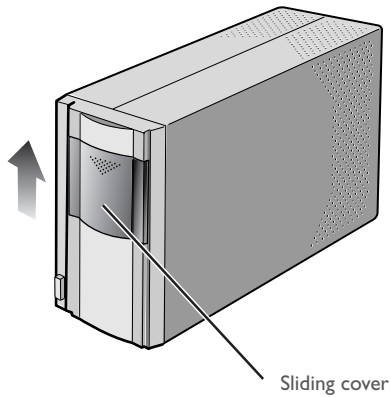
Protect Your Film

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.

✔

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

• Remove dust from the film with a blower.
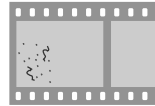
• The film base and emulsion will deteriorate if exposed to high temperatures or humidity. Use the scanner at the temperature and humidity given in the specifications (see below).

• 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.

• Before inserting film in the scanner, 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.

• The operating temperature and humidity for your scanner are:
Temperature: +10 – +35°C (+50 – +95°F)
Humidity: 20 – 60%

Using Your Scanner with Other Devices (4000 ED Only)

When using the 4000 ED (SUPER COOLSCAN 4000 ED) with other devices connected to the same bus, observe the precaution below.

✔

When using the 4000 ED with other IEEE 1394/Firewire devices, do not:
- *operate the devices*
- *turn the devices on or off*
- *disconnect or reconnect interface cables connected to the devices*

while the status LED on the front of the scanner is blinking. Failure to observe this precaution could interfere with the operation of Nikon Scan.

Connecting USB or IEEE 1394/Firewire Devices

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

- Connect the scanner directly to the computer. The scanner may not function as expected when connected to a USB or IEEE 1394/Firewire hub.
- With the exception of a USB keyboard or mouse, the scanner may not function as expected when used together with other USB or 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 a USB or 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.

Setup Guide

This chapter takes you step-by-step through the process of setting up your scanner and making your first scans.

The process of setting up and using your scanner for the first time involves the steps shown below.

Step 1—Get to Know Your Scanner
(10–11)

↓

Step 2—Choose a Location
(14)

↓

4000 ED (SUPER COOLSCAN 4000 ED)   COOLSCAN IV ED

↓

Step 3—Install the IEEE 1394/Firewire Interface Board* (15)
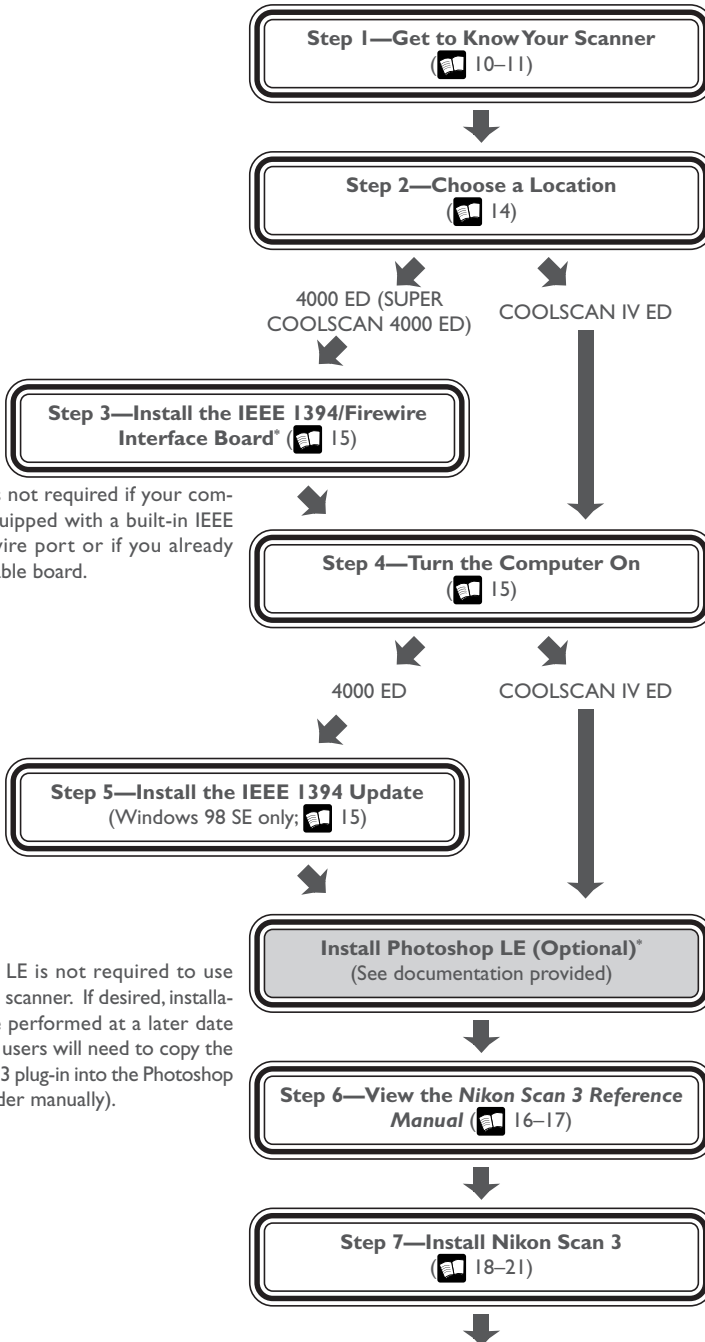
* This step is not required if your computer is equipped with a built-in IEEE 1394/Firewire port or if you already have a suitable board.

↓

Step 4—Turn the Computer On
(15)

↓

4000 ED   COOLSCAN IV ED

↓

Step 5—Install the IEEE 1394 Update
(Windows 98 SE only; 15)

* Photoshop LE is not required to use your Nikon scanner. If desired, installation can be performed at a later date (Macintosh users will need to copy the Nikon Scan 3 plug-in into the Photoshop plug-ins folder manually).

↓

Install Photoshop LE (Optional)*
(See documentation provided)

↓

Step 6—View the *Nikon Scan 3 Reference Manual* (16–17)

↓

Step 7—Install Nikon Scan 3
(18–21)

↓

8

Step 8—Connect the Power Cable
(📖 22)

Step 9—Connect the Interface Cable
(📖 23)

Windows

Macintosh

CHECK!
Is the Nikon Scan 3 CD in the CD-ROM drive?

No

Yes

Insert the Nikon Scan 3 CD into the CD-ROM drive

Step 10—Turn the Scanner On
(📖 24)

Windows

Macintosh

Step 11—Register the Scanner with Windows (📖 25–42)

Step 12—Make a Scan
(📖 43–60)
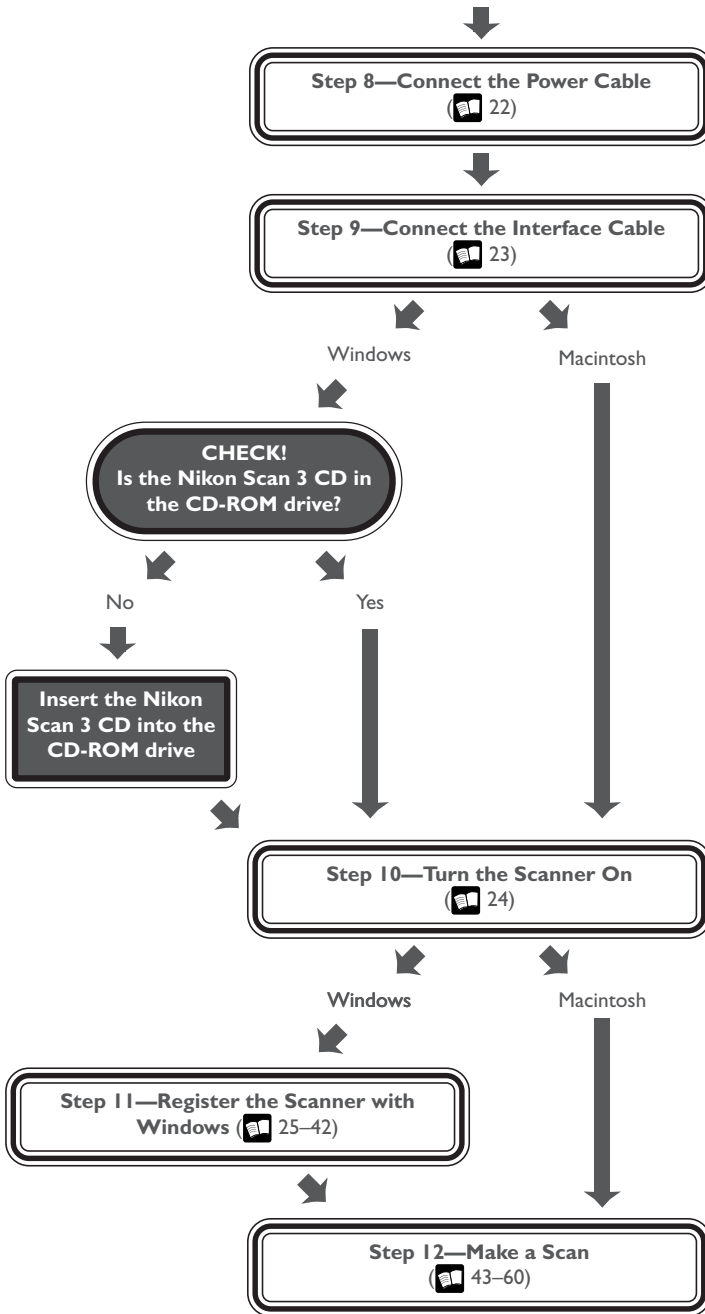
Step 1: Get to Know Your Scanner

Take a few moments to familiarize yourself with your scanner and its parts.

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 it back on.

2 Adapter slot
This is where you put adapters for different types of film. Don't put anything in this slot except an approved Nikon film adapter.

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

4 Power switch
Press this switch to turn the scanner on and off.

5 Film gate for optional SA-30 roll-film adapter (4000 ED)
Open this gate only when you are using the SA-30 roll-film adapter (available separately).

6 AC connector
Connect the female end of the power cable here.

7 IEEE 1394/Firewire interface connector (4000 ED)
Connect the IEEE 1394/Firewire interface cable here.

8 Feet
Always place the scanner on one of its two sets of feet.

9 USB interface connector (COOLSCAN IV ED)
Connect the USB interface cable here.

4000 ED/COOLSCAN IV ED

Front View

4000 ED   COOLSCAN IV ED

Rear View
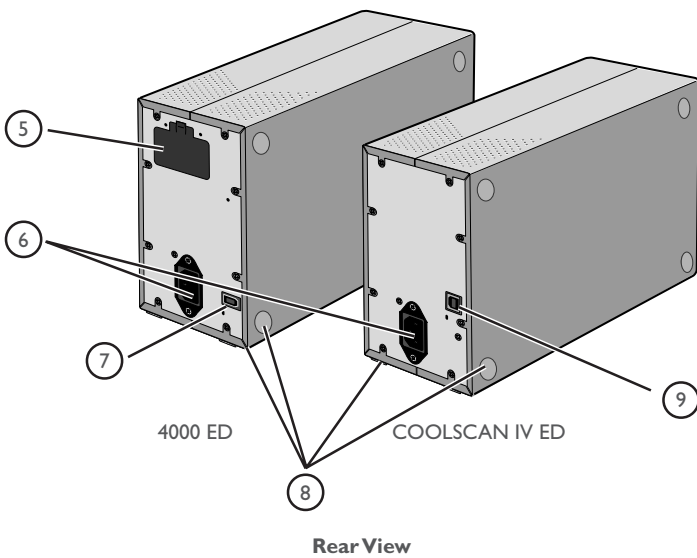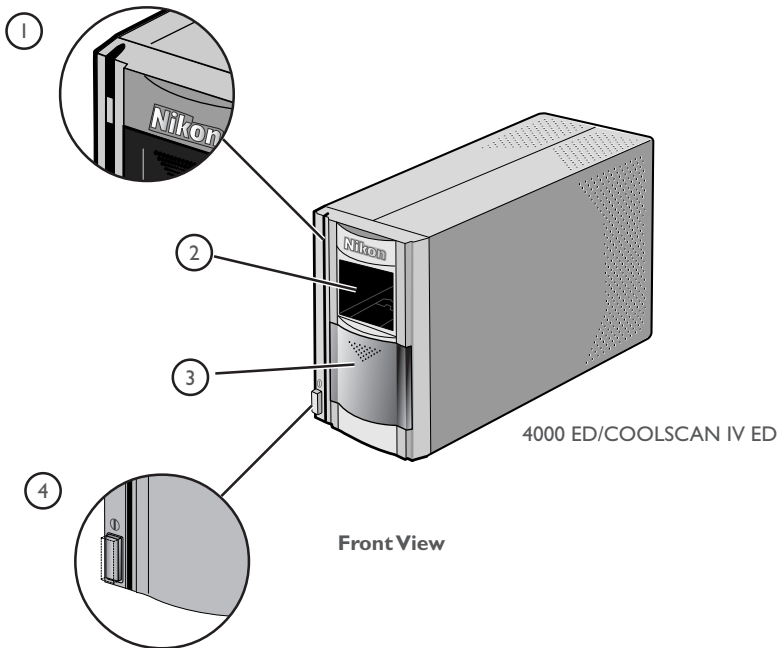
Accessories

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.
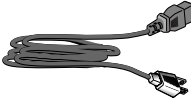
Power cable (1)
(shape of cable depends on country of sale)

IEEE 1394/Firewire interface cable (1)
(4000 ED only)
Use this cable to connect the 4000 ED to your computer.
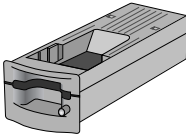
MA-20 (S) slide-mount adapter (1)
Use this adapter to scan mounted slides, or with the FH-3 to scan strip film too short or too badly damaged to be used in the SA-21.
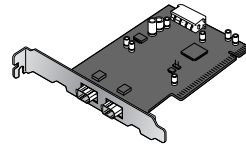
IEEE 1394/Firewire interface board (1)
(includes user's manual)
(4000 ED only)
If you are using a Windows or old-model (beige) Macintosh G3 desktop computer, you may need to install this PCI board before you will be able to connect your scanner to your computer. This board can not be used with laptop computers or computers not equipped with a PCI slot, and is not required in the case of Macintosh computers with built-in Firewire ports.
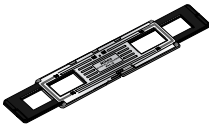
FH-3 strip-film holder for MA-20 (S) (1)
Place strip film to be scanned in this holder before scanning it with the MA-20 (S).

USB interface cable (1)
(COOLSCAN IV ED only)
Use this cable to connect the COOLSCAN IV ED to your computer.
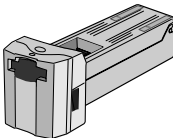
SA-21 strip-film adapter (1)
This adapter can be used to scan single or multiple selected frames in film strips two to six frames in length. The frames to be scanned can be previewed and selected using Nikon Scan.

"Open me first" envelope (1)
This envelope contains user registration cards, and other important documents.

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.

Nikon Scan 3 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.

Photoshop LE 5.0 CD-ROM (1)
With this application installed on your computer, you can scan images directly from Nikon Scan into Photoshop LE, where they can be edited and saved to disk.

SUPER COOLSCAN 4000ED
COOLSCAN IV ED
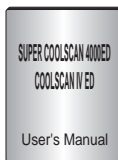
User's Manual

User's Manual (this manual)
(1)

Step 2: 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

The scanner has feet on two sides, allowing it to be installed in either of the orientations shown below. Leave enough space around the scanner to ensure ease of operation: at least 5 cm (2″) above and on either side of the scanner, and 10 cm (4″) behind it. When using the SA-21 strip-film adapter, the front of the scanner should be at least 15 cm (6″) from the edge of the surface on which the scanner is placed to prevent film from falling to the floor when ejected from the adapter's film slot. If you are using the FH-3 film holder, leave at least 25 cm (9.8″) free in front of the scanner.

✔
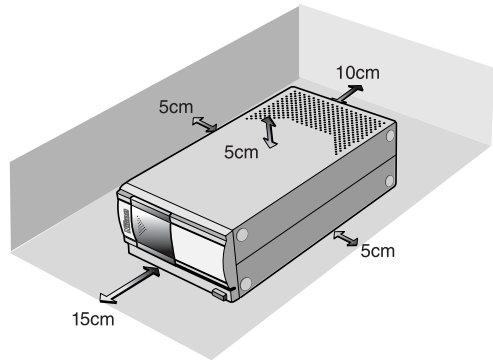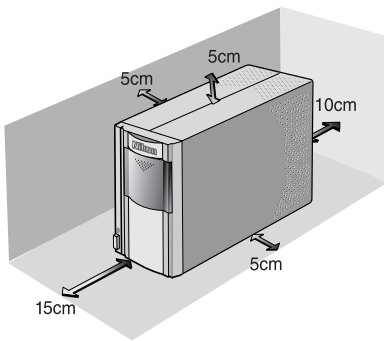
When the scanner is not in use, remove any adapters from the adapter slot and close the sliding cover to prevent dust from accumulating inside the scanner.

✔

Install the scanner with its feet down, as shown in the illustrations on these pages. Do not store or operate the scanner in any other orientation.

Step 3: Install the IEEE 1394/Firewire Interface Board (4000 ED Only)

Installing an IEEE 1394/Firewire Interface

If you are using a desktop computer that is not equipped with a built-in IEEE 1394/Firewire port, or if your existing IEEE 1394/Firewire board is not one of the models tested and approved by Nikon for use with the 4000 ED (see list provided separately), you will need to install the IEEE 1394 interface board included with your scanner. Installation instructions are given in Appendix A, "Installing the IEEE 1394/Firewire Interface Expansion Board." Note that the IEEE 1394 interface board can not be installed in laptop computers; if your laptop is not one of the models with a built-in IEEE 1394 or Firewire port that has been tested and approved by Nikon for use with the 4000 ED, you will need to purchase and install one of the IEEE 1394/Firewire PCMCIA cards recommended by Nikon before you can use your scanner. The IEEE 1394/Firewire interface board is not required in the case of Macintosh G3 and G4 computers with built-in Firewire ports.

Step 4: Turn the Computer On

Preparing Your Computer

With the scanner off, turn on your computer. Wait until the operating system has finished starting up before proceeding to the next step.

Step 5: Install the IEEE 1394 Update for Windows 98 SE (4000 ED Only)

Updating the Windows 98 Second Edition IEEE 1394 Drivers

If you will be using the 4000 ED under Windows 98 Second Edition (SE), before you will be able to use your scanner you will need to install the IEEE 1394 update as described in Appendix B, "Installing the IEEE 1394 Update for Windows 98 Second Edition." Users of the COOLSCAN IV ED and users of other operating systems can proceed to Step 6.

Pg. For more information on:

A–2 Installing the IEEE 1394/Firewire interface expansion board
A–7 Installing the IEEE 1394 update for Windows 98 SE

Step 6: View 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.

6-1
Insert the reference CD in the CD-ROM drive. Macintosh users can proceed to Step 6-3.

6-2 (Windows only)
Double-click the **My Computer** icon. In the My Computer window, double-click the CD-ROM drive labeled "Nikon."

6-3
The Nikon window will open on the desktop. Double-click the folder for the language of your choice.

Macintosh

Windows

6-4
Double-click the **Setup** (Windows) or installer (Macintosh) icon.

setup

Windows

Reader Installer

Macintosh

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

6-5
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.

✔

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.

Step 7: Install Nikon Scan 3

Installing the Driver Software for Your Scanner

Before using your Nikon Scanner, you will need to install Nikon Scan 3 driver software, which acts as an interface between the scanner and your computer. To install Nikon Scan, follow the steps below. Windows users can start from Step 7-1, Macintosh users from Step 7-6. For detailed installation instructions, see the *Nikon Scan 3 Reference Manual*.

Installing Nikon Scan 3 under Windows

7-1
Before installing Nikon Scan, be sure that:
• Your computer meets the system requirements for Nikon Scan
• You have turned off any virus-checking software that may be running
• You have exited all other applications
After checking the above points, insert the Nikon Scan 3 CD in the CD-ROM drive.

7-2
The Welcome window will be 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.

✔

You will need to login as an "Administrator" to install the Nikon Scan 3 (Windows 2000 only).

Pg. For more information on:

   5 System requirements for Nikon Scan
   7 Installing Nikon Scan

7-3

The Install Shield wizard will start. Click **Next** to display the Nikon Scan software license agreement. After accepting the agreement, you will be prompted to choose a location for the software. Installation will begin after you have chosen a location and clicked **Next** to close the Choose Destination Location dialog.
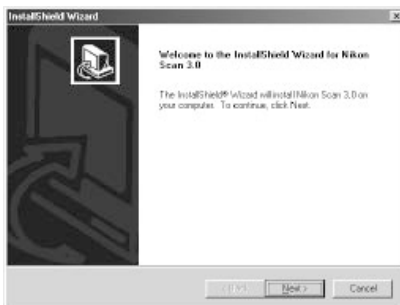
7-4

After the Nikon Scan program files have been copied to disk, a color-space selection wizard will appear, where you can select the color-space profile used as the default for the RGB color model. To have the wizard assist you in selecting a profile, click **Use Wizard**. To choose a profile from a list, click **Use name list**. If you are unsure as to what profile to choose, we recommend that you select **Use Wizard** and choose the profile suggested by the Wizard. The color-space profile selected during installation can be changed at any time as detailed in the "Preferences" section of the *Nikon Scan Reference 3 Manual.*
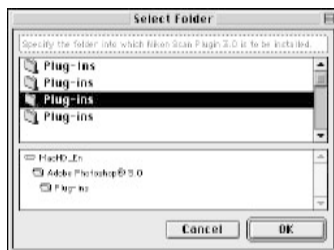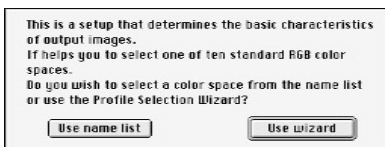

Choosing the correct color-space profile is very important if the scanner is to be used in a professional setting, for example as a part of a production workflow. The *Nikon Scan 3 Reference Manual* contains information about the color management system used in Nikon Scan. Please take time to study the 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.

7-5

Once you have chosen a profile and clicked **OK**, the Installation Complete dialog will be displayed. Click **Finish** to exit the InstallShield wizard and view the ReadMe file, which may contain important information that could not be included in this manual.
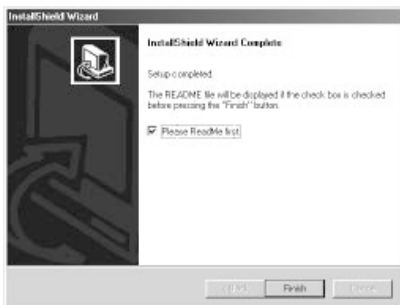
Pg. For more information on:

115 Color-space profiles

7-6

Before installing Nikon Scan, be sure that:
• Your computer meets the system requirements for Nikon Scan (🔾 🔘 5)
• You have turned off any virus-checking software that may be running
• You have exited all other applications
After checking the above points, insert the Nikon Scan 3 CD in the CD-ROM drive.

7-7

The Nikon Scan 3.0 window will open on the desktop. Double-click the installer icon for the language of your choice.

Nikon Scan Installer EN

7-8

Click **Continue…** in the dialog shown at right. A license agreement will be displayed; click **Accept** to continue installation. The ReadMe file will then be displayed; take a few moments to view this file, which may contain important information that could not be included in the manuals. After reading the file, click **Continue…** to proceed with installation.
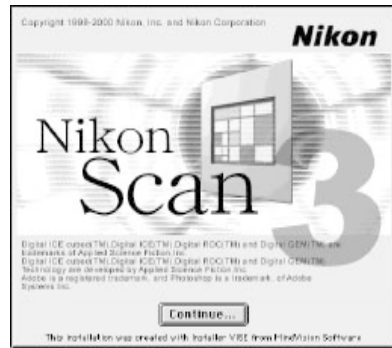
7-9

After confirming that **Easy Install** is selected in the pop-up menu at the top left corner of the installer dialog, choose a location for Nikon Scan from the **Install Location** pop-up menu. Click **Install** to install Nikon Scan to the specified location.
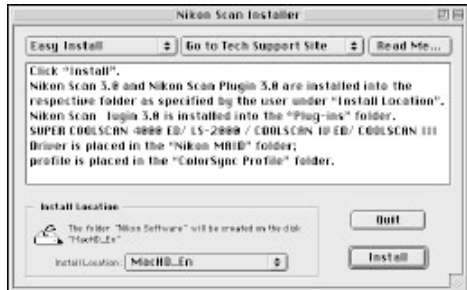
Depending on where you purchased your scanner, the Nikon Scan 3 CD will contain installers for from one to four language versions of Nikon Scan: English (EN), French (FR), German (DE), and Spanish (ES). Where installers for more than one language version are available, the installers may be found in separate folders; open the folder for the language of your choice and double-click the installer icon.

7-10

After the Nikon Scan program files have been copied to disk, a color-space selection wizard will appear, where you can select the color-space profile used as the default for the RGB color model. To have the wizard assist you in selecting a profile, click **Use Wizard**. To choose a profile from a list, click **Use name list**. If you are unsure as to what profile to choose, we recommend that you select **Use Wizard** and choose the profile suggested by the Wizard. The color-space profile selected during installation can be changed at any time as detailed in the "Preferences" section of the *Nikon Scan 3 Reference Manual.*

This is a setup that determines the basic characteristics of output images.
If helps you to select one of ten standard RGB color spaces.
Do you wish to select a color space from the name list or use the Profile Selection Wizard?

[Use name list]   [Use wizard]

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 3 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.

7-11

If desired, you can open Nikon Scan from any application that supports Adobe Photoshop 5.0 acquire plug-ins and scan images directly into the application. Once you have chosen a profile and clicked **OK**, the installer will display a list of the plug-in folders for the applications on local disks. Choose the folders for the applications with which you want to use Nikon Scan and click **OK**. The plug-in can be copied into several folders, allowing multiple applications access to Nikon Scan.

Select Folder

Specify the folder into which Nikon Scan Plugin 3.0 is to be installed.

🔲 Plug-ins
🔲 Plug-ins
🔲 Plug-ins
🔲 Plug-ins

💾 MacHD_En
  📁 Adobe Photoshop® 5.0
    📁 Plug-ins

[Cancel]   [OK]

7-12

Once installation is complete, the dialog shown at right will be displayed. Click **Quit** to exit the installer.
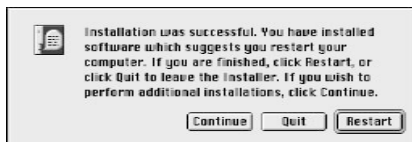
Installation was successful. You have installed software which suggests you restart your computer. If you are finished, click Restart, or click Quit to leave the Installer. If you wish to perform additional installations, click Continue.

[Continue]   [Quit]   [Restart]

Step 8: 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.
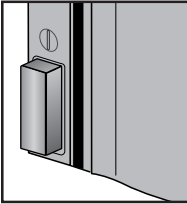
Power switch off
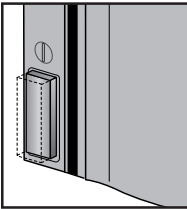
Power switch on
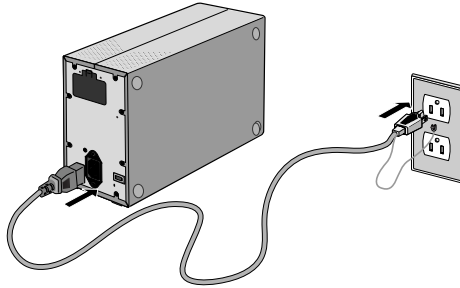
Shape of plug varies with country of purchase. Be sure that the socket to which the scanner is connected is grounded; if a separate ground wire is provided, be sure to attach the ground wire to the earth connector.

Step 9: Connect the Interface Cable

With the scanner off, connect one end of the interface cable to the scanner's interface connector, then connect the other end to your computer's IEEE 1394/Firewire connector (4000 ED) or USB port (COOLSCAN IV ED).
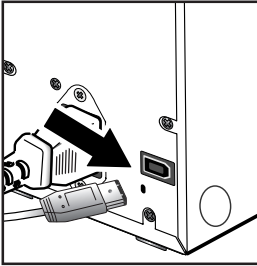
4000 ED

• Connect one end of a 6-pin–6-pin IEEE 1394 cable (provided) to the connector on the rear of the scanner, and the other end to your computer. 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.
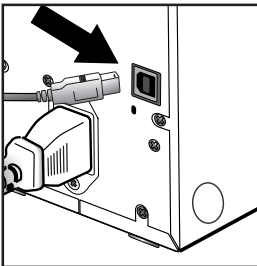
COOLSCAN IV ED

• Using the USB cable provided with your scanner, connect Connector B to the connector on the rear of the scanner, and Connector A to your computer.

Connector A (connect to computer)

Connector B (connect to scanner)

⏳ *Pg. For more information on:*

6 Connecting USB or IEEE 1394/Firewire devices
69 Troubleshooting connection problems

Before turning the scanner on for the first time, confirm that the Nikon Scan 3 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.

Power switch off

Blink   Glow steadily
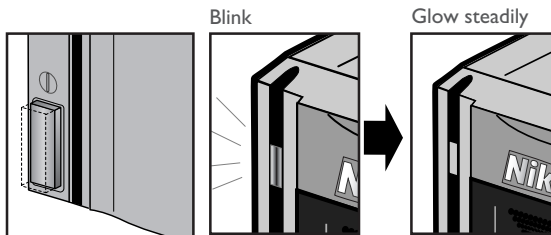
Power switch on

When turning the scanner on with the MA-20 (S) slide-mount adapter in place, be sure that the FH-3 film holder is not inserted. Leaving the FH-3 in the scanner 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.

Pg. *For more information on:*

78   The FH-3 film holder
68   What to do when the status LED flashes rapidly

Step 11: Register the Scanner with Windows

Users of Windows 98 Second Edition (SE), Windows Me, and Windows 2000 will need to register their scanner with the system the first time the scanner is connected. Macintosh users can proceed directly to Step 12.

4000 ED (SUPER COOLSCAN 4000 ED)

The process of registering your scanner varies with the operating system used.

Registering the 4000 ED with Windows 98 SE

Before beginning device registration, be sure that you have completed the IEEE 1394 update described in Step 5.

11-1

The first time the scanner is connected, Windows will display a message stating that new hardware has been detected.

11-2

After a short pause, the message will be replaced by the opening dialog for the Windows hardware wizard. Click **Next**.

11-3

A dialog will be displayed asking where you want Windows to search for a driver. *Be sure that the Nikon Scan 3 CD is inserted in the CD-ROM drive.* If the CD is not in the CD-ROM drive, insert the disk *while holding down the shift key* to prevent the Nikon Scan installer from starting automatically.

11-4

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

🖉

When you insert the Nikon Scan 3 CD into the CD-ROM drive, the installer Welcome program may start automatically. Click **Exit** to exit the Welcome program.

11-5

In the Browse for Folder dialog, select the **Win98SE** folder from under **Nkscan** > **INF** > **LS4000** and click **OK**.

11-6

After confirming that "D:\INF\LS4000\Win98SE" is displayed in the text box under **Specify a location** (for "D" substitute the drive letter of the CD-ROM drive containing the Nikon Scan 3 CD), click **Next**.

11-7

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

11-8

A dialog will be displayed announcing that registration is complete. Click **Finish**.

After completing device registration, check that the Windows device drivers are installed and functioning normally.

26

Registering the 4000 ED with Windows Me

11-1
The first time the scanner is connected, Windows will display a message stating that new hardware has been detected.

11-2
After a short pasuse, a dialog will be displayed asking whether you want to search for a driver automatically or specify a location. *Be sure that the Nikon Scan 3 CD is inserted in the CD-ROM drive.* If the CD is not in the CD-ROM drive, insert the disk *while holding down the shift key* to prevent the Nikon Scan installer from starting automatically.

11-3
Select **Automatic search for a better driver** and click **Next**.

11-4
You will be prompted to choose one of the drivers shown at right. Select the driver with the path ending in "LS4000ME.INF" and click **OK**.

11-5
The dialog shown at right will be displayed. Click **Finish**.

🖉

When you insert the Nikon Scan 3 CD into the CD-ROM drive, the installer Welcome program may start automatically. Click **Exit** to exit the Welcome program.

11-6

The dialog shown at right may be displayed; click **Yes** to restart your computer.

After completing device registration, check that the Windows device drivers are installed and functioning normally.

Pg. For more information on:

Registering the 4000 ED with Windows 2000

11-1
The first time the scanner is connected, Windows will display a message stating that new hardware has been detected.

11-2
After a short pause, the message will be replaced by the opening dialog for the Windows hardware wizard. Click **Next**.

11-3
A dialog will be displayed asking whether you want to search for a driver or select one from a list. *Be sure that the Nikon Scan 3 CD is inserted in the CD-ROM drive.* If the CD is not in the CD-ROM drive, insert the disk *while holding down the shift key* to prevent the Nikon Scan installer from starting automatically.

11-4
Select the search option and click **Next**.

✓

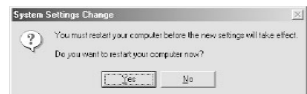You will need to login as an "Administrator" to register the 4000 ED.

🖉

When you insert the Nikon Scan 3 CD into the CD-ROM drive, the installer Welcome program may start automatically. Click **Exit** to exit the Welcome program.

You will be prompted to choose the location of the driver files. Select **Specify a location** and click **Next**.
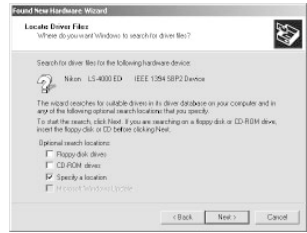
11-6
The dialog shown at right will be displayed; click **Browse**.

11-7
In the Locate File dialog, select the CD-ROM drive containing the Nikon Scan 3 CD (Nkscan) from the **Look in** pop-up menu and double-click the **INF** folder. Open the **Win2000** folder under the **LS4000** folder and click **Open**. This will return you to the dialog shown in Step 11-6; click **OK**.

11-8
The dialog shown at right will be displayed once Windows has located the information it needs to register the scanner. Click **Next**.
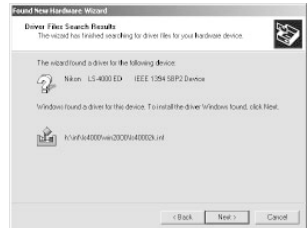
11-9
The dialog shown at right will be displayed. Click **Yes**.

11-10

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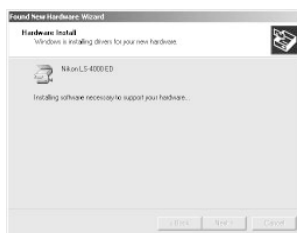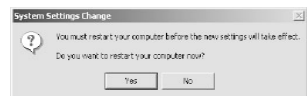

11-11

A dialog will be displayed announcing that registration is complete. Click **Finish**.
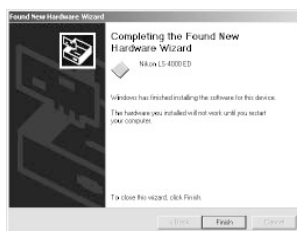
11-12

The dialog shown at right may be displayed; click **Yes** to restart your computer.

After completing device registration, check that the Windows device drivers are installed and functioning normally.
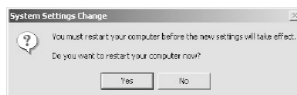

Pg. For more information on:

41   Confirming That the Device Driver Is Correctly Installed (Windows 2000)

31

The process of registering your scanner varies with the operating system used.

Registering the COOLSCAN IV ED with Windows 98 SE

11-1
The first time the scanner is connected, Windows will display a message stating that new hardware has been detected.

11-2
After a short pause, the message will be replaced by the opening dialog for the Windows hardware wizard. Click **Next**.

11-3
A dialog will be displayed asking where you want Windows to search for a driver. *Be sure that the Nikon Scan 3 CD is inserted in the CD-ROM drive.* If the CD is not in the CD-ROM drive, insert the disk *while holding down the shift key* to prevent the Nikon Scan installer from starting automatically.

11-4
Select **Specify a location** and click **Browse**.

When you insert the Nikon Scan 3 CD into the CD-ROM drive, the installer Welcome program may start automatically. Click **Exit** to exit the Welcome program.

11-5

In the Browse for Folder dialog, select the **LS40** folder from under **Nkscan** > **INF** and click **OK**.

11-6
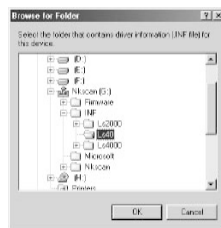
After confirming that "D:\INF\LS40" is displayed in the text box under **Specify a location** (for "D" substitute the drive letter of the CD-ROM drive containing the Nikon Scan 3 CD), click **Next**.

11-7

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

11-8

A dialog will be displayed announcing that registration is complete. Click **Finish**.

After completing device registration, check that the Windows device drivers are installed and functioning normally.

Pg. For more information on:

37   Confirming That the Device Driver Is Correctly Installed (Windows 98SE)

Registering the COOLSCAN IV ED with Windows Me

11-1

The first time the scanner is connected, Windows will display a message stating that new hardware has been detected.

11-2

After a short pause, a dialog will be displayed asking whether you want to search for a driver automatically or specify a location. *Be sure that the Nikon Scan 3 CD is inserted in the CD-ROM drive.* If the CD is not in the CD-ROM drive, insert the disk *while holding down the shift key* to prevent the Nikon Scan installer from starting automatically.

11-3

Select **<u>A</u>utomatic search for a better driver** and click **<u>N</u>ext**.

11-4

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

11-5

The dialog shown at right may be displayed; click **<u>Yes</u>** to restart your computer.

After completing device registration, check that the Windows device drivers are installed and functioning normally.

🖉

When you insert the Nikon Scan 3 CD into the CD-ROM drive, the installer Welcome program may start automatically. Click **Exit** to exit the Welcome program.

⚙️ *Pg. For more information on:*

📖   39 Confirming That the Device Driver Is Correctly Installed (Windows Me)

Registering the COOLSCAN IV ED with Windows 2000

11-1
The first time the scanner is connected, Windows will display a message stating that new hardware has been detected.

11-2
After a short pause, the message will be replaced by the opening dialog for the Windows hardware wizard. Click **Next**.

11-3
A dialog will be displayed asking whether you want to search for a driver or select one from a list. *Be sure that the Nikon Scan 3 CD is inserted in the CD-ROM drive.* If the CD is not in the CD-ROM drive, insert the disk *while holding down the shift key* to prevent the Nikon Scan installer from starting automatically.

11-4
Select the search option and click **Next**.

11-5
You will be prompted to choose the location of the driver files. Select **CD-ROM drives** and click **Next**.

✔

You will need to login as an "Administrator" to register the COOLSCAN IV ED.

🖉

When you insert the Nikon Scan 3 CD into the CD-ROM drive, the installer Welcome program may start automatically. Click **Exit** to exit the Welcome program.

11-6

The dialog shown at right will be displayed once Windows has lo-cated the information it needs to register the scanner. Click **Next**.

11-7

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

11-8

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

11-9

A dialog will be displayed announcing that registration is complete. Click **Finish**.

11-10

The dialog shown at right may be displayed; click **Yes** to restart your computer.

After completing device registration, check that the Windows de-vice drivers are installed and functioning normally.

Confirming That the Device Driver Is Correctly Installed (Windows 98SE)

1 Make sure that your scanner is connected to your computer and turned on.

2 From the **Start** menu, select **Settings** > **Control Panel**. Double-click the **System** icon in the window that appears.

3 The System Properties dialog will be displayed. Click the Device Manager tab.

4 Your Nikon Scanner should be listed as an imaging device. If an "Imaging Device" item appears, click the "+" mark next to the item to view a list of imaging devices.

5 Double-click the listing for your scanner. If your scanner is not listed as an imaging device, proceed to "Updating the Device Driver (Windows 98SE)."

6 The properties window for your scanner will be displayed. If "This device is working properly" appears under "Device status" in the General tab, the device driver for your scanner is installed and functioning normally. If a message such as, "The drivers for this device are not installed" appears, proceed to "Updating the Device Driver (Windows 98SE)."
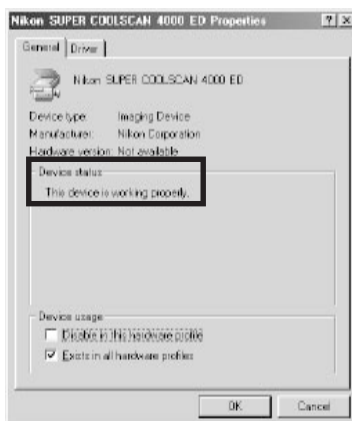
Updating the Device Driver (Windows 98SE)

1 Open the Device Manager as instructed in steps 1–3 of "Confirming That the Device Driver Is Correctly Installed (Windows 98SE)."

2 If your scanner is listed under "Unknown devices" or "Other devices," or appears next to a "?" "!" or "x," double-click the scanner icon to open the properties window for the device.

3 Click **Reinstall driver** in the General tab of the properties window.

4 The Update Device Driver Wizard dialog will appear. Click **Next**.

5 Select **Search for a better driver than the one your device is using now** and click **Next**.

6 With the shift key held down to prevent the installer from starting automatically, insert the Nikon Scan 3 CD into a CD-ROM drive. Select **Specify a location** in the dialog below and click **Browse**. (If the Welcome dialog appears when the CD is inserted in the drive, click **Exit** and proceed with driver installation.)

7 In the Browse for Folder dialog, select the folder on the Nikon Scan 3 CD (Nkscan) containing the device driver for your scanner.
- 4000 ED
  \INF\LS4000\Win98SE
- COOLSCAN IV ED
  \INF\LS40

Click **OK**. This will return you to the dialog shown above; click **Next**.

8 The Update Device Driver Wizard will announce that it has found the drivers for your scanner; click **Next**.

9 When a message is displayed indicating that driver installation is complete, click **Finish** to exit the wizard.

Confirming That the Device Driver Is Correctly Installed (Windows Me)

1 Make sure that your scanner is connected to your computer and turned on.

2 From the **Start** menu, select **Settings** > **Control Panel**. Double-click the **System** icon in the window that appears.

3 The System Properties dialog will be displayed. Click the Device Manager tab.

4 Your Nikon Scanner should be listed as an imaging device. If an "Imaging Device" item appears, click the "+" mark next to the item to view a list of imaging devices.

5 Double-click the listing for your scanner. If your scanner is not listed as an imaging device, proceed to "Updating the Device Driver (Windows Me)."

6 The properties window for your scanner will be displayed. If "This device is working properly" appears under "Device status" in the General tab, the device driver for your scanner is installed and functioning normally. If a message such as, "The drivers for this device are not installed" appears, proceed to "Updating the Device Driver (Windows Me)."
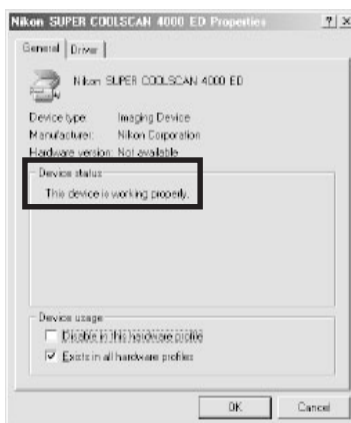
Updating the Device Driver (Windows Me)

1 Open the Device Manager as instructed in Steps 1–3 of "Confirming That the Device Driver Is Correctly Installed (Windows Me)."

2 If your scanner is listed under "Unknown devices" or "Other devices," or appears next to a "?" "!" or "×," double-click the scanner icon to open the properties window for the device.

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

4 The Update Device Driver Wizard dialog will appear. With the shift key held down to prevent the installer from starting automatically, insert the Nikon Scan 3 CD into a CD-ROM drive (if the Welcome dialog appears when the CD is inserted in the drive, click **Exit** and proceed with driver installation).

5 If you are using the 4000 ED, the wizard will prompt you to choose from a list of drivers; choose the driver with the path ending in "LS4000ME.INF" and click **Next**. This step is not required in the case of the COOLSCAN IV ED.

6 The Update Device Driver Wizard will announce that it has found the drivers for your scanner; click **Finish** to exit the wizard. If you are prompted to restart your computer, click **Yes** to restart Windows.

Confirming That the Device Driver Is Correctly Installed (Windows 2000)

1 Make sure that your scanner is connected to your computer and turned on.

2 From the **Start** menu, select **Settings** > **Control Panel**. Double-click the **System** icon in the window that appears.

3 The System Properties dialog will be displayed. Open the Hardware tab and click the **Device Manager…** button.
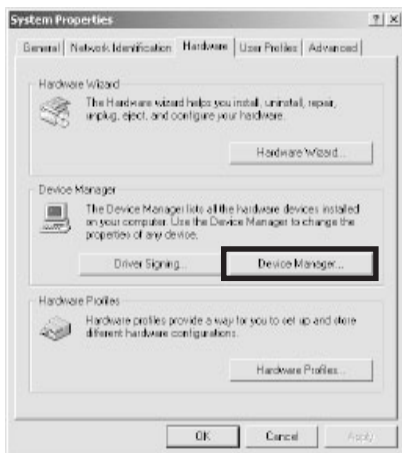
4 Your Nikon Scanner should be listed as an imaging device. If an "Imaging devices" item appears, click the "+" mark next to the item to view a list of imaging devices.
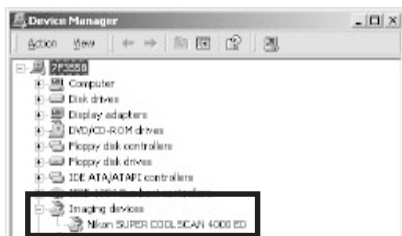
5 Double-click the listing for your scanner. If your scanner is not listed as an imaging device, proceed to "Updating the Device Driver (Windows 2000)."

6 The properties window for your scanner will be displayed. If "This device is working properly" appears under Device Status in the General tab, the device driver for your scanner is installed and functioning normally. If a message such as, "This device is not working properly" appears, proceed to "Updating the Device Driver (Windows 2000)."
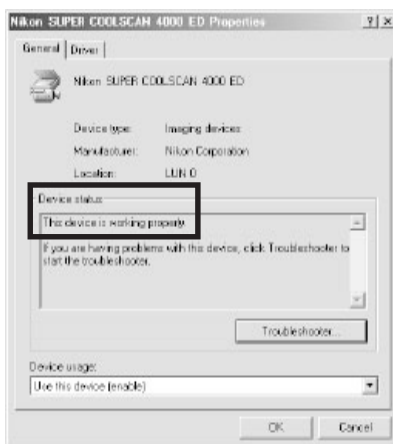
Updating the Device Driver (Windows 2000)

1 Open the Device Manager as instructed in Steps 1–3 of "Confirming That the Device Driver Is Correctly Installed (Windows 2000)."

2 If your scanner is listed under "Unknown devices" or "Other devices," or appears next to a "?" "!" or "x," double-click the scanner icon to open the properties window for the device.

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

4 The Welcome to the Upgrade Device Driver Wizard dialog will appear. Click **Next**.

5 Select **Search for a suitable driver for my device (recommended)** and click **Next**.

6 Insert the Nikon Scan 3 CD in a CD-ROM drive (if the Welcome dialog appears when the CD is inserted in the drive, click **Exit** and proceed with driver installation). Follow the instructions in steps 11-5 to 11-10 of "Registering the 4000 ED with Windows 2000" or 11-5 to 11-8 of "Registering the COOLSCAN IV ED with Windows 2000" to specify the location of the device driver.

7 When a message is displayed indicating that driver installation is complete, click **Finish** to exit the wizard. If you are prompted to restart your computer, click **Yes** to restart Windows.

Step 12: Make a Scan

This step introduces basic scanning procedures. For details of using Nikon Scan to scan images, see the *Nikon Scan 3 Reference Manual*.

12-1
Nikon Scan can be used to scan images into third-party host applications such as Adobe Photoshop, or it can be used as a "stand-alone" application for scanning images and saving them to disk. To start Nikon Scan from another application, select Nikon Scan from the application's list of "acquire" or "import" sources. If you are using a Macintosh, the Nikon Scan 3.0 plug-in must first be copied to the **Import/ Export** folder in the application's plug-ins folder. When using Nikon Scan as a "stand-alone" application:

Windows
Click the **Start** button and select **Nikon Scan 3.0** from **Programs** > **Nikon Scan 3.0**.
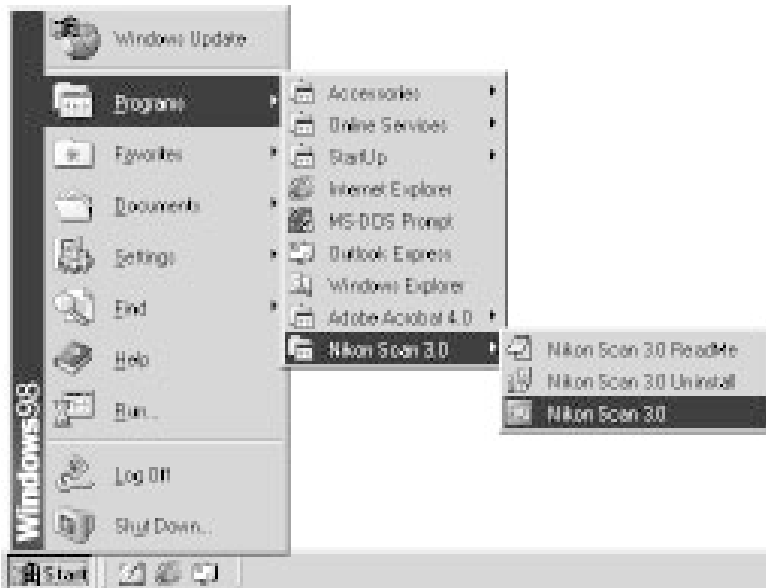
Macintosh

Open the folder to which you installed Nikon Scan (the default location is in the path Nikon Software : Nikon Scan 3 on the start-up disk) and double-click the Nikon Scan icon.

Nikon Scan 3.0

12-2

After confirming that the status LED is glowing steadily, open the sliding cover on the front of the scanner and slide a film adapter into the adapter slot as shown below, with the film slot towards the front of the scanner. If you are using the SA-21, be sure that the connectors on the rear of the adapter are fully inserted in the connectors at the rear of the adapter slot (the status LED will blink when the connectors are fully inserted).
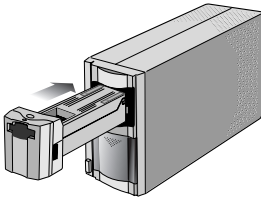
SA-21
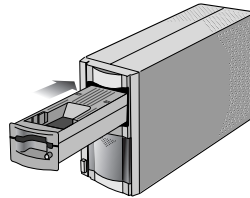
MA-20 (S)

		Pg. ***For more information on:***
	19	Opening the scan window

Insert the film to be scanned into the adapter film slot. The type of film that can be scanned depends on the adapter. This step describes the kinds of film that can be used with the SA-21 strip-film adapter and MA-20 (S) slide-mount adapter.

SA-21

The SA-21 can be used to scan strips of 35 mm film from two to six frames in length. Hold the film lightly by both edges with the emulsion surface face down (i.e., with the shiny side of the film face up), grasping it gently so that the edges of the film do not curl, and slide it into the adapter film slot as shown at right. Once the film has been inserted a short distance, the adapter's feed mechanism will be activated and the film will be loaded automatically. The status LED will blink while the scanner readies the film for scanning.
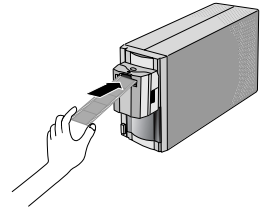
Note that not all film is suitable for use in the SA-21; refer to "Troubleshooting for the SA-21: Scanning Short, Long, or Damaged Film Strips" for information on what film can not be scanned in the SA-21 and how to modify it for scanning. Before inserting the film, make sure that it is free from dust, and avoid getting dust on any portion of the film that protrudes from the adapter during scanning.

✔

Inserting film into the adapter film slot will activate the adapter's feed mechanism. Be sure to load the film while the mechanism is in operation, as otherwise an error may occur.

✔

When film is inserted in the SA-21, the adapter's lock mechanism will be activated, locking the adapter in place and preventing its removal while film is present in the adapter. Before removing the SA-21 from the scanner, wait until the status LED on the front of the scanner glows steadily and eject the film by clicking the eject button in the scan window (see right). If your computer is off or Nikon Scan is not running, you can also eject the film by turning the scanner off and then on again and waiting for the film to be ejected automatically (be sure the status LED on the front of the scanner is glowing steadily before turning the scanner off). Once the film has been ejected, the lock will be released and the adapter can be removed by sliding it out of the adapter slot. Remember to close the sliding cover when no adapter is present in the scanner.

Attempting to remove the adapter while it is locked may interfere with the connection between the adapter and the scanner. If the scanner fails to recognize the adapter, push the adapter back into the adapter slot to re-establish the connection.

☺	*Pg. For more information on:*
📖	75 Scanning short, long, or damaged film strips
📖	71 What to do if film jams in the SA-21

MA-20 (S)

The MA-20 (S) can be used to scan mounted slides one at a time. Insert the slides with the emulsion surface face down (i.e., with the shiny surface face up) and the short side of the aperture facing the scanner. Insert each slide smoothly, stopping when it contacts the back of the film slot.

To remove a slide, press the eject button and pull the slide the rest of the way out with your fingers.

The MA-20 (S) can also be used to scan film strips of one to six frames using the FH-3 film holder.

Slides for use in the MA-20 (S) must be between 1.0 and 3.2 mm thick and from 49 to 50.8 mm in width.

	Pg.	For more information on:
	75	Scanning film using the FH-3 film holder

12-4

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

12-5

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.

Pg. For more information on:

26 Making a scan

12-6 (SA-21 only)

If you are using the SA-21 strip-film adapter, you can choose the frames to be scanned from the thumbnail drawer. Click the thumbnail drawer tab to open the thumbnail drawer.

SA-21
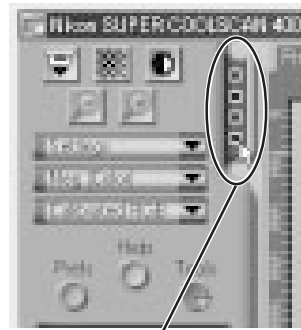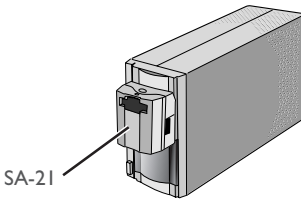
Thumbnail drawer tab

By default, frames are identified by number only. To view a small preview image (thumbnail) for each frame, click the ⊞ button. The button icon will change to ▣; click the button again to return to a frame number display.
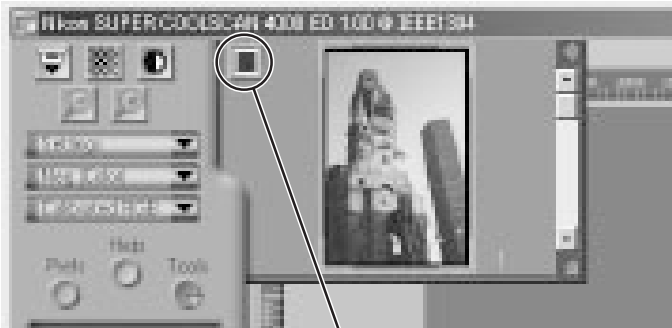
Click here to display and hide
thumbnails

If the thumbnail drawer is too small to display all the frames at once, you can enlarge the drawer by dragging its lower right corner or use the scroll slider to view frames that do not fit it in the drawer.

Scroll slider
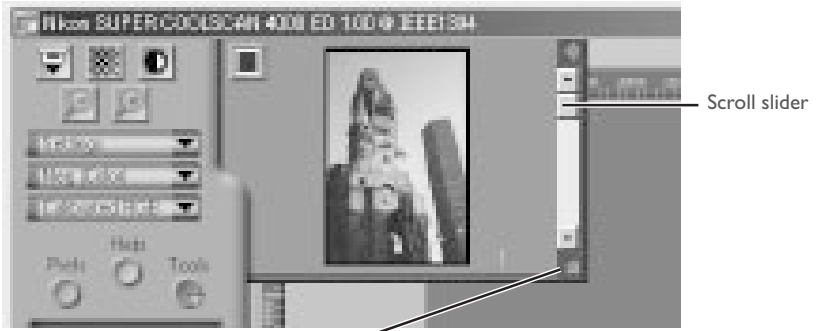
Drag here to enlarge thumbnail area

The frame to be scanned can be selected by clicking the associated frame number or thumbnail. To select multiple frames, click each frame in turn while holding down the control (Windows) or command (Macintosh) key, or hold down the shift key while clicking two images to select the images and all frames between them.
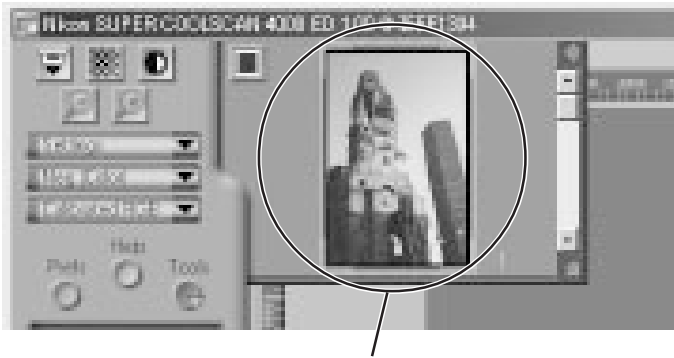
Selected thumbnail

Pg. For more information on:

26 Scanning multiple frames

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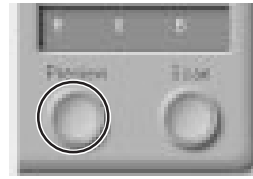
The preview will be displayed in the preview area.

12-8

Steps 12-9 through 12-13 involve the "Tool Chest." The Tool Chest, new to Nikon Scan 3, is a set of tool palettes, each containing an information display or controls for a specific task. If the Tool Chest is not already open on the desktop, you can open the Tool Chest by clicking the **Tools** button in the scan window and selecting **Tool Palette 1** from the menu that appears. To open a tool palette within the Tool Chest, click on the triangle to the left of the palette's title.
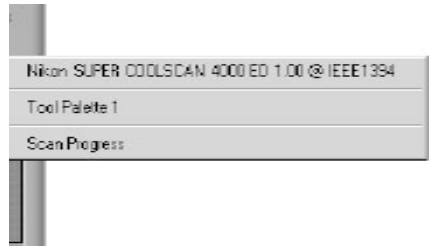
⚇	*Pg. For more information on:*
💿	40 The Tool Chest

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 display the Layout Tools palette.

Click ⎯

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.

Pg. For more information on:

43 The Layout Tools palette

If desired, you can process the image digitally to remove dust and scratches or to reduce the effects of fading and film grain. Open the Digital ICE Cubed palette by clicking the triangle at its top left corner.

Click ——○ Digital ICE cubed

| ☐ Enable Digital ICE | Normal |
| ☐ Enable Post Processing |
| Digital ROC ◀ ▬▬▬▬▬▬ ▶ 0 |
| Digital GEM ◀ ▬▬▬▬▬▬ ▶ 0 |
| Redraw |
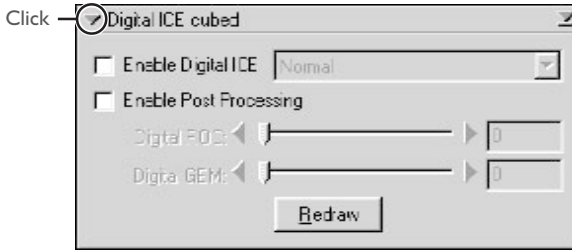
To remove dust and scratches from the image, check **Enable Digital ICE** and select **Normal** or **Fine** from Digital ICE menu. A setting of **Fine** can be used to remove very fine scratches or barely visible dust, although this may sometimes result in reduced sharpness. To restore faded colors or 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. Moving the sliders to the right increases the effects of Digital ICE³. To view the effects of Digital ROC or Digital GEM in the preview image, click the **Redraw** button.

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

Choose the area to be scanned by dragging the mouse over the image in the preview area.

Selected area ("crop")

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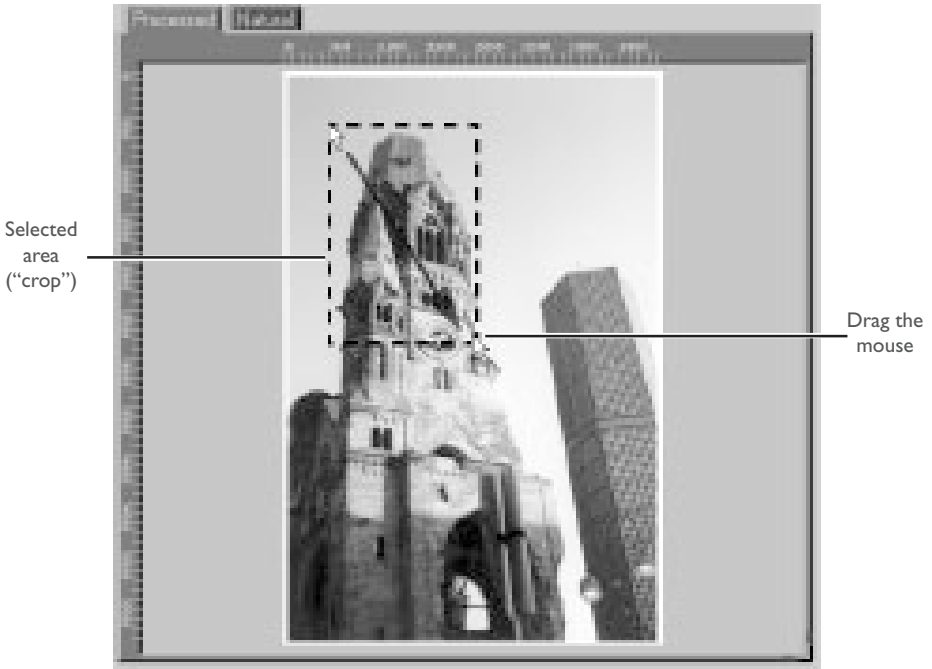
The size of the crop can be changed by dragging its boundaries. To change the position of the crop, place the cursor inside the selected area and drag it to a new location.

12-12
Using the tools in the Crop palette, specify the resolution and size at which the image will be printed or displayed on a monitor after scanning (the "output" resolution and size). Open the Crop palette by clicking the triangle at its top left corner.

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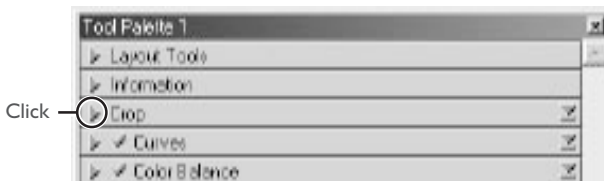
The Crop palette contains three options for determining output size: **Keep this crop**, **Keep this output size**, and **Keep this file size**.

Output size text boxes — (pointing to W and H boxes under "Keep this output size")
Output units menu — (pointing to Inches menu)
File size text box — (pointing to 67.27 MBytes box)
Resolution text box — (pointing to Resolution: 4,000 box)
Scale slider — (pointing to Scale slider)
Output resolution menu — (pointing to Custom menu)
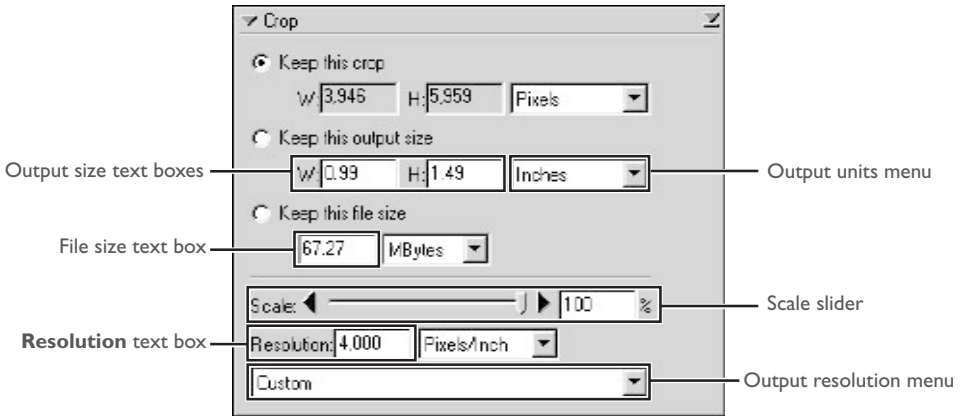
- **Keep this crop**
  Choose **Keep this crop** when you want to select the precise area to be scanned using the mouse, then adjust the output resolution and size according to how the image will be used. Enter a value for resolution suited to the device on which the image will be printed or displayed 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 **W**idth or **H**eight 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 **W**idth and **H**eight 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.

	Pg. For more information on:
	46 The Crop palette

If desired, color, contrast, sharpness, and image quality can be adjusted using the following tool palettes:

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.

Click ⟶
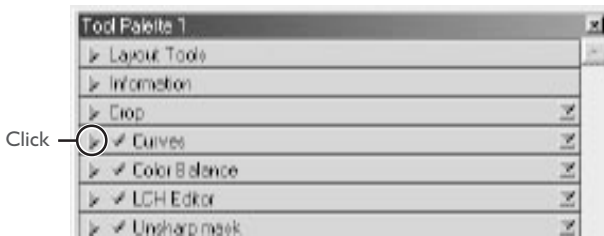
	Pg.	*For more information on:*
	63	Curves
	76	Color Balance
	78	The LCH Editor
	85	Unsharp Mask

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.

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.

To scan the image, click the **Scan** button.
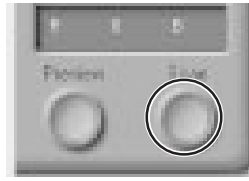
The scanned image will be opened in an independent image window, where it can be saved to disk.

Windows
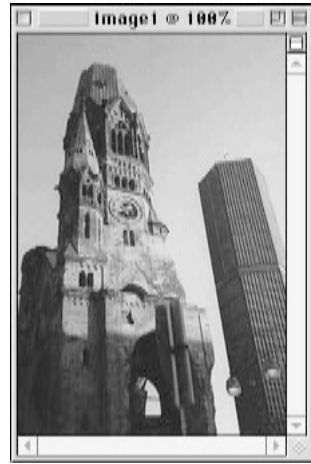
Macintosh

To scan additional images, click the scan window to activate it. If you have closed the scan window, you can open it again by selecting **Open TWAIN Source** from the **File** menu (Windows) or selecting the scanner from the devices listed in the **Tools** sub-menu under the **Nikon Scan** menu. If you are using Nikon Scan as a TWAIN source or acquire plug-in for a third-party application such as Adobe Photoshop, you can re-open the scan window by selecting Nikon Scan from the application's list of import or acquire sources. Once the scan window has been re-opened, a new crop can be scanned as outlined in steps 12-5 through 12-14, or the film can be ejected and new film inserted and previewed. To eject a slide from the slide-mount adapter, press the eject button and then pull the slide the rest of the way out with your fingers.

To eject film from the SA-21, click the eject button in the scan window.
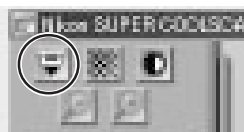
After confirming that the scanner's status LED is glowing steadily, you can insert a new film or slide and conduct a preview as described in steps 12-3 through 12-14. If there is no film in the adapter and the scanner's status LED is glowing steadily, the current adapter can be removed and a new adapter inserted in the scanner as described in Step 12-2.

✔

Before re-inserting film in the SA-21, remove the film fully from the adapter slot. If you attempt to re-insert the film without first removing it from the adapter slot, a feed error may occur.

Once you have finished scanning, exit Nikon Scan by selecting **Exit** (Windows) or **Quit** (Macintosh) from the **File** menu (if you are using Nikon Scan as a TWAIN source or acquire plug-in for another application, close the scan window by clicking the close box) and follow the steps below to turn the scanner off.

1. Remove the film from the scanner (see Step 12-15).

2. Wait until the status LED glows steadily and then remove the adapter from the scanner.

3. Close the sliding cover.

4. After checking that the status LED is glowing steadily, press the power switch to turn the scanner off.
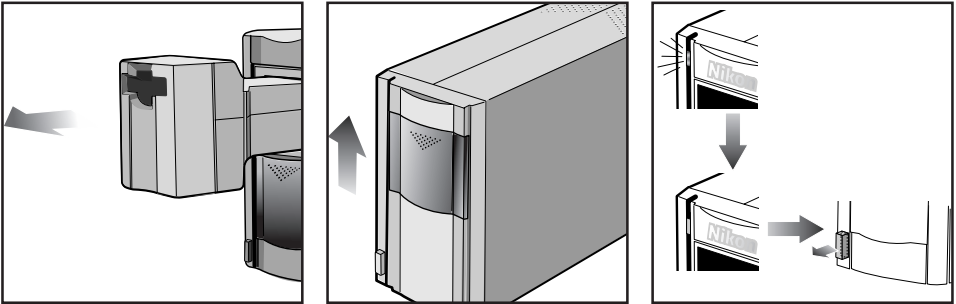
When using the 4000 ED with a computer running Windows 98 SE or Windows Me, before turning the scanner off you will need to remove the scanner from the system. Click

Stop Nikon SUPER COOLSCAN 4000 ED
9:30 AM

the "Unplug or Eject Hardware" icon in the task bar with the left mouse button and select **Stop Nikon SUPER COOLSCAN 4000 ED** from the menu that appears. When the message, "The 'Nikon LS-4000 ED' device can now be safely removed from the system" appears, click **OK** and turn the scanner off. The computer will automatically recognize the scanner the next time the scanner is turned on.

If you fail to remove the scanner from the system before disconnecting the device or turning it off, the error message shown below will be displayed. Click **OK** to clear the message from the screen.

Unsafe Removal of Device

⚠ You have unplugged or ejected a device without stopping it which can cause your computer to crash and lose valuable data.

Please use the hotplug icon in the status bar to safely stop devices before unplugging them.

OK
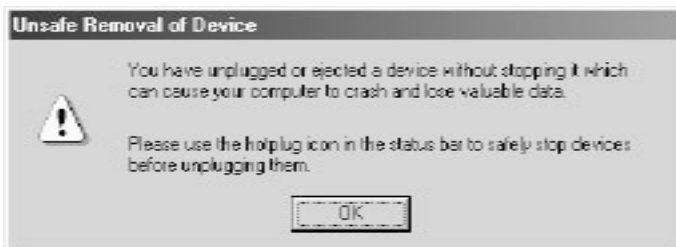
Nikon Scan Quick Reference

This chapter provides a quick guide to the centerpiece of the Nikon Scan interface, the scan window. For more complete information on installing and using Nikon Scan, see the *Nikon Scan 3 Reference Manual* (on CD).

The Scan Window: An Overview
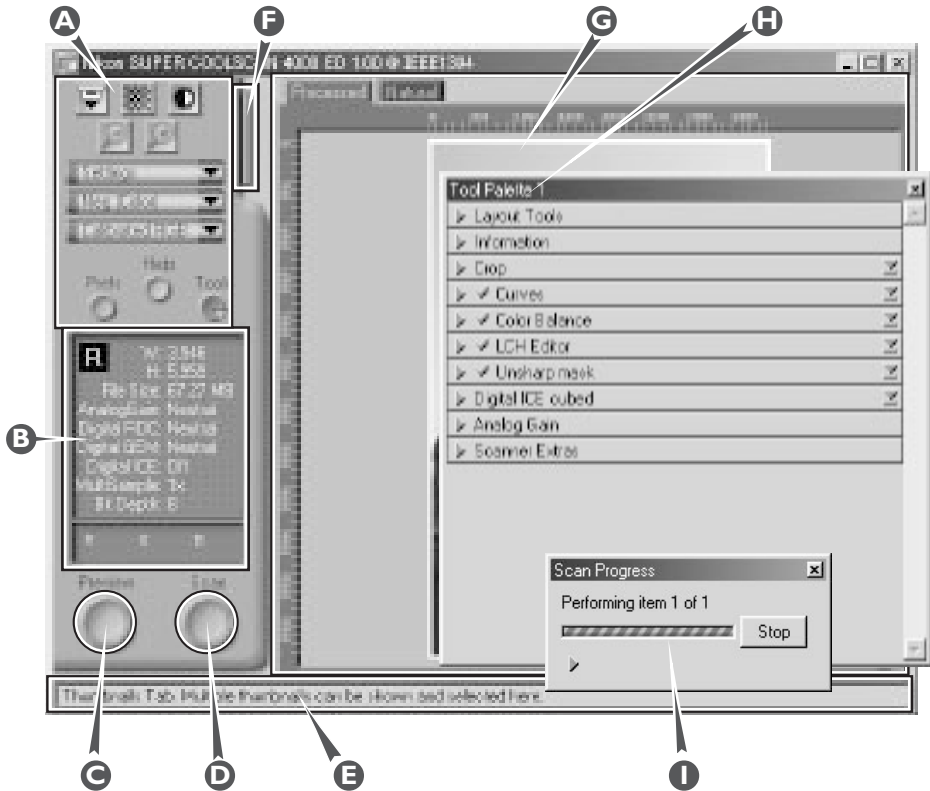
Control area (A)
Contains the most frequently used scanning and preview controls.

Information panel (B)
Provides information on current scan settings.

Preview button (C)
Click to *preview* the frame to be scanned. The preview shows how the image will look when it is scanned.

Scan button (D)
Click to scan the selected portion of the image into the host application.

Interactive help (E)
Gives a brief tip about the control under the mouse cursor.

Thumbnail drawer tab (F)
Click to select frames to be scanned from multi-frame film

Preview area (G)
The preview image is displayed here.

Tool chest (H)
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

Scan Progress window (I)
Shows what actions are being performed, and gives a log of automated tasks.

The Control Area

Eject Button
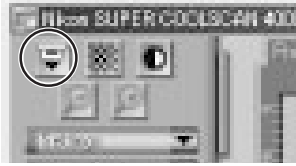
Ejects film from multi-frame adapters (this button is disabled when the MA-20 (S) slide-mount adapter is in place).

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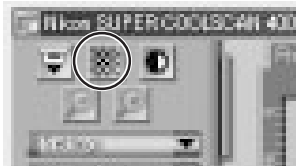
Click to focus the scanner on the center of the image, or control-click (Windows) or option-click (Macintosh) to select a new focus point.

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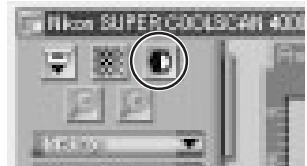
Before scanning, the scanner needs to gather information about the image to adjust exposure for best results. Click this button to adjust exposure.

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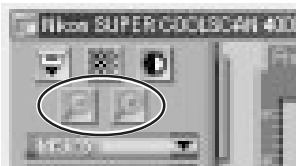
Click the 🔍 button to zoom in on the current crop, enlarging it to fill the preview area. Click the 🔍 button to zoom out.

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.

Media Type Menu

Adjusts scanner settings to match the media in the scanner. Select positive when scanning film positives (slides, reversal film, or monochrome positives), negative (color or monochrome) when scanning negatives. A separate option is available for scanning Kodachrome positives.

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.

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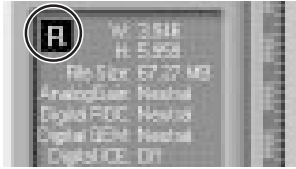
Shows the orientation of the preview image relative to the original, reflecting any flips or rotations that have been performed.

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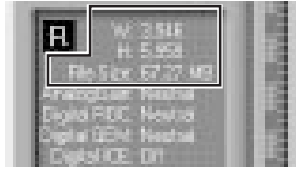
Gives the height and width of the current crop in pixels, and the size of the file that will result if the crop is scanned at the current output size and resolution.

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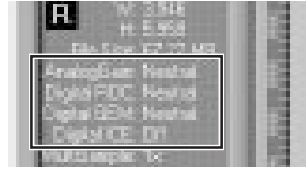
Indicates whether Digital ICE³ and analog gain are in effect. Remember to use Digital ICE³ only when needed, as turning Digital ICE³ on can substantially increase scanning times.

Scanner Extras
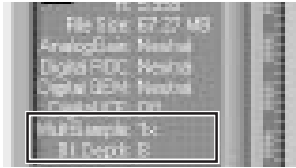
Indicates the current bit depth (which determines the maximum number of colors in the image) and whether multi-sample scanning (4000 ED) is in effect.

Color Values
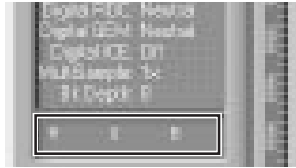
Gives the color values for the pixel under the cursor in the Natural tab (top row) or Processed tab (bottom row).

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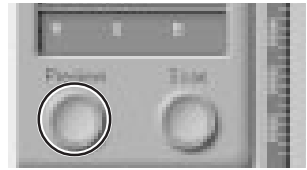
Clicking this button displays a preview of the image to be scanned (if multiple frames are selected in the thumbnail drawer, a preview will be performed for each frame). You will need to create a new preview after changing the media type or using the zoom buttons.

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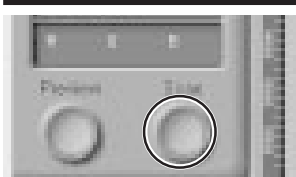
Scans the image and opens it in the host application (if multiple frames are selected in the thumbnail drawer, each frame will be scanned and opened in a separate window).

The Thumbnail Drawer Tab

This tab is only displayed when a multi-frame adapter such as the SA-21 is inserted in the scanner. 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 Natural/Processed 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 Natural tab shows how the image looked before processing, the Processed tab how the image will look when scanned at current settings.

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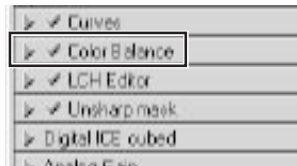
Use the color balance tools to make adjustments to brightness, contrast, and color balance that affect the entire image.

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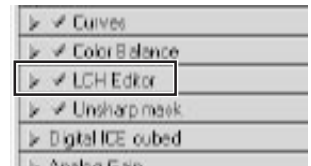
Like the Curves tool, the LCH editor can be used to adjust brightness and contrast in shadows, mid-tones, and highlights. It also incorporates hue and chroma editors, which provide extremely flexible tools for adjusting color.

The Tool Chest (continued)

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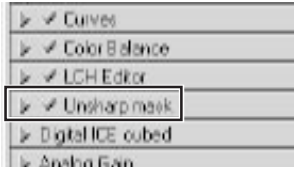
Unsharp mask increases the sharpness of the image by making edges more distinct, either over the entire image or in areas where specific colors are prominent.

Digital ICE Cubed
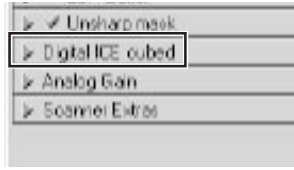
Three tools are available:
• **Digital ICE**: reduces the effects of dust and scratches
• **Digtial ROC**: restores colors lost through fading
• **Digital GEM**: reduces the effect of film grain

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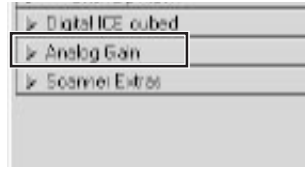
Using analog gain, you can adjust colors by directly altering the exposure value for each of the colored elements in the scanner's light source.

Scanner Extras
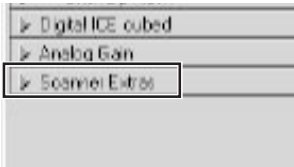
These tools offer control over features specific to your scanner.

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 🗑 icon. When performing multiple (batch) scans, the tasks completed are listed in the Log tab.

Reference

About This Chapter

This chapter provides information on:
- Troubleshooting, including what to do if your scanner will not scan, re-installing the scanner drivers, and troubleshooting for the SA-21
- Caring for your scanner
- Optional accessories available for the 4000 ED (SUPER COOLSCAN 4000 ED) and COOLSCAN IV ED
- Scanner specifications

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Troubleshooting

Should you encounter problems with your scanner, refer to the following section and the troubleshooting section in the *Nikon Scan 3 Reference Manual* before consulting your retailer or Nikon representative.

What to Do When the Scanner Will Not Scan

Problem	Possible Cause	👁
The scanner does not turn on (the status LED does not light)	• **The power cable is not properly connected** After confirming that the scanner is off, reconnect the power cable.	📖 22
	• **The scanner is off** Turn the scanner on.	📖 24
	• **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.	—
The status LED flashes rapidly (scanner not connected to computer or computer off)	• **The FH-3 film holder was inserted** Turn the scanner off, remove the FH-3, and turn the scanner on again.	—
	• **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	👁
The status LED flashes rapidly (scanner connected to computer)	• **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 the USB or IEEE 1394/ Firewire interface (Windows only) • Update the device drivers for your scanner (Windows only)	📖 23 💿 148 — 📖 25
The quality of scanned images is poor	• **The film is not properly inserted** Eject and re-insert film. • **The film 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 *Nikon Scan 3 Reference Manual* for information on adjusting scanner settings, or try resetting scanner settings to factory defaults.	📖 45 📖 14 💿 88

Problem	Possible Cause	👁
	• **The scanner is off** Turn the scanner on.	📖 24
	• **The scanner was turned on with the FH-3 film holder inserted in the adapter slot** After removing the FH-3, turn the scanner off and then on again.	📖 24
	• **The interface cable is not properly connected** After confirming that the scanner is off, reconnect the cable.	📖 23
	• **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
	• **Your computer system does not meet the minimum system requirements** See the *Nikon Scan 3 Reference Manual* for more information on system requirements.	💿 5
Your computer does not recognize the scanner	• **The interface board is not compatible with Nikon Scan** If you are using the 4000 ED, check the compatiblity information provided with your scanner to determine whether the IEEE 1394/Firewire board you are using is compatible with Nikon Scan (if you are using Windows computer with a built-in IEEE 1394 port, check the make and model number of your computer). Updated compatiblity information may also be available on the Nikon support web site for your area. If your IEEE 1394/Firewire board is not compatible with Nikon Scan, install the REX-PFW2W IEEE 1394 interface board included with your scanner (desktop computers) or purchase one of the recommended PCMCIA interface cards (laptop computers). Note that the COOLSCAN IV ED will only function with built-in USB ports.	📖 A–2
	• **The interface board is not correctly installed** Check the documentation for your IEEE 1394 or Firewire interface board.	📖 A–2
	• **The device driver for your scanner is missing or corrupted (Windows only)** Check that the driver is correctly installed	📖 25
	• **Nikon Scan is not correctly installed** Uninstall and re-install the software.	💿 148

Troubleshooting for the SA-21

When Film Jams in the SA-21

If the film jams in the SA-21 strip-film adapter, Nikon Scan 3 will display an error message, and the scanner's status LED will flash rapidly (roughly five times a second).
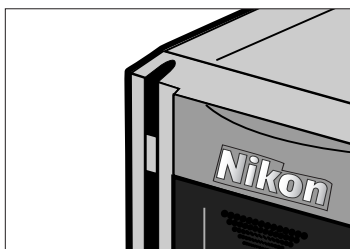
If the Film Jams During Loading

If the scanner is unable to load film inserted in the adapter, the film will automatically be ejected and the following error message will appear:

After clicking **OK**, check whether the film is suitable for use in the SA-21 (the film may need to be modified before use; see "Scanning Short, Long, or Damaged Film Strips," below). If the film can be used in the SA-21, wait until the status LED is glowing steadily and re-insert the film. If the film can not be scanned using the SA-21, you may still be able to scan it using the FH-3 film holder with the MA-20 (S) slide-mount adapter.

If there is no problem with the film, dust or dirt inside the adapter may be interfering with scanning. See "Maintenance: Caring for Adapters" for instructions on cleaning the SA-21.

The film may jam inside the scanner after the error message shown above appears. In this case, follow the instructions below under "If the Film Jams Inside the Adapter" to remove the film from the adapter.

If the Film Jams Inside the Adapter

If film jams inside the adapter, the following error messge will appear:

Follow the steps below to remove the film from the adapter.

• After clicking **OK** to release the adapter's locking mechanism, wait until the status LED glows steadily and then remove the adapter from the scanner. Note that film may be protruding from the rear of the adapter when it is removed; when removing the adapter, caution should be observed to ensure that the film is not damaged through contact with the scanner's internal parts.

☑ **SA-21 Locking Mechanism**

When not inserted in the scanner, the SA-21's locking mechanism is usually out of sight within the adapter. A shock or blow may sometimes cause the locking mechanism to spring out from the sides of the adapter. The adapter can nevertheless be inserted into the scanner normally.

Releasing the film adapter's lock mechanism following the instructions in the error message makes it possible to remove the adapter from the scanner. *Note, however, that film may be protruding from the rear of the adapter; when removing the adapter, take care that the film does not catch on the scanner's internal parts.*

Do not reinsert the adapter immediately after removing it from the adapter slot, as this could result in damage to any film that may be protruding from the rear of the adapter.

✐

After removing the film as instructed on the following pages, check whether the film is suitable for use in the SA-21 (the film may need to be modified before use; see "Scanning Short, Long, or Damaged Film Strips," below). If the film can be used in the SA-21, wait until the status LED is glowing steadily and re-insert the film. If the film can not be scanned using the SA-21, you may still be able to scan it using the FH-3 film holder with the MA-20 (S) slide-mount adapter. If there is no problem with the film, dust or dirt inside the adapter may be interfering with scanning. See "Maintenance: Caring for Adapters" for instructions on cleaning the SA-21.

- After placing the adapter on a table or other flat, stable surface, press the release button on top of the adapter, open the front panel, and open and remove the upper cover.

Release button
Upper cover
Front panel
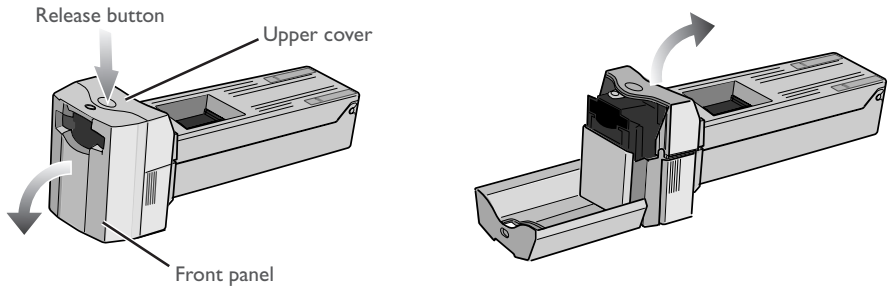
- If the end of the film strip is not visible, rotate the toothed wheel until the end of the film protrudes from either end of the adapter.
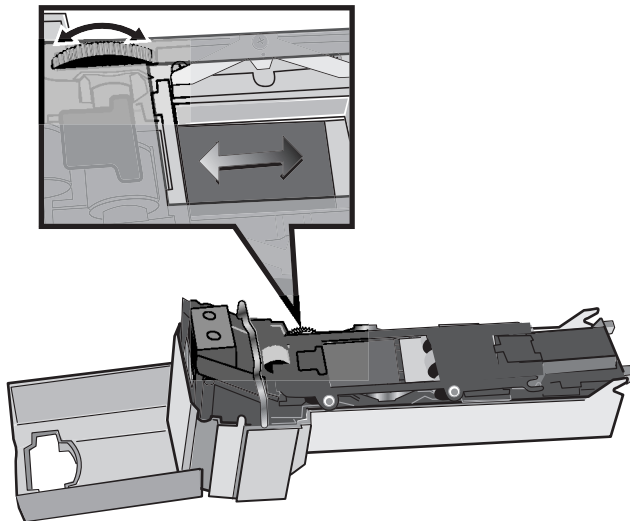
Place the adapter on a table or other flat, stable surface before opening the cover. If you hold the adapter in your hand while removing the upper cover, the adapter could fall to the floor and be damaged.

• Release the frame lock lever and open the roller frame.

Roller frame

Frame lock lever
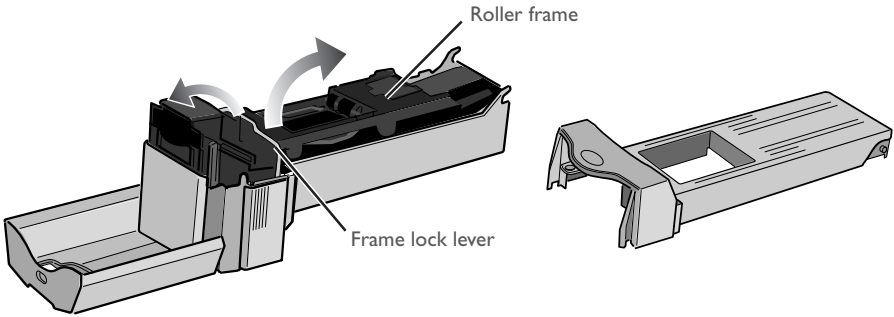
• Pull gently on the film to remove it from the film slot or from the rear of the adapter.

Frame lock lever
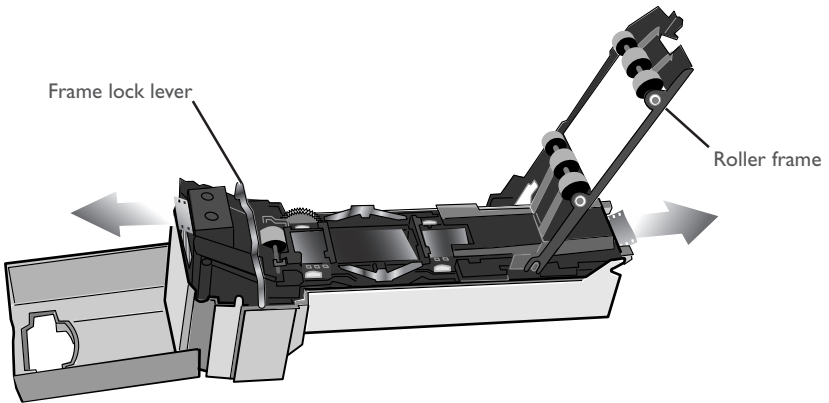
Roller frame

• After removing the film, follow the steps above in reverse order to close and lock the roller frame and return the upper cover to its place before closing the front cover.
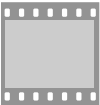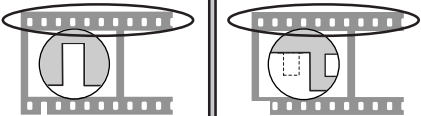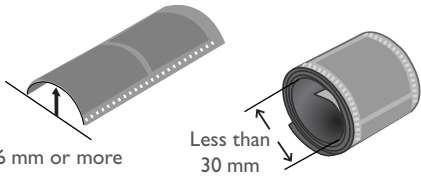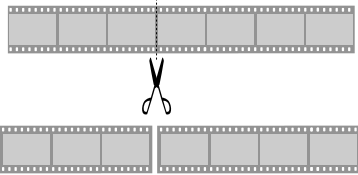
✓

The roller frame should not be removed from the adapter. When opening the roller frame, stop when you feel resistance. Forcing the frame open could result in damage to the adapter.

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

Scanning Short, Long, or Damaged Film Strips

This section details how to scan film that can not be used in the SA-21.

Film That Can Not Be Used in the SA-21

Problem	Solution
Film strip is only one frame long	Use the FH-3 film holder with the MA-20 (S) slide-mount adapter.
Perforations	Perforations		
Perforations are torn or missing	Use the FH-3 film holder with the MA-20 (S) slide-mount adapter.
6 mm or more	Less than 30 mm		
Film has excessive curl	Use the FH-3 film holder with the MA-20 (S) slide-mount adapter.
Film strip is more than six frames long.	Using scissors, cut the film into lengths of two to six frames before scanning, or scan the film using the optional SA-30 roll-film adapter (4000 ED only).
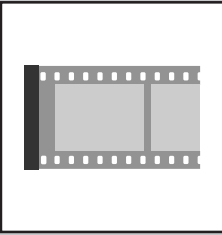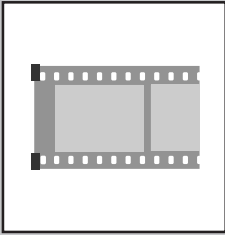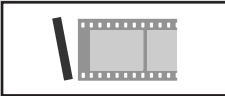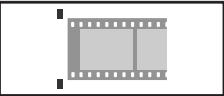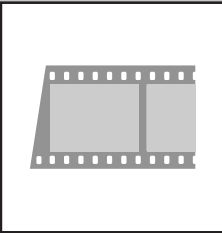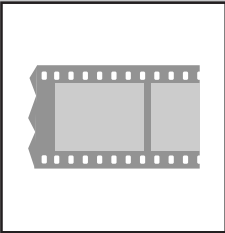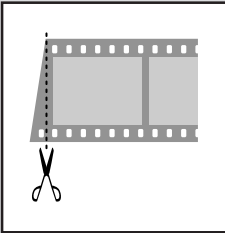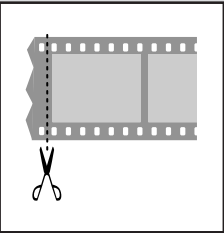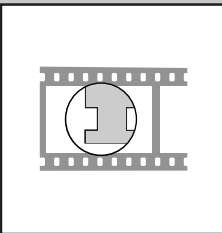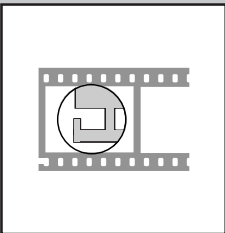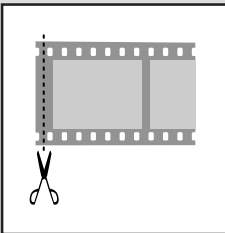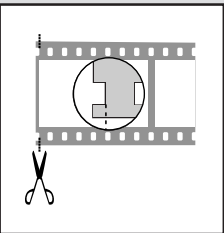
Film with the defects listed below requires repair before it can be used in the SA-21. It can be scanned without repair using the FH-3 film holder with the MA-20 (S) slide-mount adapter.

Film That Must Be Repaired Before It Can Be Used in the SA-21

Problem	Solution
There is tape on the ends of the film.	Remove the tape or trim the ends of the film with scissors. After removing tape, wipe off all traces of adhesive with a soft, dry cloth, being careful not to damage the film.
Film is cut on an angle or torn.	Trim the end of film straight across, being careful not to cut across the perforations.
The final perforation has been cut or torn.	Trim the film straight across, being careful not to cut across the remaining perforations. If the film can not be trimmed without cutting across the image in the frame, trim only the outer edge from the perforation as shown above at left.

✔

Before scanning, remove dirt and dust from the film and perforations with a blower and wipe off fingerprints with a dry, soft cloth, being careful not to scratch the film.
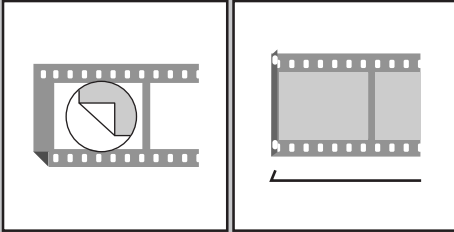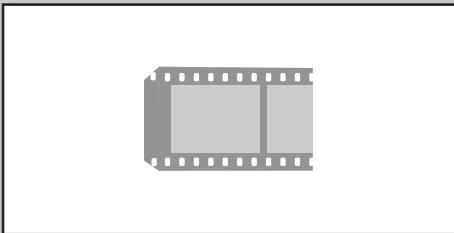
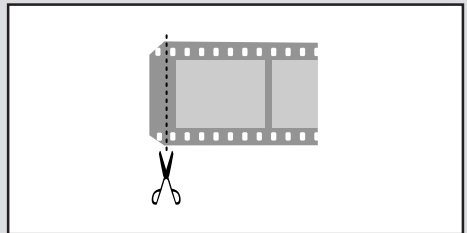| Problem	Solution
 The end of the film is folded.	 Trim the folded portion from the film, cutting the film straight across and being careful not to cut across the perforations.
 The end of the film is tapered.	 Trim the end of film straight across, being careful not to cut across the perforations.
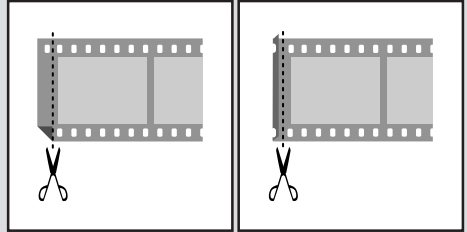
✔

Care should be taken not to injure yourself when using scissors to trim the film.

✔

Film that has been repaired or that has just been developed may jam in the adapter. If the film jams, use the FH-3 film holder with the MA-20 (S) slide-mount adapter.

Using the FH-3 Film Holder

Film of one to six frames that can not be scanned in the SA-21 strip-film adapter can be scanned in the MA-20 (S) slide-mount adapter using the FH-3 film holder.
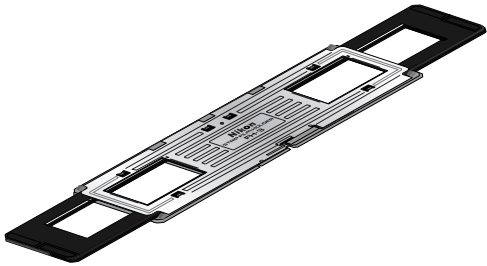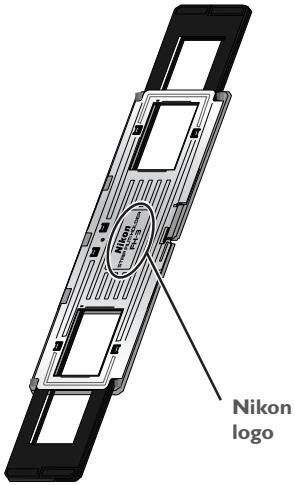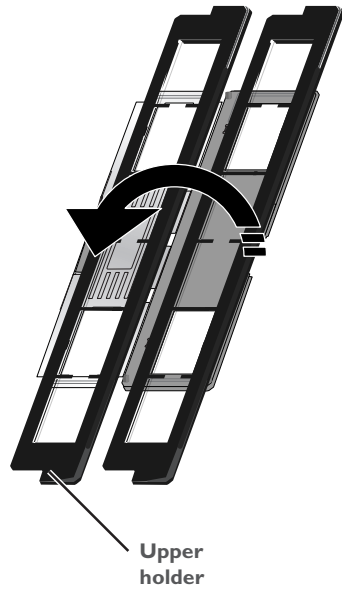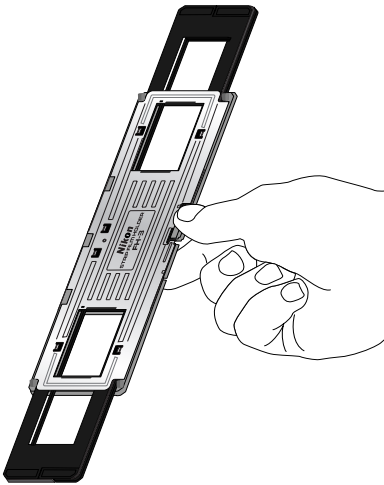

FH-3
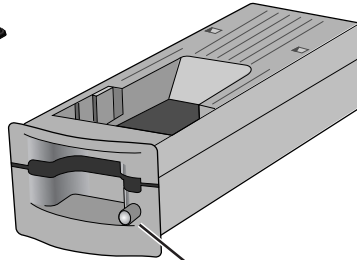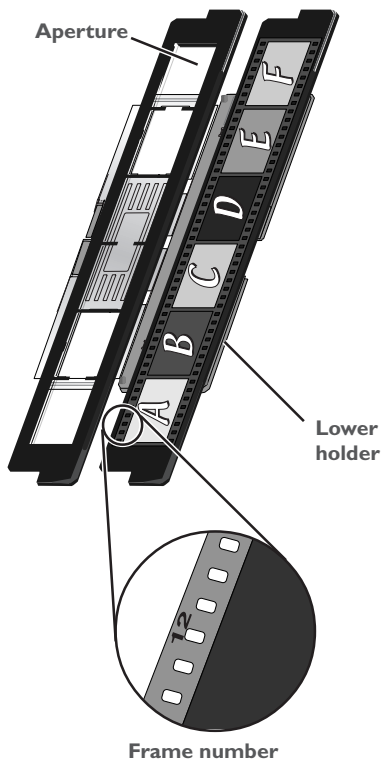
MA-20 (S)

Eject button

☑ **Eject Button**

When removing the FH-3 film holder from the adapter, do not use the eject button. Remove the holder by hand after confirming that the scanner is not in operation.

• Hold the adapter with the Nikon logo upper-most.

Nikon logo

• Unlatch the holder snaps and flip the upper holder open.

Upper holder
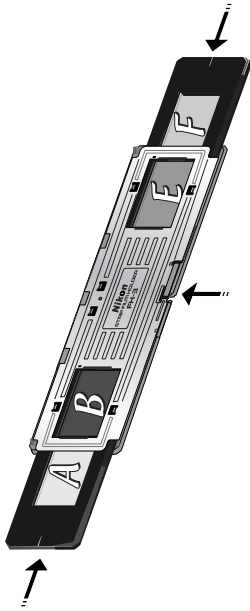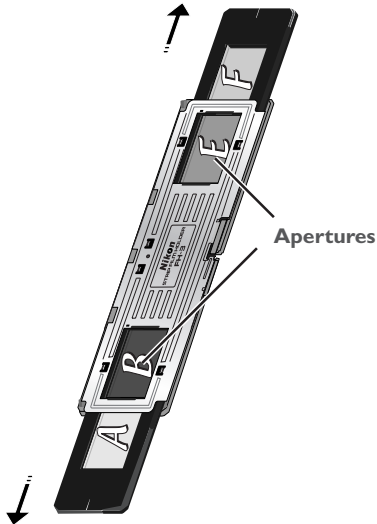
Aperture

Lower holder

Frame number

- Place a strip of film in the lower portion of the holder, aligning each frame with an aperture in the lower holder. The shiny surface of the film should be uppermost (the emulsion surface lowermost), so that the frame numbers are not reversed.
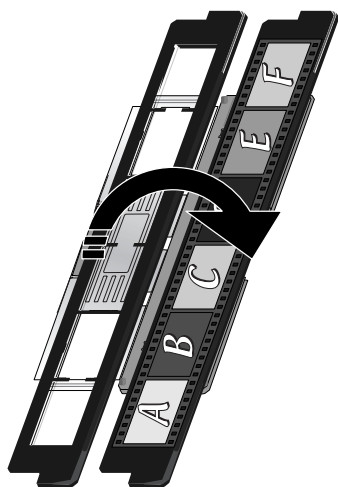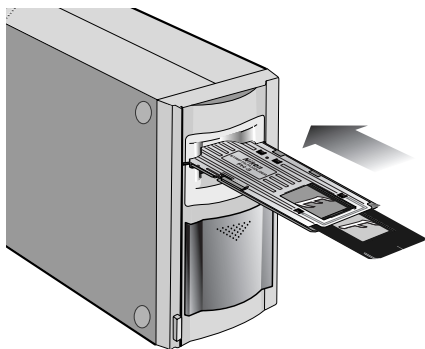

- Return the upper holder to its original position, aligning the ends with the ends of the lower holder.
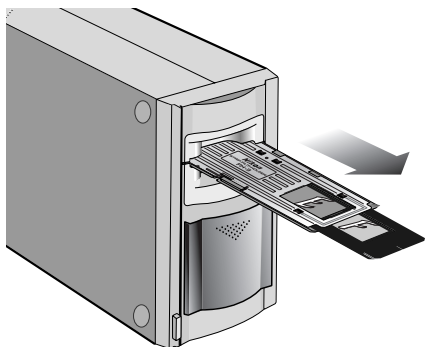
• Fasten the snap on the FH-3 and fit the upper and lower ends of the holder together.

• Slide the holder until the frame to be scanned appears in one of the two apertures in the FH-3.

Apertures

- Insert the FH-3 into the MA-20 (S) slide mount adapter with the aperture to be scanned towards the scanner.
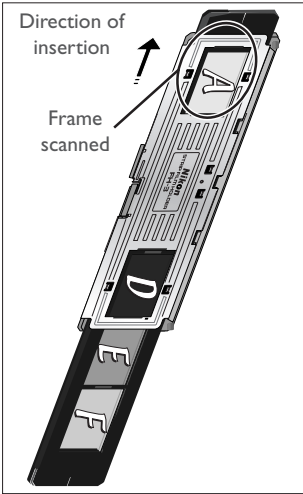

- To remove the FH-3 from the adapter, wait until the scanner's status LED glows steadily and then remove the FH-3 by hand. Do not use the eject button on the MA-20 (S).
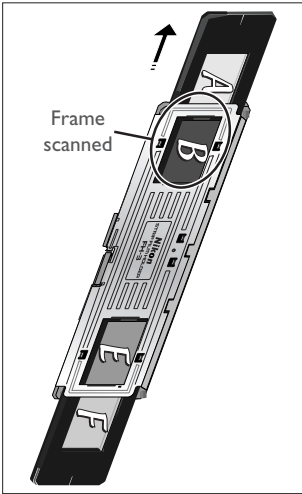
✔

Do not attempt to force the film holder into the adapter slot, as this could damage the scanner. Use a blower to remove dirt and dust from the film and film holder. Dirt and dust can lower scan quality and scratch the film. After scanning, remove the film holder from the adapter and the MA-20 (S) from the adapter slot, then close the sliding cover.

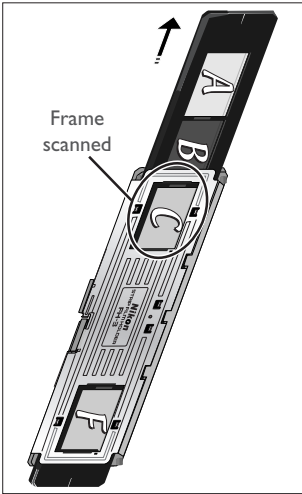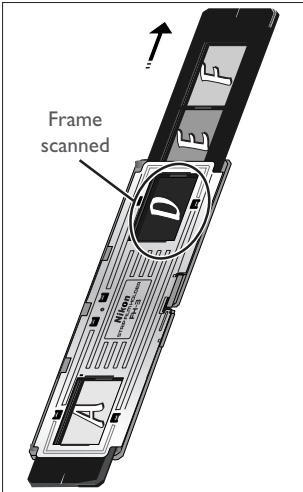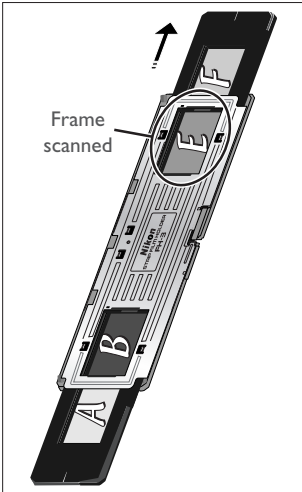The position of the frame scanned is shown in the diagram below.

Direction of insertion

Frame scanned

Frame 1

Frame scanned

Frame 2

Frame scanned

Frame 3

Frame scanned

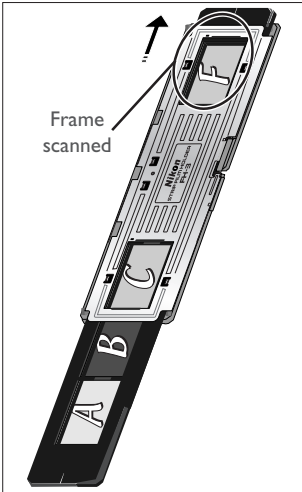**Frame 4**

Frame scanned
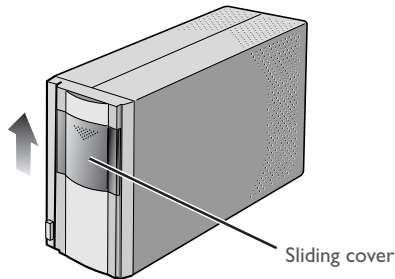
Frame 5

Frame scanned

Frame 6

Maintenance

Caring for Your Scanner

Storing the Scanner

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

Sliding cover

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°F – +140°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 your scanner and adapters 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.

✔

When not using the scanner, remove any adapters and close the cover to prevent dust from accumulating inside the scanner. Accumulation of dust on the optical mirrors in the vicinity of the adapter slot could result in scanning errors. Should an error occur, remove dust by sending air into the adapter slot with a blower. Do not insert your fingers into the adapter slot.

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. Remove any adapters and close the sliding cover.
2. Turn the scanner on.
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. After checking that no film remains in the adapters, package the scanner and adapters in the original packing materials.
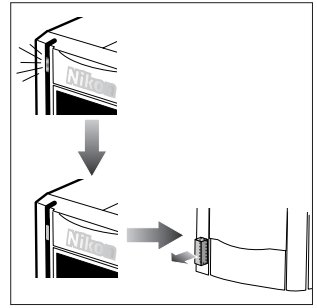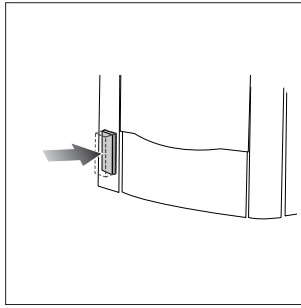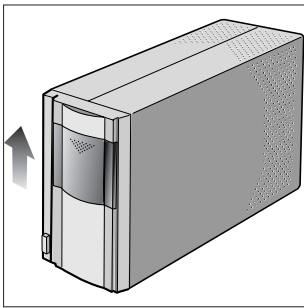
Nikon scanners are certified for use in the country or region of sale. Transportation and use outside the country or region of sale are at the user's own risk and responsibility.

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

Caring for Adapters

Storing the SA-21 Strip-Film Adapter

Remove the SA-21 strip-film adapter from the scanner when not in use. If you will not be using the adapter 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 the SA-21 Strip-Film Adapter

When cleaning the strip-film adapter, press the release button on the upper cover and open the front panel. Open and remove the upper cover.

Release button

Front panel

Upper cover
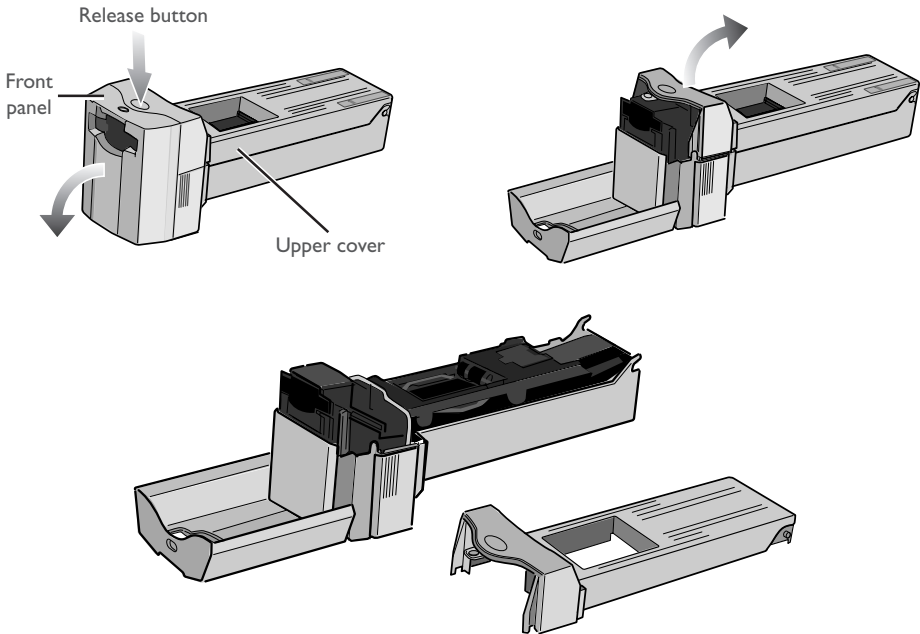
Release the frame lock lever as shown below and open the roller frame.

Roller frame

Frame lock lever

Using a dry cotton swab or a swab that has been slightly dampened with water and wrung out, remove dirt from the rollers with while turning the toothed wheel slowly in either direction. Dry the rollers with a dry cotton swab or leave the roller frame open until the rollers dry.

✔

The roller frame should not be removed from the adapter. When opening the roller frame, stop when you feel resistance. Forcing the frame open could result in damage to the adapter.
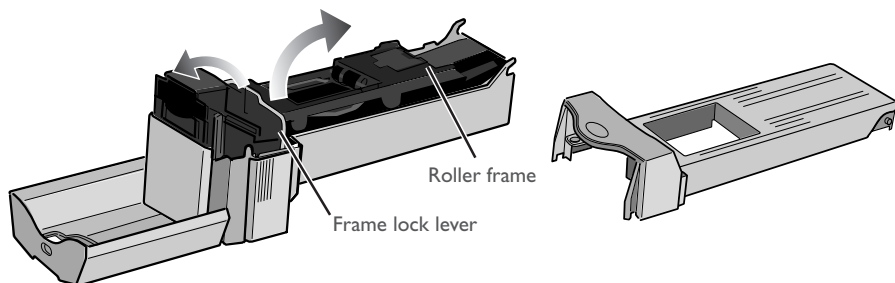
If the rollers inside the adapter are not clean, even film that is neither curled nor warped may jam in the adapter several times in succession, possibly resulting in damage to the film. Should this occur, you will need to clean the rollers. If the film continues to jam after the rollers have been cleaned, consult with your nearest Nikon service representative.

When rotating the rollers, turn the toothed wheel slowly with the ball of your thumb. Do not use force or attempt to turn the wheel with a screwdriver or other rigid object, as this could deform the wheel.
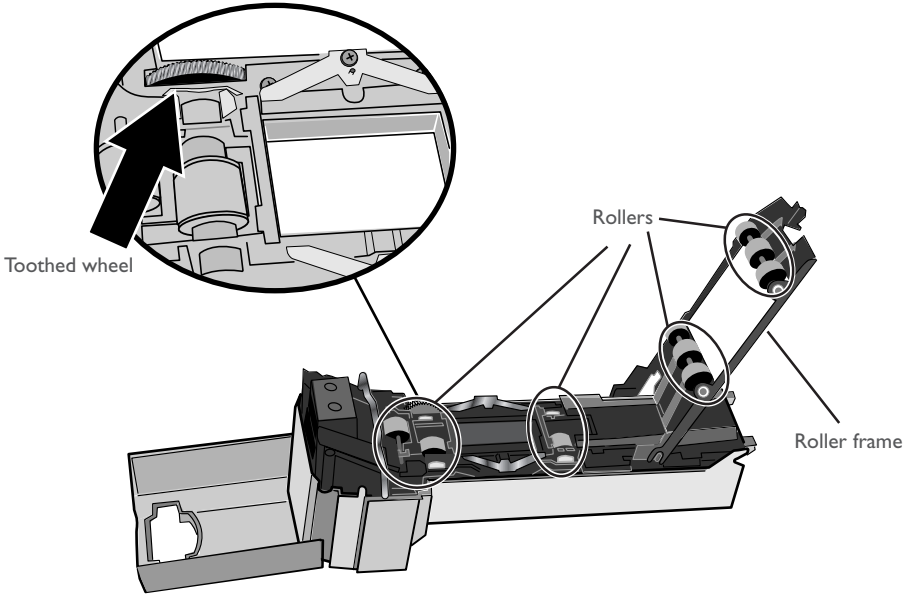
Toothed wheel

Rollers

Roller frame

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

Remove dust and dirt from the interior of the adapter with a blower. Clean the feed mechanism thoroughly, changing the angle of the blower to reach all parts of the mechanism. Be sure that dirt and dust do not remain on the adapter's three sensors.

Sensors
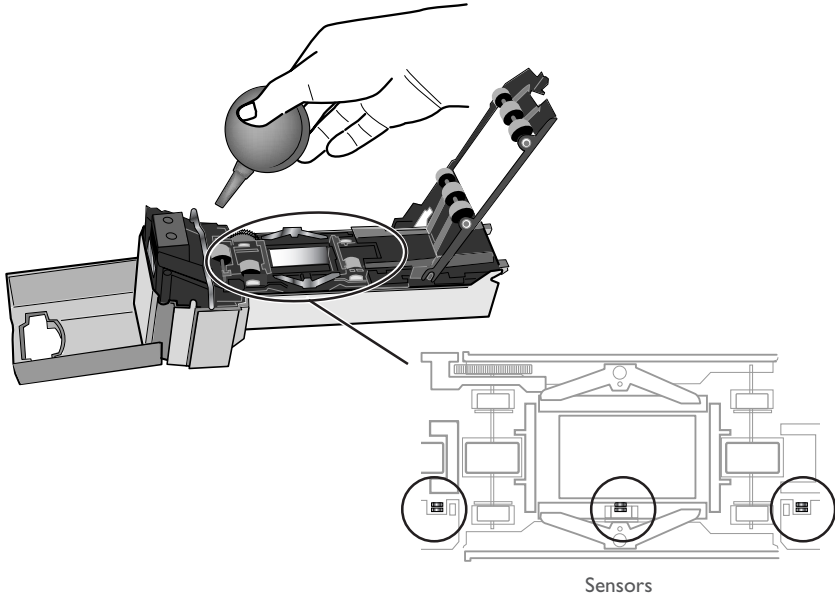
Caring for the FH-3 Film Holder

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.

Caring for the MA-20 (S) Slide Mount Adapter

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

Optional Accessories

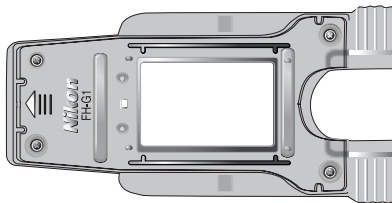## Options Available for the 4000 ED and COOLSCAN IV ED

IA-20 (S) Adapter for APS (IX240) Film

The IA-20 (S) is used to scan APS (IX240) film.
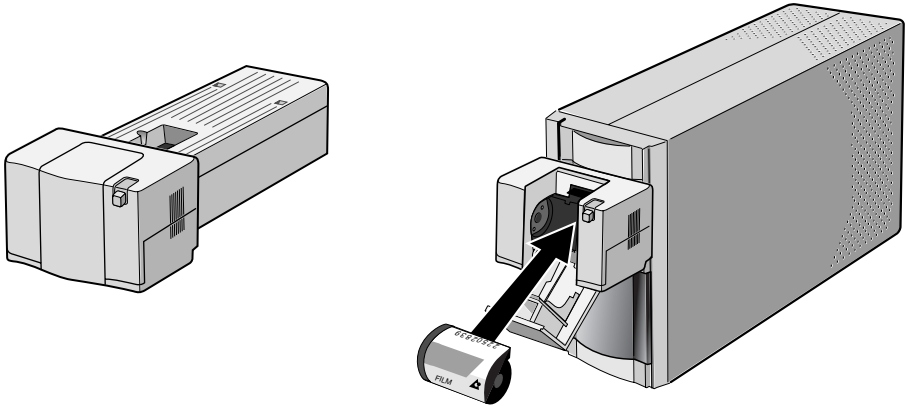
FH-G1 Medical Slide Holder

The FH-G1 is used in combination with the MA-20 (S) to scan prepared microscope slides containing samples of pathological tissue.

For information on optional adapters, see the manual supplied with the adapter.

Options Available for the 4000 ED

SA-30 Adapter for Film Rolls

The SA-30 can be used with the scanner installed vertically to scan strip film or film rolls of two to forty frames.
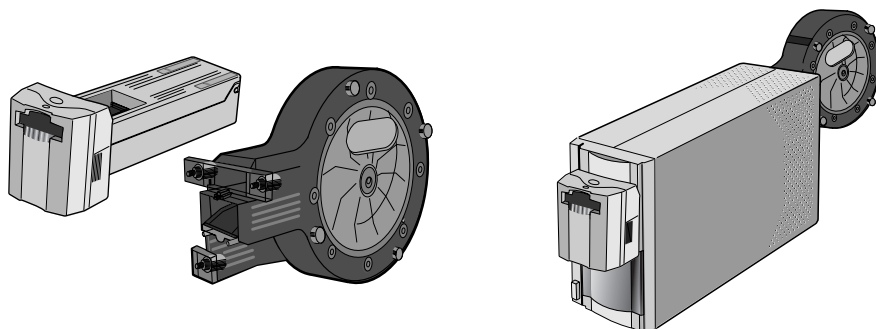
SF-200 (S) Slide Feeder

The SF-200 (S) can be used with the scanner installed horizontally for automated sequential scanning of mounted 35 mm slides 1.0–3.2 mm thick and 49.0–50.8 mm across (feeder can hold approximately fifty slides 1.5 mm in thickness). The SF-200 (S) comes with an attachment for scanning thick mounts with rounded edges (the attachment utility provided with Nikon Scan is required when installing and removing the attachment; the attachment should not be used when scanning slides with mounts 2 mm or less in thickness, as this could cause slides to jam in the adapter).

SF-200 (S)

Attachment
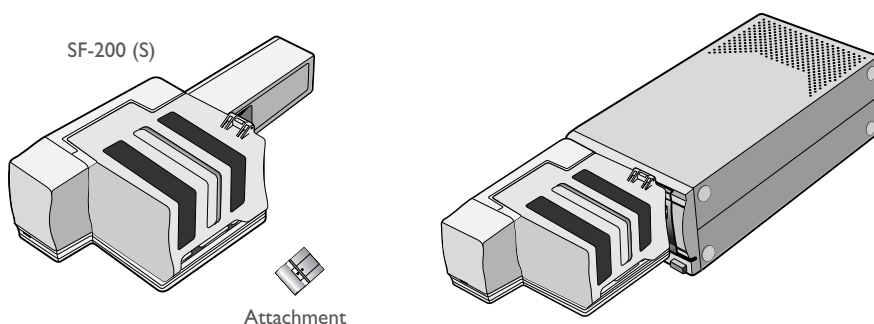
Options for use with the 4000 ED can not be used with the COOLSCAN IV ED.

Specifications

Scanner Specifications

SUPER COOLSCAN 4000 ED (LS-4000 ED)

Film	• **35 mm film**:	Positive and negative film, both color and monochrome, may be used. Film may be scanned in strips of up to six frames (rolls of up to forty frames can be scanned using the optional SA-30 film-roll adapter) or mounted as 35 mm slides using mounts of from 1.0–3.2 mm in thickness and 49.0–50.8 mm in width (up to fifty slides can be automatically scanned in sequence using the optional SF-200 (S) slide feeder).
	• **APS (IX240) film**:	APS film cartridges can be scanned with the optional IA-20 (S) adapter for APS (IX240) film.
	• **Prepared slides**:	Prepared slides can be scanned using the optional FH-G1 slide holder for the MA-20 (S).

Aperture
25.1 × 36.8 mm when scanning 35 mm film in the MA-20 (S) or SF-200 (S)
25.1 × 38.0 mm when scanning 35 mm film in the SA-21 or SA-30
18.6 × 28.4 mm when scanning APS (IX240) film

Scan range
3946 × 5782 pixels when scanning 35 mm film in the MA-20 (S) or SF-200 (S)
3946 × 5959 pixels when scanning 35 mm film in the SA-21 or SA-30
2916 × 4453 pixels when scanning APS (IX240) film

Effective aperture
22.5 × 34.3 mm when scanning 35 mm film in the MA-20 (S) or SF-200 (S)
23.3 × 36.0 mm when scanning 35 mm film in the SA-21 or SA-30
16.1 × 26.9 mm when scanning APS (IX240) film

Effective scan range
3529 × 5379 pixels when scanning 35 mm film in the MA-20 (S) or SF-200 (S)
3654 × 5646 pixels when scanning 35 mm film in the SA-21 or SA-30
2525 × 4219 pixels when scanning APS (IX240) film

Scanning system
Fixed-film, movable-plane single-pass optical scanning system

Light source
Red, green, and blue (RGB) LEDs

Sensor
3964-pixel, linear CCD image sensor

Color separation
Performed by RGB color LEDs

Optical resolution
Maximum 4000 pixels per inch

Analog-to-digital (A/D) conversion
14 bits per color (RGB)

| | **Output** | Full color (8 or 16 bits per color [RGB]) |

Output   Full color (8 or 16 bits per color [RGB])

Focus   Autofocus

Scanning time   Duration of Scanning on processes

ICE	ROC	GEM	Preview	Scan
–	–	–	13 s	38 s
✔	–	–	15 s	2 m 10 s
–	✔	–	40 s	1 m 55 s
–	–	✔	40 s	3 m 40 s
–	✔	✔	50 s	3 m 20 s
✔	✔	–	1 m 10 s	2 m 00 s
✔	–	✔	1 m 10 s	3 m 45 s
✔	✔	✔	1 m 10 s	3 m 25 s

Computer: Gateway Performance (PentiumIII 850MHz)

RAM: 768MB

OS: Windows 2000

Using the IEEE 1394 I/F Board (included in the 4000 ED package)

Using MA-20 for a slide mount

Input Resolution: 4000dpi

Scan Bit Depth: 14bit

CMS: off

Output Resolution: 4000dpi

Interface   IEEE 1394

Power supply   AC 100–240 V, 50/60 Hz

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

Dimensions   93 × 169 × 315 mm/3.66″ × 6.65″ × 12.40″ (W × H × D)

Weight   Approximately 3 kg/6 lb 11.1 oz (accessories not included)

Installation   Vertical*/Horizontal†
* Vertical installation not possible with optional SF-200 (S) slide feeder
† Horizontal installation not possible with optional SA-30 film roll adapter

COOLSCAN IV ED (LS-40 ED)

Film	• **35 mm film**:	Positive and negative film, both color and mono-chrome, may be used. Film may be scanned in strips of up to six frames or mounted as 35 mm slides using mounts of from 1.0 to 3.2 mm in thickness and 49.0–50.8 mm in width.
	• **APS (IX240) film**:	APS film cartridges can be scanned with the op-tional IA-20 (S) adapter for APS (IX240) film.
	• **Prepared slides**:	Prepared slides can be scanned using the op-tional FH-G1 slide holder for the MA-20 (S).

Aperture 25.1 × 36.8 mm when scanning 35 mm film in the MA-20 (S)
25.1 × 38.0 mm when scanning 35 mm film in the SA-21
18.6 × 28.4 mm when scanning APS (IX240) film

Scan range 2870 × 4203 pixels when scanning 35 mm film in the MA-20 (S)
2870 × 4332 pixels when scanning 35 mm film in the SA-21
2120 × 3237 pixels when scanning APS (IX240) film

Effective aperture 22.5 × 34.3 mm when scanning 35 mm film in the MA-20 (S)
23.3 × 36.0 mm when scanning 35 mm film in the SA-21
16.1 × 26.9 mm when scanning APS (IX240) film

Effective scan range 2565 × 3911 pixels when scanning 35 mm film in the MA-20 (S)
2657 × 4104 pixels when scanning 35 mm film in the SA-21
1836 × 3067 pixels when scanning APS (IX240) film

Scanning system Fixed-film, movable-plane single-pass optical scanning system

Light source Red, green, and blue (RGB) LEDs

Sensor 2870-pixel, linear CCD image sensor

Color separation Performed by RGB color LEDs

Optical resolution Maximum 2900 pixels per inch

Analog-to-digital (A/D) conversion
12 bits per color (RGB)

Output Full color (8 or 16 bits per color [RGB])

Focus Autofocus

Scanning time	• **35 mm film**:	Approximately 34 s (Tests performed by Nikon at a resolution of 2900 dpi. Does not include data transfer or dis-play time.)
	• **APS (IX240 film)**:	Approximately 26 s (Tests performed by Nikon at a resolution of 2900 dpi. Does not include data transfer or dis-play time.)

Interface	USB 1.1 compliant
Power supply	AC 100–240 V, 50/60 Hz
Operating environment	• Temperature: +10 – +35°C (+50 – +95°F) • Humidity: 20–60%
Dimensions	93 × 169 × 315 mm/3.66″ × 6.65″ × 12.40″ (W × H × D)
Weight	Approximately 3 kg/6 lb 11.1 oz (accessories not included)
Installation	Vertical/Horizontal

Adapter Specifications

MA-20 (S) SLIDE MOUNT ADAPTER

Film	Mounted 35 mm slides, 1.0–3.2 mm in thickness
Dimensions	70 × 49 × 158 mm/2.77″ × 1.93″ × 6.22″ (W × H × D)
Weight	Approximately 100 g/3.6 oz
Operating Mode	Can be used in both vertical and horizontal installations

FH-3 STRIP FILM HOLDER

Film	35 mm film of one to six frames (color or monochrome, positive or negative)
Dimensions	262.0 × 4.7 × 50.5 mm/10.31″ × 0.18″ × 1.99″ (W × H × D)
Weight	Approximately 40 g/1.43 oz
Operating Mode	Can be used with the MA-20 (S) slide-mount adapter in both vertical and horizontal installations

SA-21 STRIP FILM ADAPTER

Film	35 mm film of two to six frames (color or monochrome, positive or negative)
Feed Mechanism	Automatic feed with built-in motor
Power Source	Supplied from scanner
Dimensions	80 × 70 × 230 mm/3.15″ × 2.76″ × 9.06″ (W × H × D)
Weight	Approximately 500 g/1 lb 1.86 oz
Operating Mode	Can be used in both vertical and horizontal installations

Specifications for Optional Adapters

Some optional adapters can be used with both the 4000 ED and COOLSCAN IV ED, while others are exclusively for use with the 4000 ED.

IA-20 (S) IX240 FILM ADAPTER (4000 ED and COOLSCAN IV ED)

Film	Developed APS (IX240) film cartridges of 15, 25, and 40 frames
Feed Mechanism	Automatic feed with built-in motor
Power Source	Supplied from scanner
Dimensions	84 × 59 × 208 mm/3.31″ × 2.32″ × 8.19″ (W × H × D)
Weight	Approximately 270 g/9.6 oz
Operating Mode	Can be used in both vertical and horizontal installations

SA-30 FILM ROLL ADAPTER (4000 ED Only)

Film	Rolls of 35 mm film of from two to forty frames (color or mono-chrome, positive or negative)	
Feed Mechanism	Automatic feed with built-in motor	
Power Source	Supplied from scanner	
Dimensions	• **Adapter**:	80 × 70 × 230 mm/3.15″ × 2.76″ × 9.06″ (W × H × D)
	• **Take-up reel**:	90 × 160 × 230 mm/3.54″ × 6.30″ × 9.06″ (W × H × D)
Weight	• **Adapter**:	Approximately 500 g/1 lb 1.86 oz
	• **Take-up reel**:	Approximately 500 g/1 lb 1.86 oz
Operating Mode	Can only be used in a vertical installation	

SF-200 (S) SLIDE FEEDER (4000 ED Only)

Film	Mounted 35 mm slides, 1.0–3.2 mm in thickness, 49–50.8 mm in width
Number of slides	Approximately 50 slides with a thickness of 1.5 mm
Housing Space	Approximately 78.5 mm
Feed Mechanism	Automatic feed with built-in motor
Power Source	Supplied from scanner
Dimensions	142 × 85 × 325 mm/5.59″ × 3.35″ × 12.80″ (W × H × D)
Weight	Approximately 770 g/1 lb 11.50 oz
Operating Mode	Can only be used in a horizontal installation

Appendices

Appendix A:
Installing the IEEE 1394/Firewire Interface Board

This section describes how to install the IEEE 1394/Firewire interface board provided with the 4000 ED (for details, see the manual provided with the board). Users of the COOLSCAN IV ED need not read this section. The COOLSCAN IV ED will only function with built-in USB ports; an interface expansion board or PCMCIA card is not required.

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

Users of the 4000 ED will need to install the IEEE 1394/Firewire interface board provided with the scanner if:

- they are using a Windows or old-model (beige) Macintosh G3 desktop computer not equipped with a built-in IEEE 1394/Firewire interface (check the documentation provided with your computer if you are not sure whether your computer is equipped with an IEEE 1394/Firewire port)
- their existing IEEE 1394/Firewire interface board is not one of the models tested and approved by Nikon (see list provided separately)

The IEEE 1394/Firewire interface board provided with the 4000 ED can not be installed in laptop computers or in computers not equipped with a PCI bus. If your laptop is not equipped with a built-in IEEE 1394/Firewire port, or if your laptop is equipped with a built-in IEEE 1394/Firewire port but is not one of the models listed as being tested and approved by Nikon (see list provided separately), before you will be able to use your scanner you will need to purchase and install one of the IEEE 1394/Firewire PCMCIA interface cards recommended by Nikon.
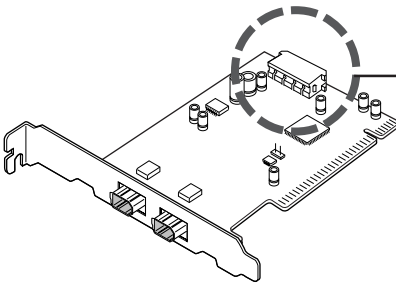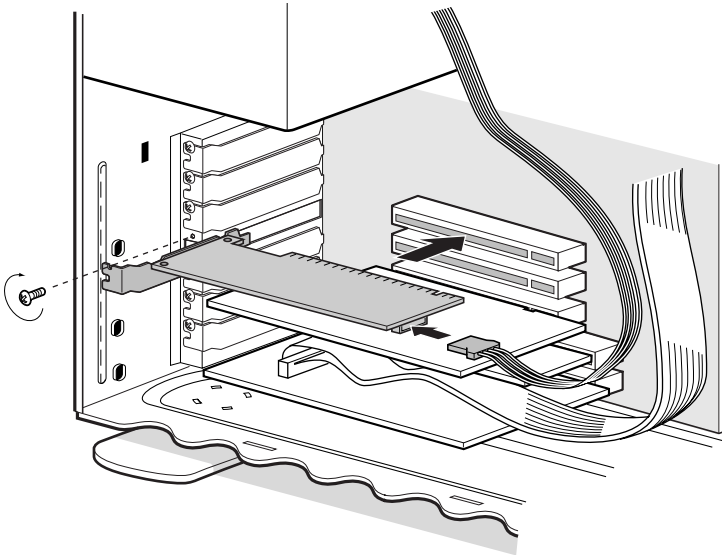
Installing the IEEE 1394/Firewire Interface Board

Installation of the IEEE 1394/Firewire interface board involves the following two steps:

1. Installing the board in your computer's PCI slot

2. Installing the board drivers (Windows only)
    - Users of Windows 98 Second Edition (SE) will need the Nikon Scan 3 CD, and may also require the Windows 98 Second Edition CD-ROM provided with their computer
    - If you are using Windows 2000 and Windows Me, the drivers will be installed automatically

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 4000 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 98 SE

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

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

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

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

A–4

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

Step 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 **D:\WIN98** (substi-
tute the drive letter of your CD-ROM drive for "D") in the **Copy
files from** text box and click **OK**.
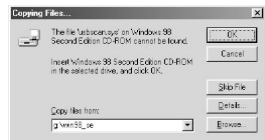
Step 7
The dialog shown at right will be displayed. Click **Finish**.

Step 8
Insert the Nikon Scan 3 CD into the CD-ROM drive. Double click
on the **My Computer** icon and open the CD-ROM drive. Open
the Microsoft folder and double-click **242975USA8.EXE**. Follow
the on-screen directions to complete installation.

Step 9
When the dialog shown at right is displayed, remove the CD from
the CD-ROM drive and then click **Yes** to restart your computer.
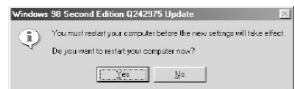
Step 10
Once the computer has restarted, check that the drivers for the
interface board have been installed and are functioning normally.
Click on the **My Computer** icon with the right mouse button and
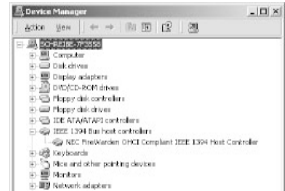select **Properties** from the menu that appears.
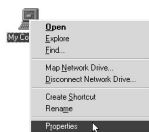
Step 11
In the System Properties window, click the Device Manager tab.
Check that "NEC Firewarden OHCI Compliant IEEE 1394 Host
Controller" appears in the Device Manager under "1394 Bus Con-
troller."

Windows 2000

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:

Step 1

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

Step 2

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

Step 3

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

Windows 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:

Step 1

The dialog shown at right will be displayed. Click **Yes** to restart your computer.
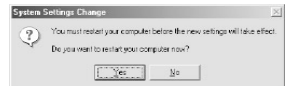
Step 2

Click on the **My Computer** icon with the right mouse button and select **Properties** from the menu that appears.
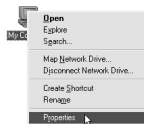
Step 3

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."

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Appendix B: Installing the IEEE 1394 Update for Windows 98 Second Edition
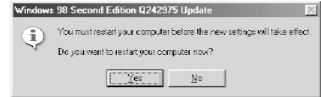
This section describes how to install the IEEE 1394 update required when using the 4000 ED under Windows 98 Second Edition (SE). Users of the COOLSCAN IV ED and users of Windows 2000, Windows Me, and Macintosh computers will not need to perform this update.

Step 1
Turn on your computer and insert the Nikon Scan 3 CD in the CD-ROM drive. Double click on the **My Computer** icon and open the CD-ROM drive. Open the Microsoft folder and double-click **242975USA8.EXE**. Follow the on-screen directions to complete installation.

Step 2
When the dialog shown at right is displayed, click **Yes** to restart your computer.

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