

**35mm/IX240 Film Scanner
SUPER COOLSCAN 4000 ED**

**35mm/IX240 Film Scanner
COOLSCAN IV ED**

Setup

Device Registration
(Windows Only)

Scanning 35 mm
Slides

Scanning 35 mm
Film

Nikon Scan

Reference


User's Manual




Scanning Guide

Install Nikon Scan scanner driver software

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


Windows See  16


Macintosh See  21

Set up the scanner and connect it to your computer

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

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


Connect the scanner See  25

Register the scanner See  29

Insert a film adapter and insert film into the scanner


The adapter used depends on the media scanned.


Slides ▶ Use the MA-20 (S) See  83

Film that cannot be scanned in the SA-21 ▶ Use the FH-3 film holder with the MA-20 (S) See  102

Film strips of two to six frames ▶ Use the SA-21 See  111

Scan the film using Nikon Scan

Basic scanning See  86

The scan window See  120

Product Documentation

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

User's Manual (this manual)

This *User's Manual* is intended for use with both Nikon SUPER COOLSCAN 4000 ED (referred to below as the 4000 ED) and Nikon COOLSCAN IV ED film scanners, and is divided into the following chapters:

Overview

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

Setup

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

Device Registration

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

Scanning 35-mm Slides

This chapter describes how to scan 35-mm slides.

Scanning 35-mm Film

Read this chapter for information on scanning strips of 35-mm film.

Nikon Scan

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

Reference

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

***Nikon Scan Reference Manual* (on CD)**

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

For Your Safety

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

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



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



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

WARNINGS

Do not disassemble or modify

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

Do not touch exposed parts

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

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

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

Do not allow foreign objects to enter the scanner

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

Do not use in the presence of flammable gas or dust

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

Keep small objects out of reach of children

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

Do not handle the power cable during thunderstorms

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

Do not play CD-ROM disks on audio CD players

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

Use an appropriate power supply

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

At voltages of over AC 125V:

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

At voltages of AC 125V or less:

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

Observe appropriate precautions when handling the power cable

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

CAUTIONS

Do not handle the equipment when your hands are wet

Failure to observe this precaution could result in electric shock.

Keep equipment out of reach of children

Failure to observe this precaution could result in injury.

Install the scanner only as directed in this manual

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

Place on a stable surface

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

Do not place heavy objects on the equipment

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

Unplug the equipment before cleaning

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

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

Failure to observe this precaution could result in injury.

Unplug the equipment when not in use

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

Observe appropriate precautions when handling the power cable

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

Ground the equipment

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

Notices

- No part of the manuals included with this product may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form, by any means, without Nikon's prior written permission.
- Nikon reserves the right to change the specifications of the hardware and software described in these manuals at any time and without prior notice.
- Nikon will not be held liable for any damages to film, 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:

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

CAUTIONS

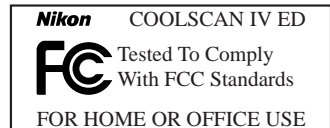
Modifications

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

Interface Cables

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

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



Notice for customers in Canada

CAUTION

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

ATTENTION

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

Notice Concerning Prohibition of Copying or Reproduction

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

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

The copying or reproduction of paper money, coins, or securities which are circulated in a foreign country is prohibited.

Unless the prior permission of the government has been obtained, the copying or reproduction of unused postage stamps or post cards issued by the government is prohibited.

The copying or reproduction of stamps issued by the government and of certified documents stipulated by law is prohibited.

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The government has issued cautions on copies or reproductions of securities issued by private companies (shares, bills, checks, gift certificates, etc.), commuter passes, or coupon tickets, except when a minimum of necessary copies are to be provided for business use by a company. Also, do not copy or reproduce passports issued by the government, licenses issued by public agencies and private groups, ID cards, and tickets, such as passes and meal coupons.

- **Comply with copyright notices**

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Introduction

Thank you for your purchase of a Nikon SUPER COOLSCAN 4000 ED (4000 ED) or COOLSCAN IV ED film scanner. This manual describes how to care for, install, and use your scanner. Be sure that you have read and understood its contents before using your scanner, and leave it where those who use the scanner will read it.

To make it easier 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 Software manual* (on CD).

Illustrations

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

Life-Long Learning

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

Setup

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

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Before Using Your Scanner

Connecting the Scanner

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

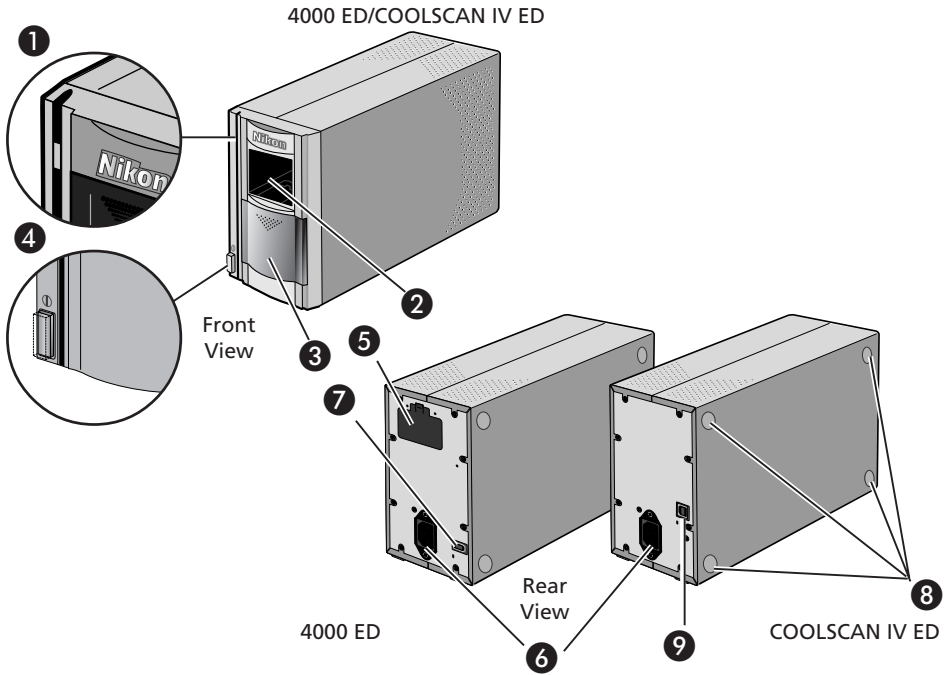
Using the Scanner with a Windows Computer

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

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

Get to Know Your Scanner

Your Scanner



1 Status LED

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

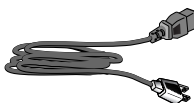
Always place the scanner on one of its two sets of feet.

9 USB interface connector (COOLSCAN IV ED)

Connect the USB interface cable here.

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.

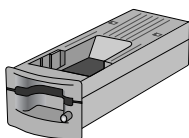


Power cable (1)
(shape of cable depends on country of sale)



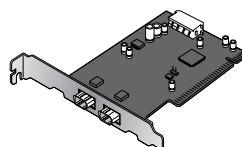
IEEE 1394/Firewire interface cable (1)
(4000 ED only)

Use this cable to connect the 4000 ED to your computer.



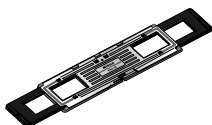
MA-20 (S) slide-mount adapter (1)

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.



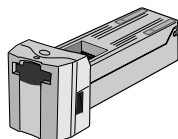
IEEE 1394/Firewire interface board (1)
(includes user's manual)
(4000 ED only)

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.



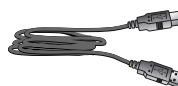
FH-3 strip-film holder for MA-20 (S) (1)

Place strip film to be scanned in this holder before scanning it with the MA-20 (S).



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.



USB interface cable (1)
(COOLSCAN IV ED only)

Use this cable to connect the COOLSCAN IV ED to your computer.



"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.



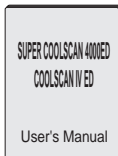
Nikon Scan 3 CD-ROM (1)

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



**Image Editing Software CD-ROM (1)
(COOLSCAN IV ED only)**

With this application installed on your computer, you can scan images directly from Nikon Scan into this software, where they can be edited and saved to disk.



**User's Manual (this manual)
(1)**



Quick Start Guide (1)
This guide provides you with the information you need to get started with your Nikon scanner.

Keep the Adapter Slot Closed

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

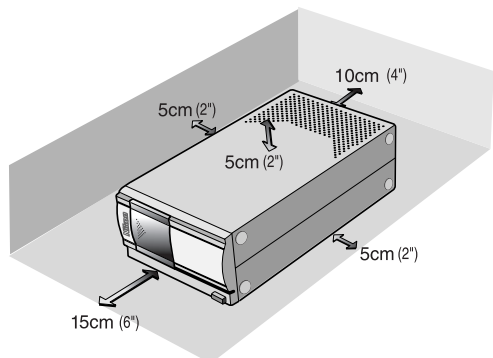
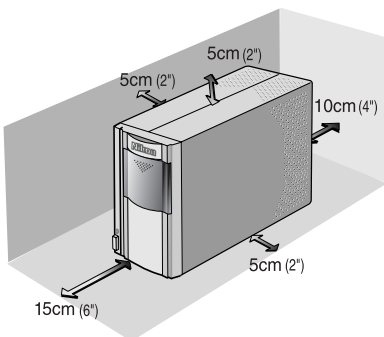
- ✔ *Never remove an adapter from the scanner without first ejecting the film and checking that the status LED on the front of the scanner is glowing steadily. Do not insert or remove adapters, insert or eject film, or turn the scanner off while the LED is blinking.*
- ✔ *After using the scanner, eject the film from the adapter and turn the scanner off, then remove the adapter and close the sliding cover.*

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.



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 the 4000 ED with Other Devices

When using the 4000 ED with other devices connected to the same IEEE 1394 (Firewire) bus:

- ✔ *Do not turn other devices on or off or disconnect interface cables while scanning is in progress (i.e., while the scanner status LED is blinking slowly).*
- ✔ *Connect the scanner directly to the computer. The scanner may not function as expected when connected to an IEEE 1394 hub.*
- ✔ *The scanner may not function as expected when operated at the same time as other IEEE 1394 devices. Should a problem occur when the scanner is used with other IEEE 1394 devices, disconnect all IEEE 1394 devices, including the scanner, and then reconnect the scanner.*
- ✔ *Only one scanner can be connected to the computer at a time.*

Using the COOLSCAN IV ED with Other Devices

When using the COOLSCAN IV ED with other devices connected to the same USB port:

- ✔ *Do not turn other devices on or off or disconnect interface cables while scanning is in progress (i.e., while the scanner status LED is blinking slowly).*
- ✔ *Connect the scanner directly to the computer. The scanner may not function as expected when connected to a USB hub.*
- ✔ *The scanner may not function as expected when operated at the same time as other USB devices. Should a problem occur when the scanner is used with other USB devices, disconnect all USB devices, including the scanner, and then reconnect the scanner.*
- ✔ *Only one scanner can be connected to the computer at a time.*

Connecting the Scanner

Although this manual instructs the user to turn the scanner off before connecting the interface cable, IEEE 1394 cables can be connected while the scanner and computer are on and the scanner used immediately following connection. There is consequently no need to turn the scanner off every time the cable is connected or disconnected. You should, however, leave a few seconds between disconnecting and reconnecting the cable.

Installing the IEEE 1394/Firewire Interface Board (4000 ED Only)

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

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

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

- Your computer is equipped with a built-in IEEE 1394 (Firewire) port. Macintosh users should note that old-model (beige) G3 computers are not equipped with a built-in Firewire port.
- Your computer is equipped with an IEEE 1394 (Firewire) expansion board or card approved for use with the 4000 ED.

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

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

Installing the Interface Board

There are two steps to installing the interface board:

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

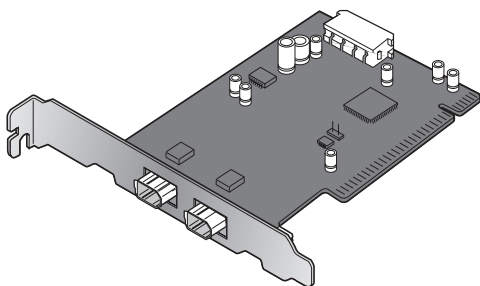
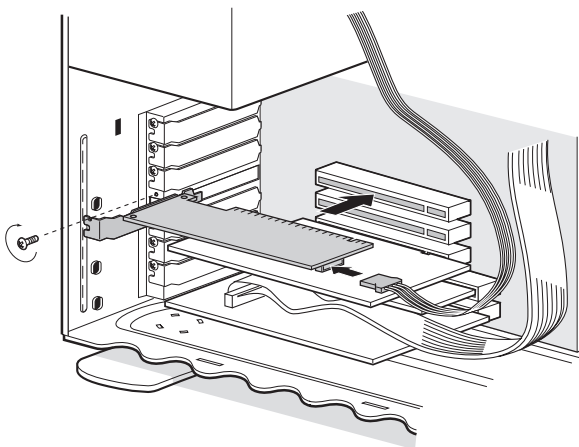
In Windows XP, Windows 2000 Professional, and Windows Me, the necessary drivers will be installed automatically after you install the interface board.

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

Installing the Interface Board (4000 ED Only)

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.

WARNING

Observe caution when installing the interface board. Use of excessive force could damage the computer or interface board.

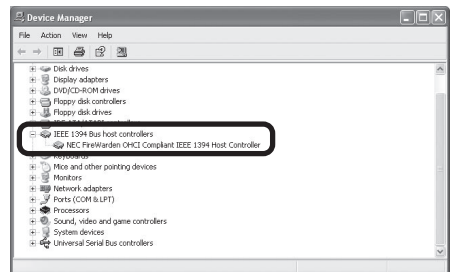
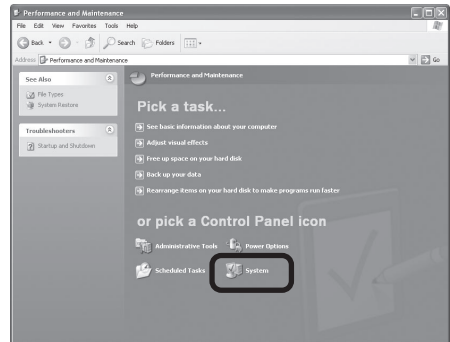
Installing the Device Drivers (Windows Only)

After installing the interface board, close the computer's case and reconnect all cables.

Windows XP Home Edition/Windows XP Professional

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

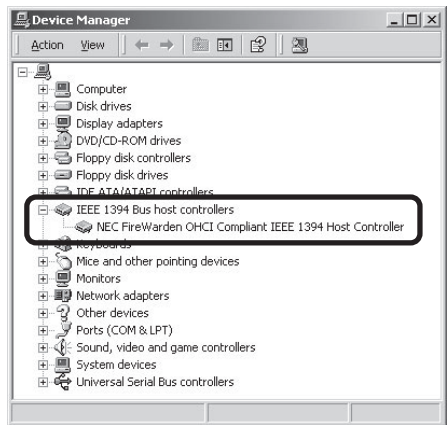
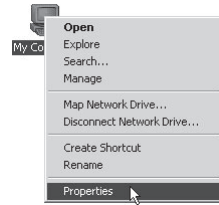
- 1 Select **Control Panel** from the **Start** menu and click the **Performance and Maintenance** icon. In the Performance and Maintenance window, click the **System** icon.
- 2 The System dialog will be displayed. Select the **Hardware** tab and click **Device Manager**...
- 3 Confirm that a listing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



Windows 2000 Professional

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

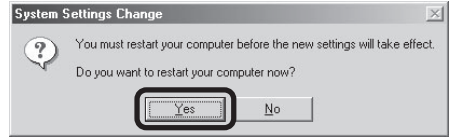
- 1 Click on the **My Computer** icon with the right mouse button and select **Properties** from the menu that appears.
- 2 In the System Properties window, open the Hardware tab and click the **Device Manager** button.
- 3 Check that “NEC Firewarden OHCI Compliant IEEE 1394 Host Controller” appears in the Device Manager under “IEEE 1394 Bus host controllers.”



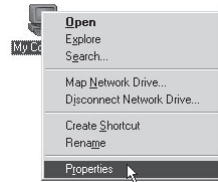
Windows Millennium Edition (Me)

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

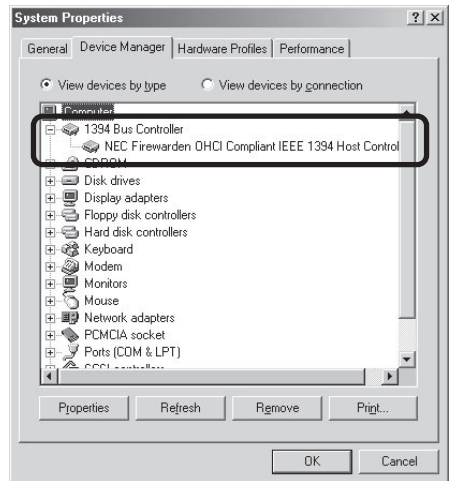
1 The dialog shown at right will be displayed. Click **Yes** to restart your computer.



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



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



Windows 98 Second Edition (SE)

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



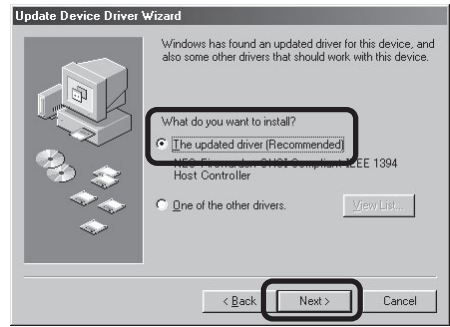
- 2 Select **Search for the best driver for your device (Recommended)** and click **Next**.



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



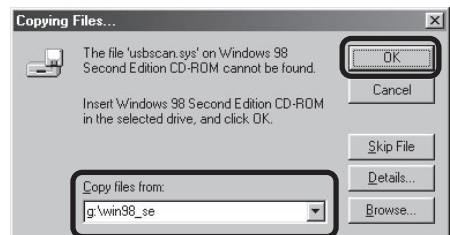
- 4 Select The updated driver (Recommended) NEC Firewarden OHCI Compliant IEEE 1394 Host Controller and click **Next**.



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



- 6 If prompted to insert a disk, insert the Windows 98 Second Edition CD into the CD-ROM drive and click **OK**. If a message is displayed stating that the computer was unable to find a file on the Windows 98 Second Edition CD, enter "g:\WIN98_se" (where "g" is the driver letter of the CD-ROM drive) for Copy files from and click **OK**.



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

This completes installation of the device drivers. You can now perform the Windows 98 SE update as described on page 17.



Installing Nikon Scan

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

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

Nikon Scan 3 Version 3.1.2

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

Nikon Scan 3 Version 3.1.3

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

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

Installing Nikon Scan under Windows

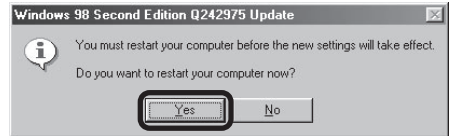
Before installing Nikon Scan, turn your computer on and wait for Windows to start up. Check to make sure that:

- The scanner is not connected to your computer
- Your computer satisfies the Nikon Scan 3 system requirements (see page 5 of the *Nikon Scan Reference Manual* for details)
- No other applications (including anti-virus software) are running
- You have completed the IEEE 1394 update (Windows 98 SE with SUPER COOLSCAN 4000 ED only; see page 17 for details)

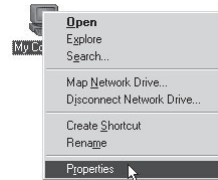
Updating the IEEE 1394 Drivers (Windows 98 SE Only)

Before installing Nikon Scan 3 under Windows 98 SE, users of the SUPER COOLSCAN 4000 ED will need to complete the IEEE 1394 driver update as described below.

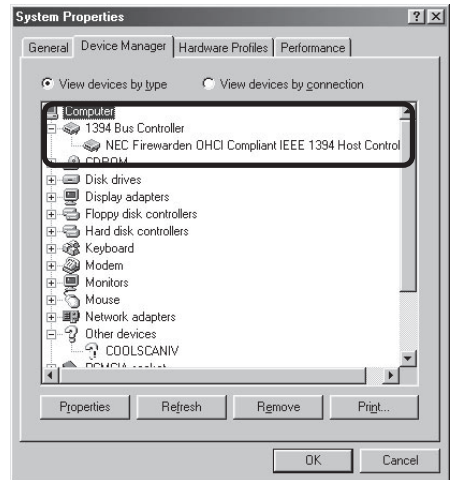
- 1 Holding down the shift key to prevent the Nikon Scan 3 installer from starting automatically, insert the Nikon Scan 3 CD into the CD-ROM drive (if the installer starts, click **Exit** to close the Welcome dialog).
- 2 Double-click the **My Computer** icon.
- 3 Click the **Nikon Scan 3 CD** icon with the right mouse button and select **Explore** from the menu that appears. Open the "Microsoft" folder and double-click **242975USA8(.exe)**.
- 4 Follow the on-screen instructions to complete the update.
- 5 The dialog shown at right will be displayed when installation is complete. Click **Yes** to restart your computer.



- 6 Once the computer has restarted, click the **My Computer** icon with the right mouse button and select **Properties** from the menu that appears.



- 7 Click the Device Manager tab in the System Properties dialog and confirm that a listing appears for "NEC Firewarden OHCI Compliant IEEE 1394 Host Controller," indicating that the update was successful.



Installation

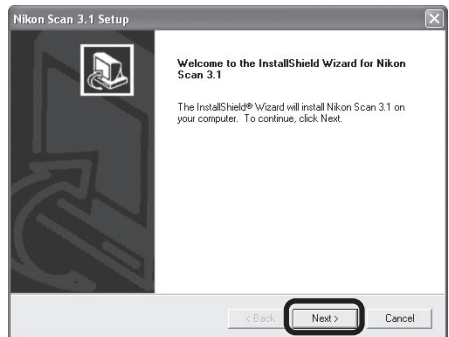
- 1 Insert the Nikon Scan 3 CD into the CD-ROM drive. When the Welcome dialog is displayed, click **Nikon Scan 3**.



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



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



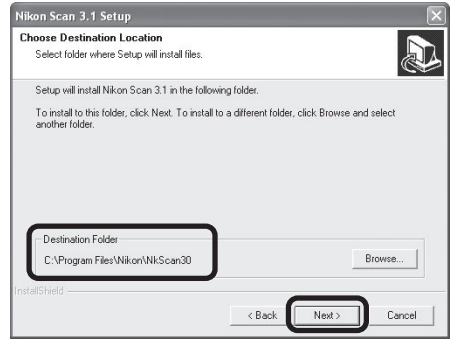
If the Welcome Dialog Is Not Displayed

If the Welcome dialog is not displayed when you insert the CD into the CD-ROM drive, double-click the **My Computer** icon, click with the right mouse button on the icon corresponding to the drive containing the Nikon Scan 3 CD, and select **Autorun** from the menu that appears.

Windows XP/Windows 2000 Professional

Installing Nikon Scan under these operating systems requires administrator privileges. When installing Nikon Scan under Windows XP, log in as the "Computer administrator." Under Windows 2000 Professional, log in as the "Administrator."

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



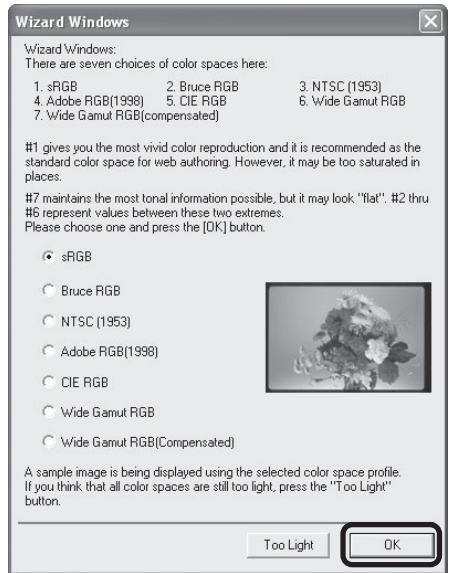
- 4 Once the Nikon Scan program files have been copied to disk, a color-space selection wizard will be displayed. Click **Use Wizard** to have the wizard assist you in choosing a color-space profile (recommended) or **Use name list** to choose a custom profile (see the *Nikon Scan Reference Manual* for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



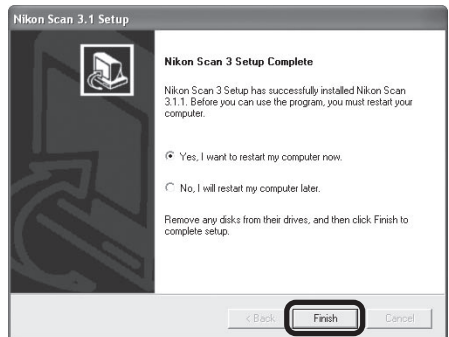
- 5 Clicking **Use Wizard** in the Color Space Wizard dialog displays the dialog shown at right. Click **Windows**.



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



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



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

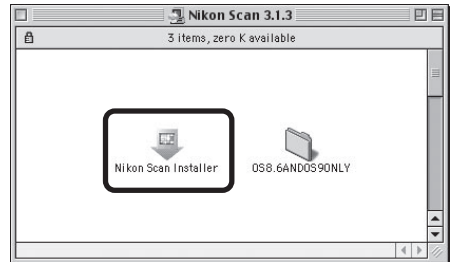
Installing Nikon Scan on a Macintosh

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

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

Installation

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



Mac OS X

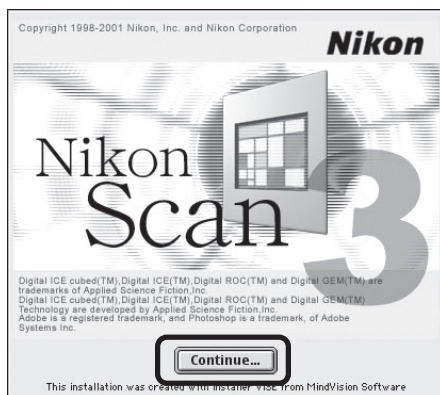
The Nikon Scan 3.1.3 window will open on the desktop. Double-click the **Nikon Scan Installer** icon for the language of your choice.



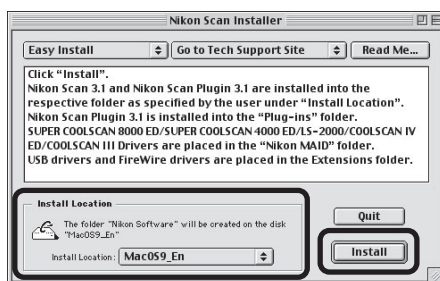
Memory Requirements under Mac OS X

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

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

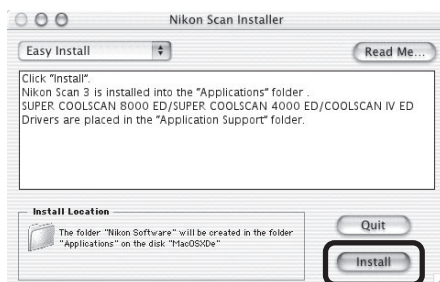


- 3 Choose a location for Nikon Scan from the **Install Location** menu and click **Install**.



Mac OS X

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



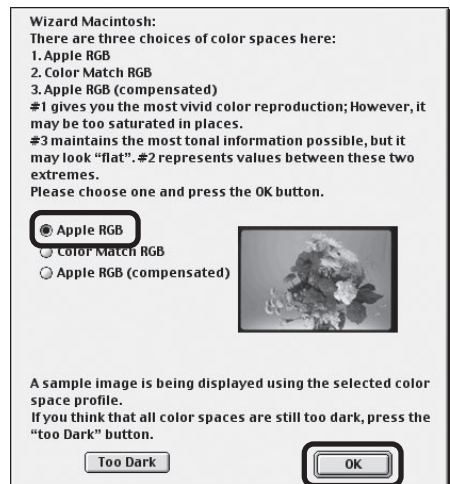
4 Once the Nikon Scan program files have been copied to disk, a color-space selection wizard will be displayed. Click **Use Wizard** to have the wizard assist you in choosing a color-space profile (recommended) or **Use name list** to choose a custom profile (see the *Nikon Scan Reference Manual* for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



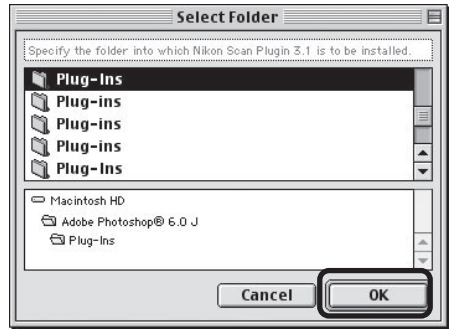
5 Clicking **Use Wizard** in the Color Space Wizard dialog displays the dialog shown at right. Click **Macintosh**.



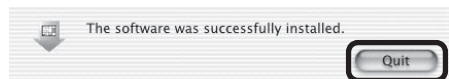
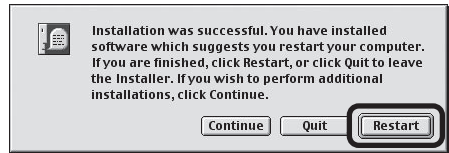
6 Choose **Apple RGB** (recommended) and click **OK**. More information about the different profiles is available in the *Nikon Scan Reference Manual*.



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



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



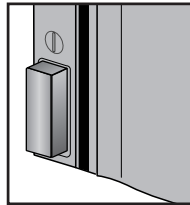
9 This completes installation of Nikon Scan 3.

Connecting the Scanner

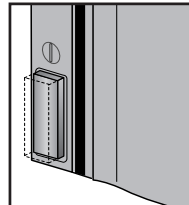
The first time the scanner is connected to a Windows computer, the Device Manager will install the device drivers needed to "register" the scanner with the system. For information on registering the scanner, see "Registering the 4000 ED with Windows" (📖 30-56) or "Registering the COOLSCAN IV ED with Windows" (📖 57-82).

Connecting the Power Cable

A power cable is provided with your scanner. Before connecting the cable, making sure the scanner is off. After connecting the cable to the AC connector on the rear of the scanner, plug it into a general-purpose household power outlet (AC 100–240 V, 50/60 Hz). If a separate ground wire is provided, be sure to attach the ground wire to the earth connector.



Power switch off



Power switch on

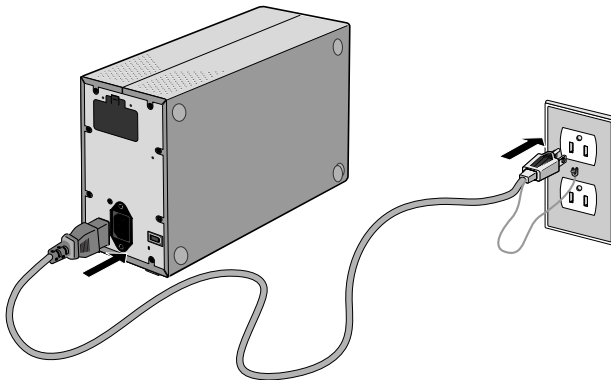
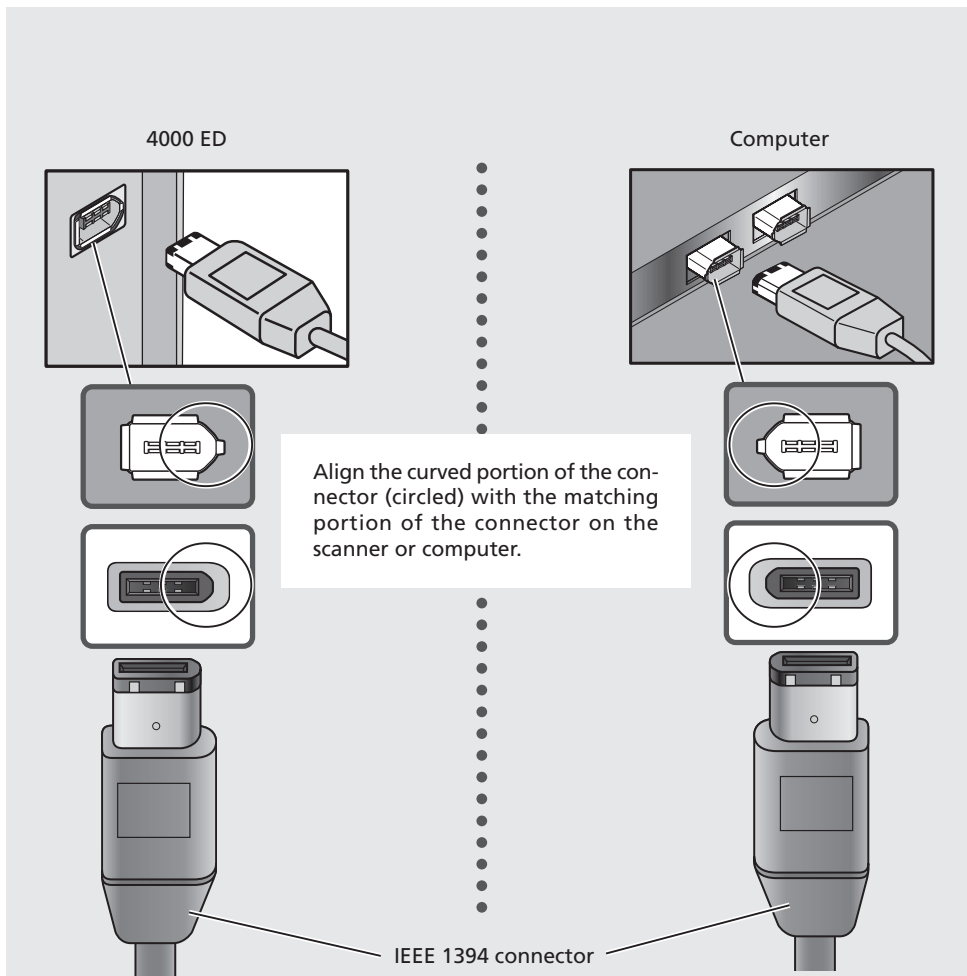


Illustration shows 4000 ED.

Connecting the Interface Cable (4000 ED)

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

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



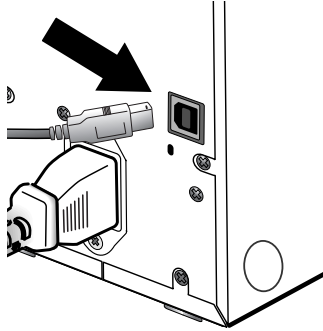
✓ Four-Pin Connectors

Some computers (for example, SONY VAIO laptop computers) and interface boards are equipped with a 4-pin DV connector. You will need to purchase 6-pin-4-pin cable or adapter to connect the scanner.

Connecting the Interface Cable (COOLSCAN IV ED)

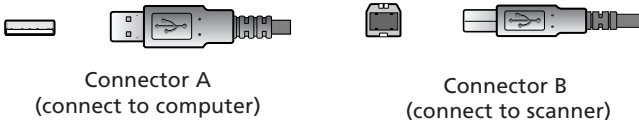
After confirming that the scanner is off, connect the supplied USB cable to the scanner using the B connector, and insert the A connector to the computer's USB port.

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



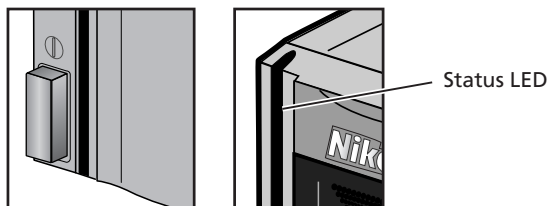
COOLSCAN IV ED

- 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.

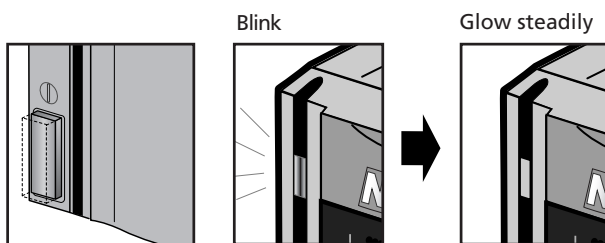


Turn the Scanner On

Press the power switch to turn the scanner on. The status LED will blink while the scanner initializes. When initialization is complete, the status LED will 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:



29 Device registration (Windows only)



130 Troubleshooting

Device Registration

(Windows Only)

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

4000 ED

Registering the 4000 ED with Windows

Windows XP Home Edition/Windows XP Professional	30
Windows 2000 Professional	36
Windows Millennium Edition (Me)	44
Windows 98Second Edition (SE)	50

Registering the COOLSCAN IV ED with Windows

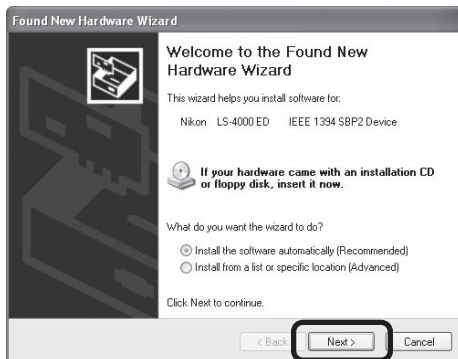
Windows XP Home Edition/Windows XP Professional	57
Windows 2000 Professional	63
Windows Millennium Edition (Me)	70
Windows 98Second Edition (SE)	76

Registering the 4000 ED with Windows

Windows XP Home Edition/Windows XP Professional

Registering the Scanner with Windows XP

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



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

If the List of Drivers Is Not Displayed

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

Logging On

Log on as the Computer Administrator when registering the scanner.

The Welcome Dialog

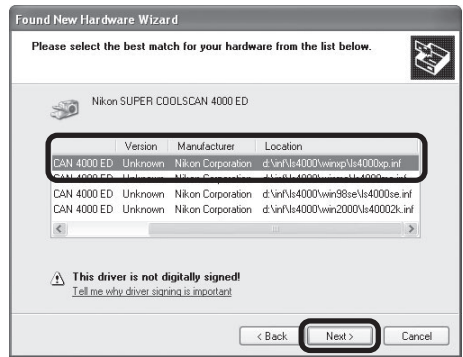
If the Welcome program starts automatically when you insert the Nikon Scan CD, click **Exit** to close the Welcome window.



- 3 Select **ls4000xp.inf**
Select **ls4000xp.inf** in the list of drivers and click **Next**.

"ls4000xp.inf"

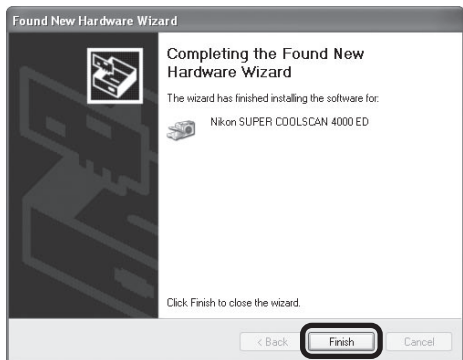
If **ls4000xp.inf** is not visible in the list, drag the scroll bar at the right of the list until it is displayed. Be sure to choose the driver that has "xp" in the file name.



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



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



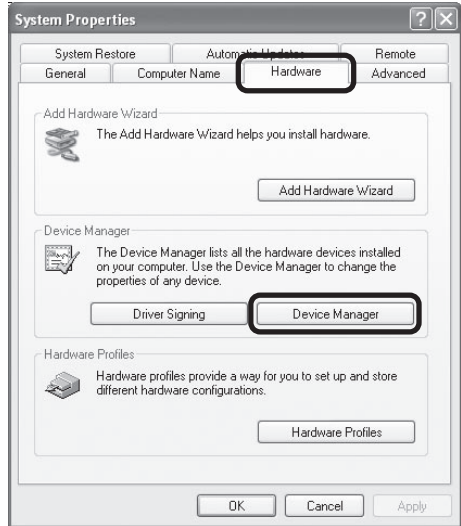
- 6 Confirm device registration
Confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows XP)" (32).

4000 ED

Confirming Device Registration (Windows XP)

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

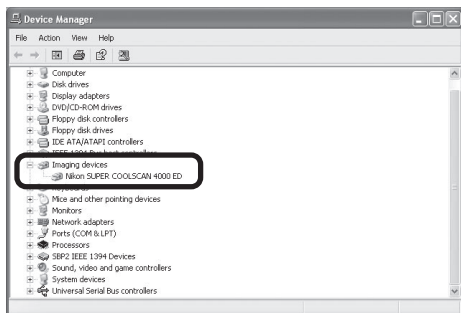
- 1 Turn the scanner on**
Make sure that the scanner is connected and turned on.
- 2 Open the System Properties dialog**
Select **Control Panel** from the **Start** menu, open **Performance and Maintenance**, and click **System**.
- 3 Display the Device Manager**
The System Properties dialog will be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



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

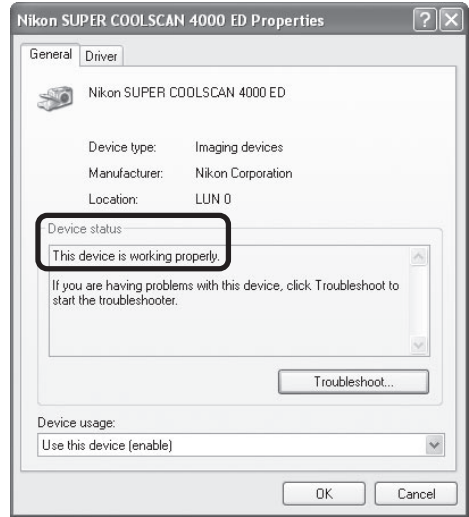
If the Scanner Is Not Listed

If your scanner is not listed under "Imaging devices," proceed to "Updating the Device Driver (Windows XP)" (34).



5 Confirm that the scanner is working properly

Double-click the listing for your scanner that appears under "Imaging devices." The scanner Properties dialog will be displayed. Click the General tab and confirm that "This device is working properly" appears under "Device Status." If another message is displayed, proceed to "Updating the Device Driver (Windows XP)" (34).



4000 ED

Updating the Device Driver (Windows XP)

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

1 Open the scanner Properties dialog

Display the Device Manager as described in steps 1–3 of "Confirming Device Registration (Windows XP)" (32). If the scanner is listed under "Other devices" or appears next to a "!", "?", or "x", double-click the entry for the scanner to display the scanner Properties dialog.

2 Click Reinstall Driver...

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



3 Insert the Nikon Scan 3 CD

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

The Welcome Window

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

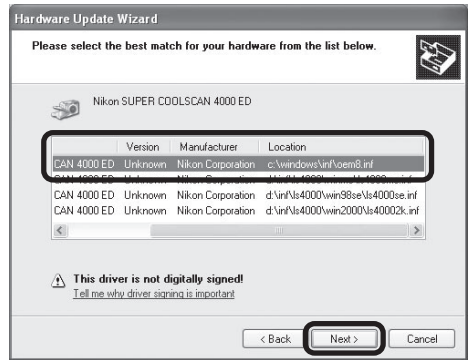


4 Select **ls4000xp.inf**

Select **ls4000xp.inf** in the list of drivers and click **Next**.

"ls4000xp.inf"

If **ls4000xp.inf** is not visible in the list, drag the scroll bar at the right of the list until it is displayed.



5 Click **Continue**

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



6 Click **Finish**

Click **Finish** to complete installation.



7 Confirm device registration

Confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows XP)" (32).

Windows 2000 Professional

Registering the Scanner with Windows 2000 Professional

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



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



Logging On

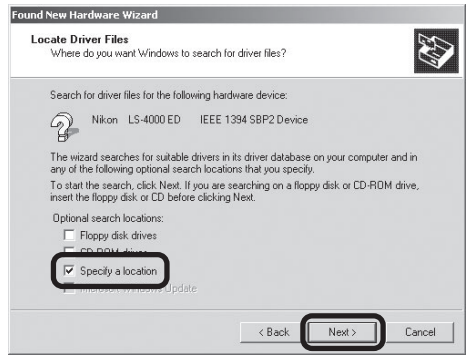
Log on as the Administrator when registering the scanner.

The Welcome Window

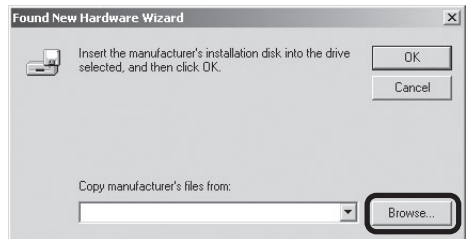
If the Welcome program starts automatically when you insert the Nikon Scan CD, click **Exit** to close the Welcome window.



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

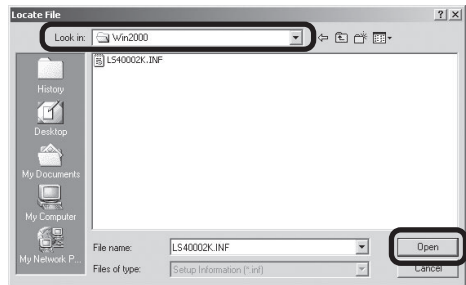


4 Click **Browse...**
When the dialog shown at right is displayed, click **Browse...**



4000 ED

5 Select the Win2000 folder
The Locate File dialog will be displayed. Select the "Nkscan" CD from the **Look in** menu and open each of the "INF," "LS4000," and "Win2000" folders in turn. Select the file **LS40002K.INF** and click **Open**.

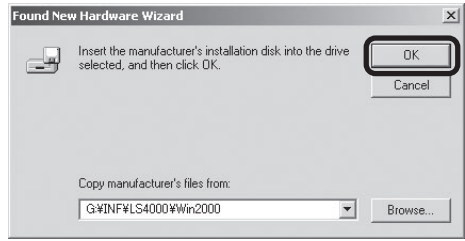


6 Confirm the file path

The dialog shown at right will be displayed. Confirm that the path “\NF\LS4000\Win2000” appears after the drive letter of the CD-ROM drive and click **OK**.

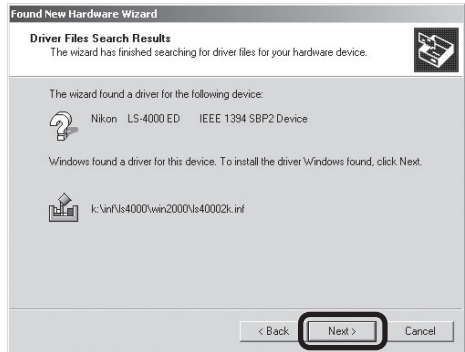
If the Correct Path Is Not Displayed

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



7 Begin installation of the device drivers

Click **Next**.

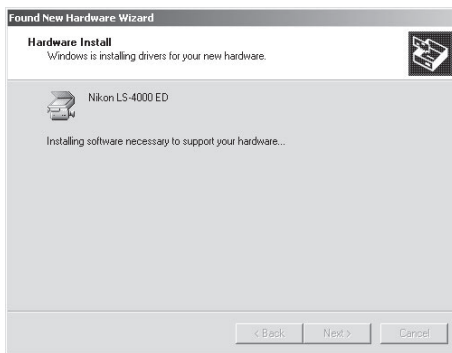


8 Click Yes

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



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



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



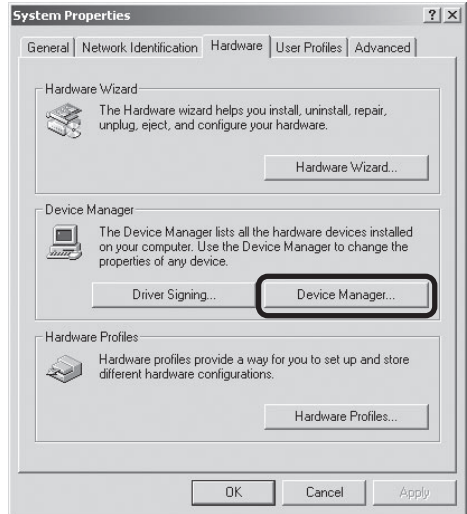
- 10 Restart the computer
Click **Yes** to restart the computer.

- 11 Confirm device registration
Confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows 2000 Professional)" (📖 40).

Confirming Device Registration (Windows 2000 Professional)

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

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

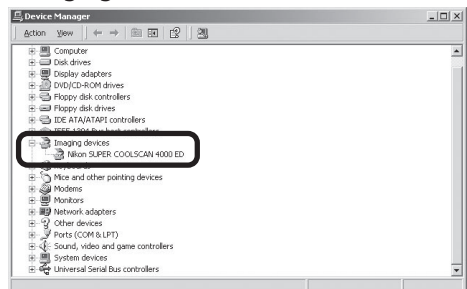


4 Confirm that the scanner is listed under "Imaging devices"

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

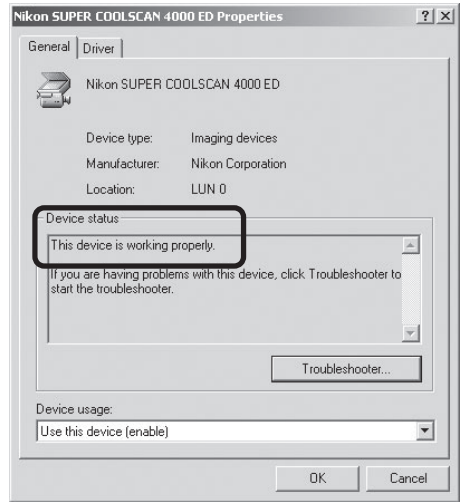
If the Scanner Is Not Listed

If your scanner is not listed under "Imaging devices," proceed to "Updating the Device Driver (Windows 2000 Professional)" (42).



5 Confirm that the scanner is working properly

Double-click the listing for your scanner that appears under “Imaging devices.” The scanner Properties dialog will be displayed. Click the General tab and confirm that “This device is working properly” appears under “Device Status.” If another message is displayed, proceed to “Updating the Device Driver (Windows 2000 Professional)” (📖 42).



Updating the Device Driver (Windows 2000 Professional)

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

1 Open the scanner Properties dialog

Display the Device Manager as described in steps 1–3 of "Confirming Device Registration (Windows 2000 Professional)" (40). If the scanner is listed under "Other devices" or appears next to a "!", "?", or "x", double-click the entry for the scanner to display the scanner Properties dialog.

2 Click Update Driver...

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

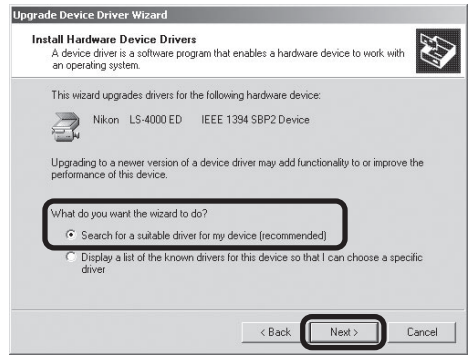


3 Click Next

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



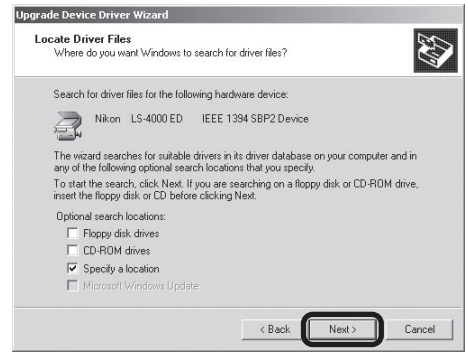
- 4 Select the search option
Select the search option and click **Next**.



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

The Welcome Window

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



- 6 Reinstall the drivers
Reinstall the drivers as described in steps 3–8 of "Registering the Scanner with Windows 2000 Professional" (📖 37–38).

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



- 8 Confirm device registration
Confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows 2000 Professional)" (📖 40–41).

4000 ED

Windows Millennium Edition (Me)

Registering the Scanner with Windows Me

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

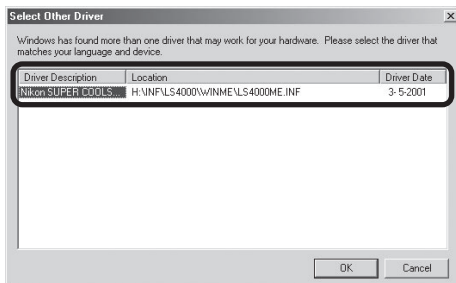
Inserting the Nikon Scan CD

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

- 2 Select **LS4000ME.INF**
Select **LS4000ME.INF** in the list of drivers and click **OK**.

"LS4000ME.INF"

Several drivers with similar names may be displayed. Be sure to select **LS4000ME.INF**.



The Welcome Window

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



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



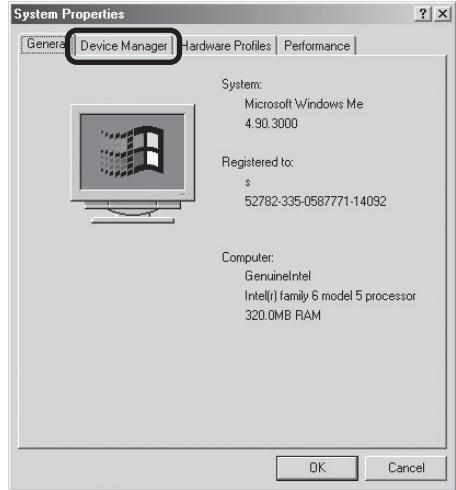
- 4** Restart the computer
Click **Yes** to restart the computer.

- 5** Confirm device registration
Confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows Me)" (📖 46).

Confirming Device Registration (Windows Me)

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

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

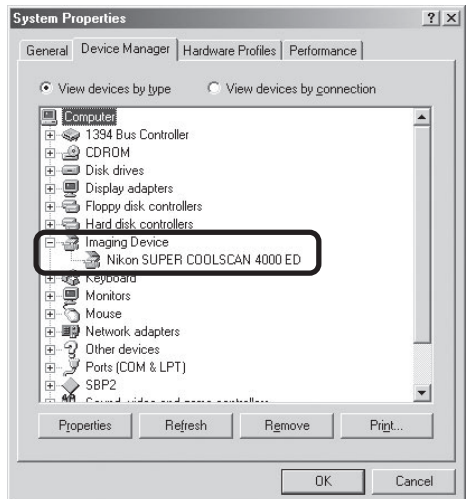


4 Confirm that the scanner is listed under "Imaging Device"

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

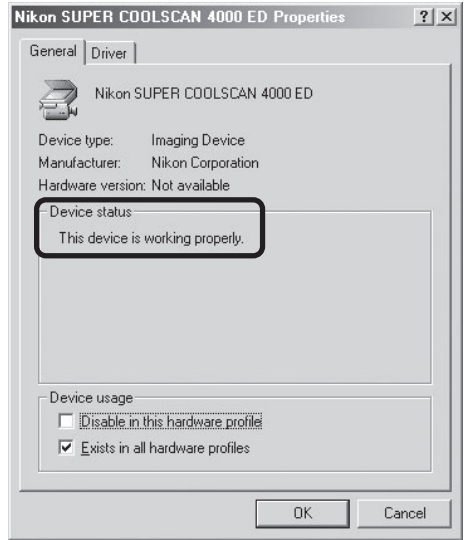
If the Scanner Is Not Listed

If your scanner is not listed under "Imaging Device," proceed to "Updating the Device Driver (Windows Me)" (48).



5 Confirm that the scanner is working properly

Double-click the listing for your scanner that appears under "Imaging Device." The scanner Properties dialog will be displayed. Click the General tab and confirm that "This device is working properly" appears under "Device Status." If another message is displayed, proceed to "Updating the Device Driver (Windows Me)" (48).



Updating the Device Driver (Windows Me)

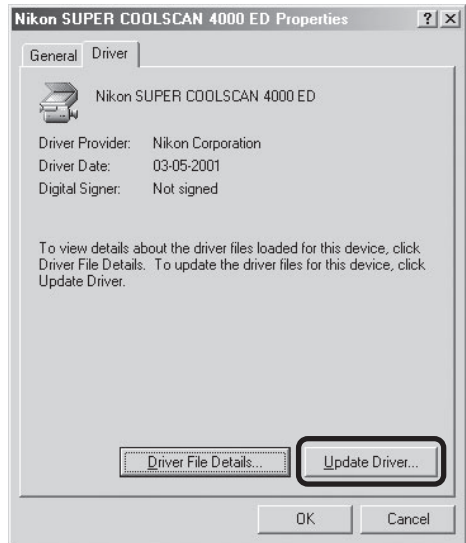
If the scanner is not listed under "Imaging Device" in the Device Manager or the message "This device is working properly" does not appear in the Properties dialog, you will need to reinstall the device driver as detailed below.

1 Open the scanner Properties dialog

Display the Device Manager as described in steps 1–3 of "Confirming Device Registration (Windows Me)" (46). If the scanner is listed under "Other devices" or appears next to a "!", "?", or "x", double-click the entry for the scanner to display the scanner Properties dialog.

2 Click Update Driver...

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



3 Insert the Nikon Scan 3 CD

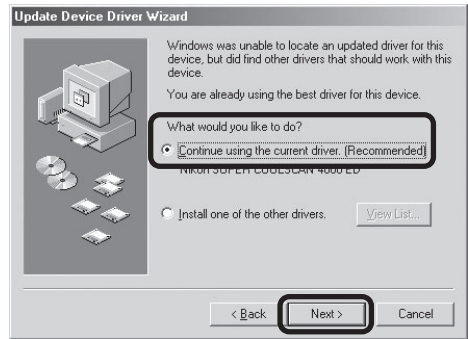
The Upgrade Device Driver wizard will be displayed. Holding down the shift key to prevent the Welcome program from starting automatically, insert the Nikon Scan 3 CD into the CD-ROM drive.

The Welcome Window

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



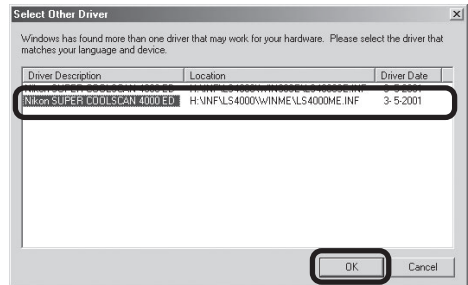
- 4 Select the search option
Select the search option and click **Next**.



- 5 Select **LS4000ME.INF**
Select **LS4000ME.INF** in the list of drivers and click **OK**.

"LS4000ME.INF"

Several drivers with similar names may be displayed. Be sure to select **LS4000ME.INF**.



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



- 7 Confirm device registration
Confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows Me)" (46–47).

Windows 98 Second Edition (SE)

Registering the Scanner with Windows 98 SE

Before beginning device registration, make sure that you have completed the IEEE 1394 update described in "Updating the IEEE 1394 Drivers (Windows 98 SE only)" (📖 17).

1 Turn the computer on

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

2 Turn the scanner on

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

If the Insert Disk Dialog is displayed

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



If the Add New Hardware Wizard is displayed

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

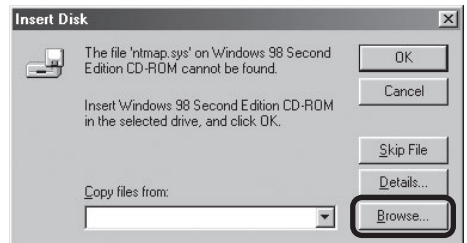


If no message is displayed

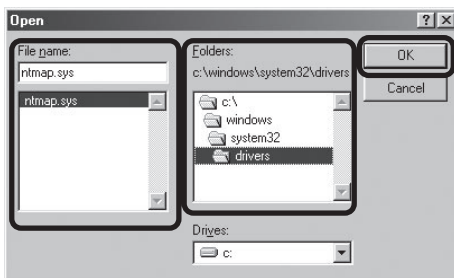
If no message is displayed after 60 seconds, proceed to "Updating the Device Driver (Windows 98 SE)" (📖 55)."

3^a Locate "ntmap.sys"

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



Navigate to "C:\windows\system32\drivers" by selecting "C:" from the list of drives and double-clicking in turn on each of the following folders: "windows", "system32", and "drivers." "ntmap.sys" will be selected in the list of files. Click **OK** and confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows 98 SE)" (53). This completes device registration.



3b Insert the Nikon Scan 3 CD

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

The Welcome Window

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



4 Select Specify a location

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



The Welcome Window

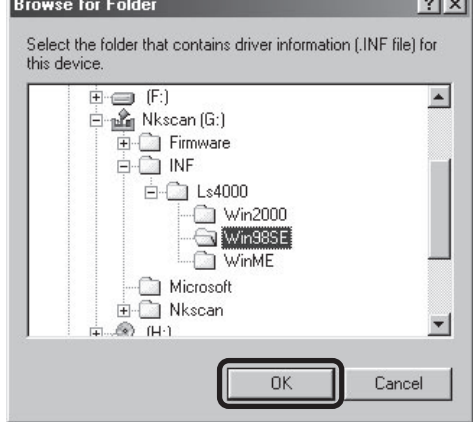
If the Welcome program starts automatically when you insert the Nikon Scan CD, click **Exit** to close the Welcome window.



4000 ED

5 Select the Win98SE folder

The Browse for Folder dialog will be displayed. Select the "Win98SE" folder under "Nkscan" > "INF" > "Ls4000" and click **OK**.



6 Confirm the file path

The dialog shown at right will be displayed. Confirm that the path "N\FLS4000\Win98SE" appears after the drive letter of the CD-ROM drive and click **Next**.

If the Correct Path Is Not Displayed

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



7 Begin installation of the device drivers

Click **Next**.



8 Click **Finish**

Click **Finish** to complete installation.



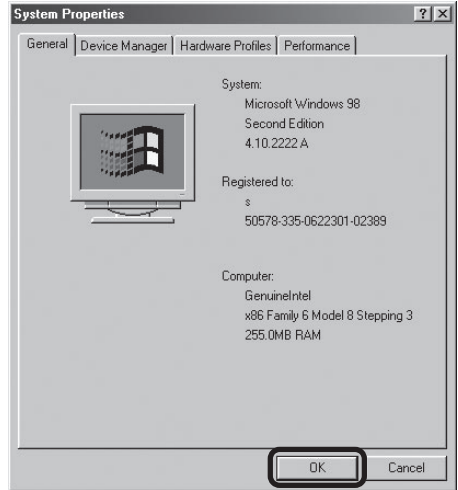
9 Confirm device registration

Confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows 98 SE)" (53).

Confirming Device Registration (Windows 98 SE)

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

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

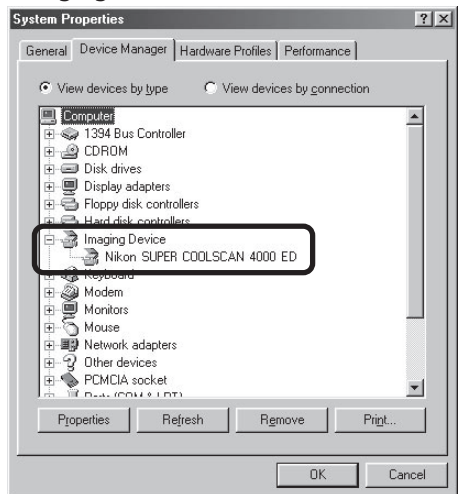


4 Confirm that the scanner is listed under "Imaging Device"

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

If the Scanner Is Not Listed

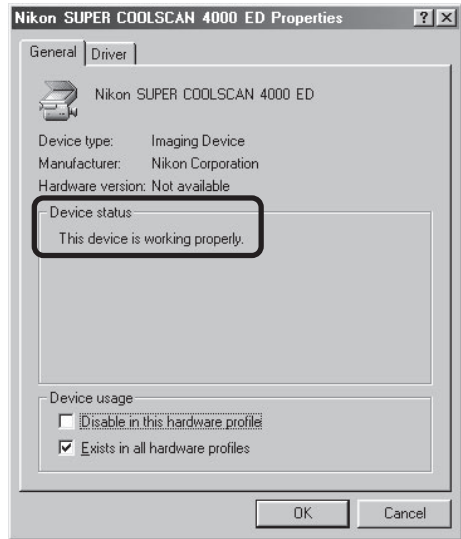
If your scanner is not listed under "Imaging Device," proceed to "Updating the Device Driver (Windows 98 SE)" (55).



4000 ED

5 Confirm that the scanner is working properly

Double-click the listing for your scanner that appears under "Imaging Device." The scanner Properties dialog will be displayed. Click the General tab and confirm that "This device is working properly" appears under "Device Status." If another message is displayed, proceed to "Updating the Device Driver (Windows 98 SE)" (55).



Updating the Device Driver (Windows 98 SE)

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

1 Open the scanner Properties dialog

Display the Device Manager as described in steps 1–3 of "Confirming Device Registration (Windows 98 SE)" (📖 53). If the scanner is listed under "Other devices" or appears next to a "!", "?", or "x", double-click the entry for the scanner to display the scanner Properties dialog.

2 Click **Reinstall Driver...**

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



3 Click **Next**

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

4 Select the search option

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

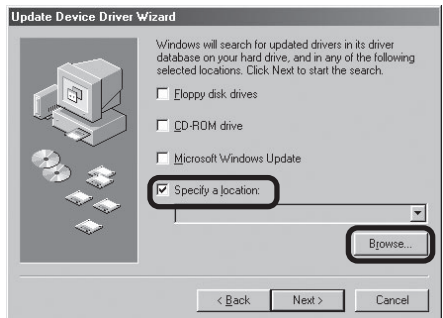


5 Insert the Nikon Scan 3 CD

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

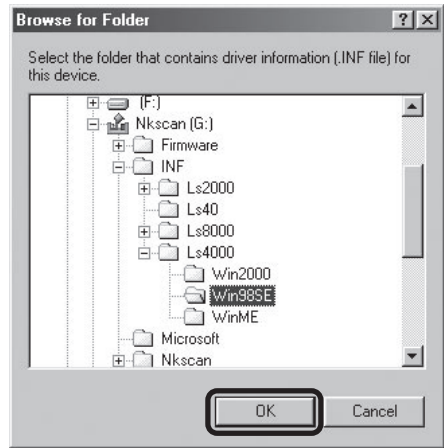
The Welcome Window

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



6 Select the Win98SE folder

The Browse for Folder dialog will be displayed. Select the "Win98SE" folder under "Nkscan" > "INF" > "Ls4000" and click **OK** to return to the dialog shown in step 5. Confirm that the path "\INF\LS4000\Win98SE" appears after the drive letter of the CD-ROM drive and click **Next**.



7 Begin installation of the device drivers

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



8 Click Finish

Click **Finish** to complete installation.



9 Confirm device registration

Confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows 98 SE)" (📖 53-54).

Registering the COOLSCAN IV ED with Windows

Windows XP Home Edition/Windows XP Professional

Registering the Scanner with Windows XP

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



- 2 Insert the Nikon Scan 3 CD
Holding down the shift key to prevent the Welcome program from starting automatically, insert the Nikon Scan 3 CD into the CD-ROM drive. The dialog shown at right will be displayed; click **Continue Anyway**.

If the Dialog Is Not Displayed

If the dialog shown at right is not displayed automatically, select the automatic install option in the dialog shown in step 1 and click **Next**.



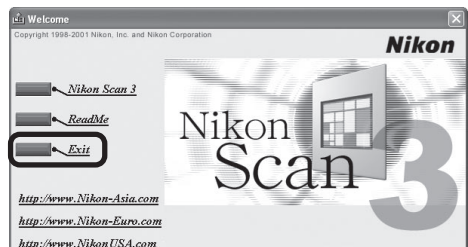
COOLSCAN IV ED

Logging On

Log on as the Computer Administrator when registering the scanner.

The Welcome Window

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



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

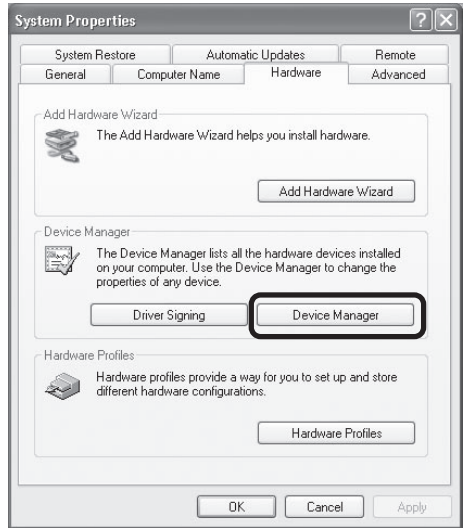


- 4** Confirm device registration
Confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows XP)" (59).

Confirming Device Registration (Windows XP)

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

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



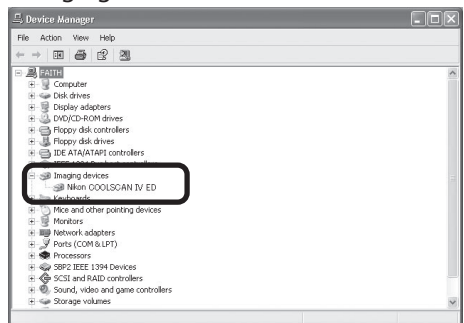
COOLSCAN
IV ED

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

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

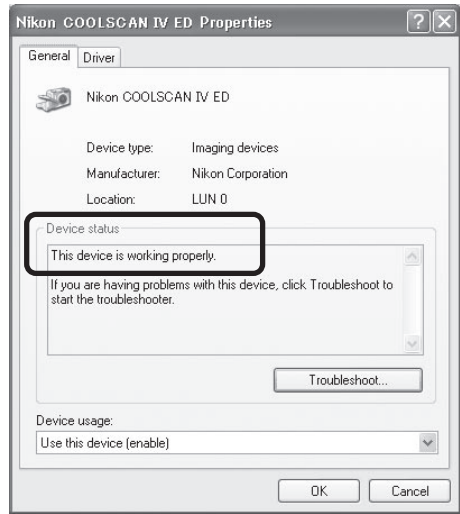
If the Scanner Is Not Listed

If your scanner is not listed under "Imaging devices," proceed to "Updating the Device Driver (Windows XP)" (61).



5 Confirm that the scanner is working properly

Double-click the listing for your scanner that appears under "Imaging devices." The scanner Properties dialog will be displayed. Click the General tab and confirm that "This device is working properly" appears under "Device Status." If another message is displayed, proceed to "Updating the Device Driver (Windows XP)" (☞ 61).



Updating the Device Driver (Windows XP)

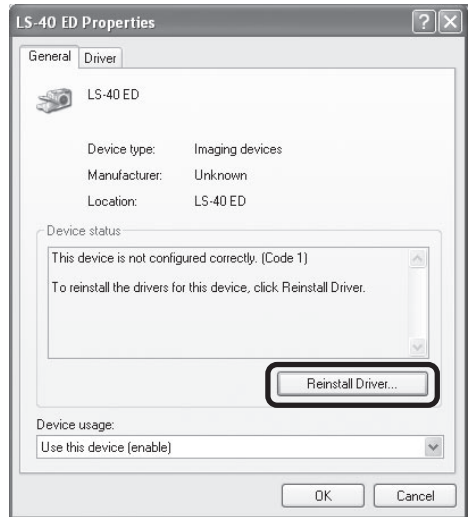
If the scanner is not listed under “Imaging devices” in the Device Manager or the message “This device is working properly” does not appear in the Properties dialog, you will need to reinstall the device driver as detailed below.

1 Open the scanner Properties dialog

Display the Device Manager as described in steps 1–3 of “Confirming Device Registration (Windows XP)” (☐ 59). If the scanner is listed under “Other devices” or appears next to a “!”, “?”, or “x”, double-click the entry for the scanner to display the scanner Properties dialog.

2 Click **Reinstall driver...**

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



COOLSCAN IV ED

3 Insert the Nikon Scan 3 CD

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

The Welcome Window

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

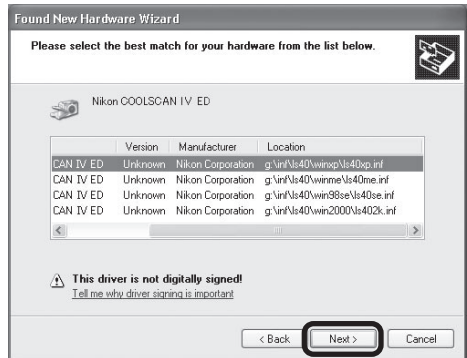


4 Select **ls40xp.inf**

Select **ls40xp.inf** in the list of drivers and click **Next**.

"ls40xp.inf"

If **ls40xp.inf** is not visible in the list, drag the scroll bar at the right of the list until it is displayed.



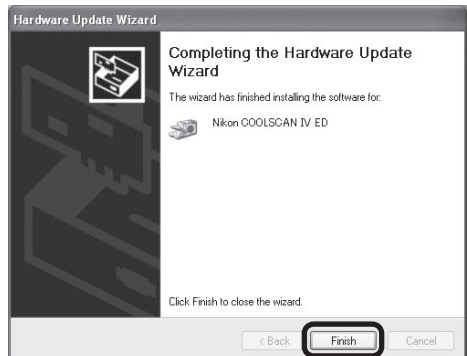
5 Click **Continue Anyway**

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



6 Click **Finish**

Click **Finish** to complete installation.



7 Confirm device registration

Confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows XP)" (59–60).

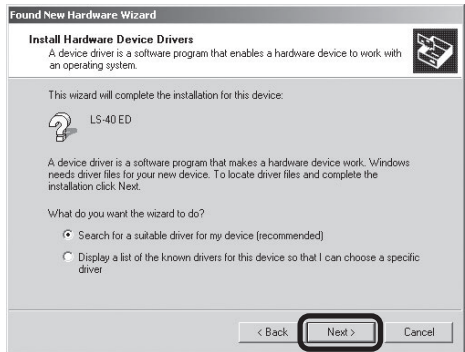
Windows 2000 Professional

Registering the Scanner with Windows 2000 Professional

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



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



COOLSCAN
IV ED

Logging On

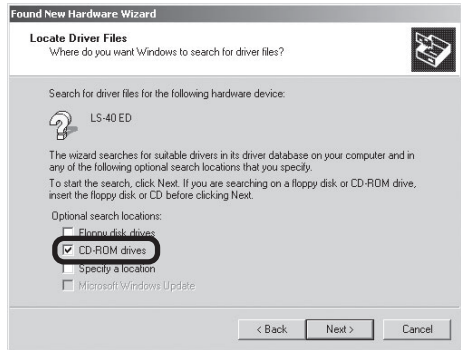
Log on as the Administrator when registering the scanner.

The Welcome Window

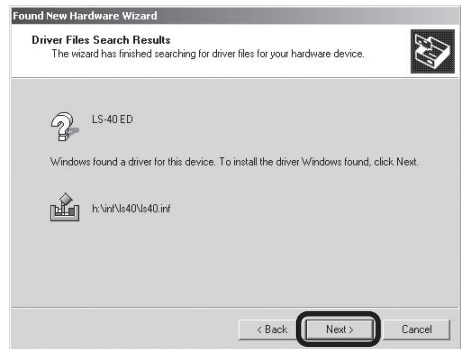
If the Welcome program starts automatically when you insert the Nikon Scan CD, click **Exit** to close the Welcome window.



- 3** Select **CD-ROM drives**
Select **CD-ROM drives** and click **Next**.



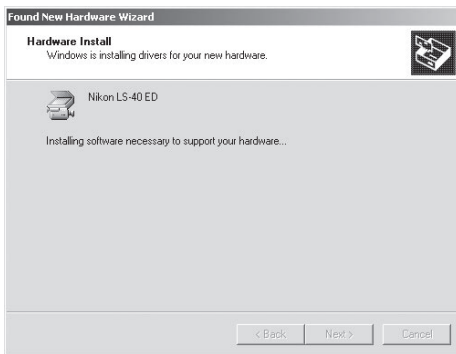
- 4** Begin installation of the device drivers
Click **Next**.



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



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



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



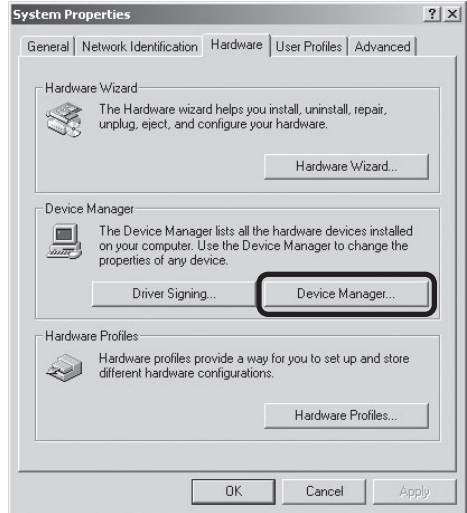
- 7 Restart the computer
Click **Yes** to restart the computer.

- 8 Confirm device registration
Confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows 2000 Professional)" (📖 66).

Confirming Device Registration (Windows 2000 Professional)

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

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

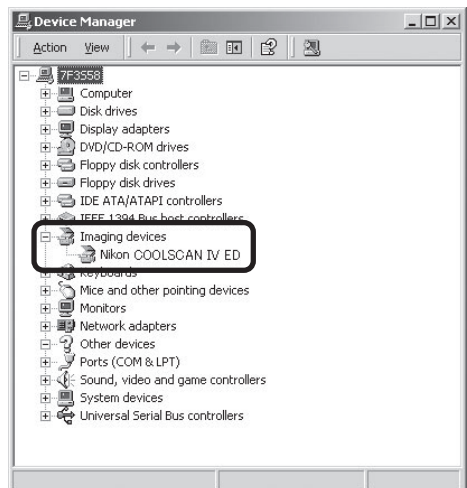


4 Confirm that the scanner is listed under "Imaging devices"

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

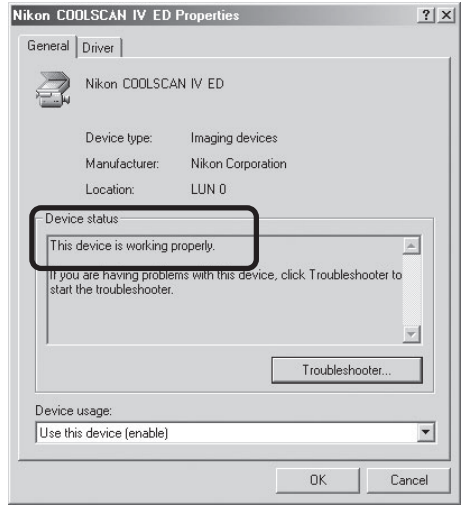
If the Scanner Is Not Listed

If your scanner is not listed under "Imaging devices," proceed to "Updating the Device Driver (Windows 2000 Professional)" (68).



5 Confirm that the scanner is working properly

Double-click the listing for your scanner that appears under “Imaging devices.” The scanner Properties dialog will be displayed. Click the General tab and confirm that “This device is working properly” appears under “Device Status.” If another message is displayed, proceed to “Updating the Device Driver (Windows 2000 Professional)” (68).



Updating the Device Driver (Windows 2000 Professional)

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

1 Open the scanner Properties dialog

Display the Device Manager as described in steps 1–3 of "Confirming Device Registration (Windows 2000 Professional)" (66). If the scanner is listed under "Other devices" or appears next to a "!", "?", or "x", double-click the entry for the scanner to display the scanner Properties dialog.

2 Click Update Driver...

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

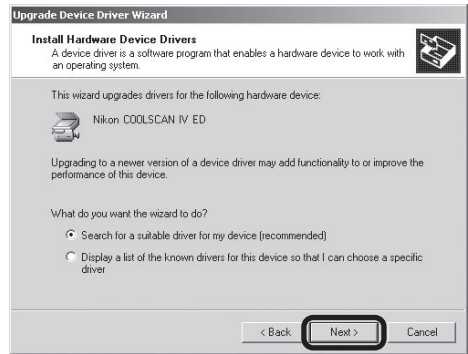


3 Click Next

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



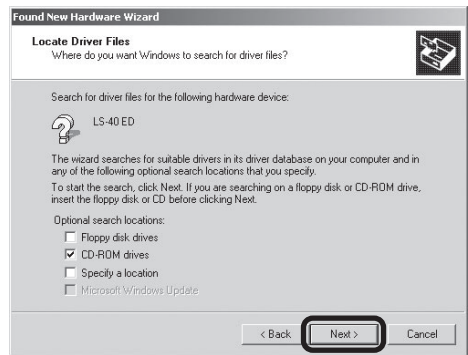
- 4 Select the search option
Select the search option and click **Next**.



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

The Welcome Window

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



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



- 7 Confirm device registration
Confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows 2000 Professional)" (📖 66–67).

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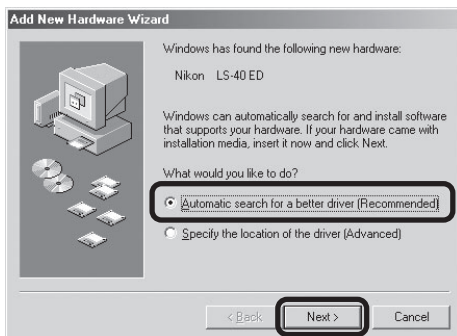
Windows Millennium Edition (Me)

Registering the Scanner with Windows Me

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



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



The Welcome Window

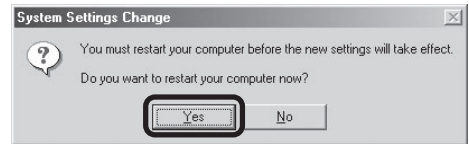
If the Welcome program starts automatically when you insert the Nikon Scan CD, click **Exit** to close the Welcome window.



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



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

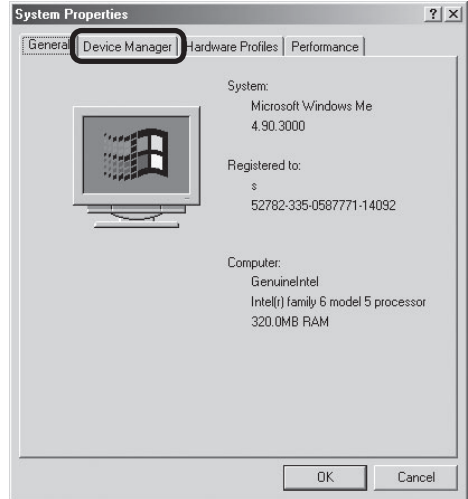


- 6 Confirm device registration
Confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows Me)" (72).

Confirming Device Registration (Windows Me)

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

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

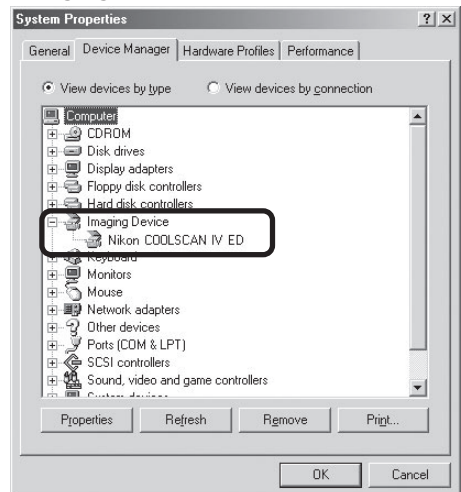


4 Confirm that the scanner is listed under "Imaging Device"

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

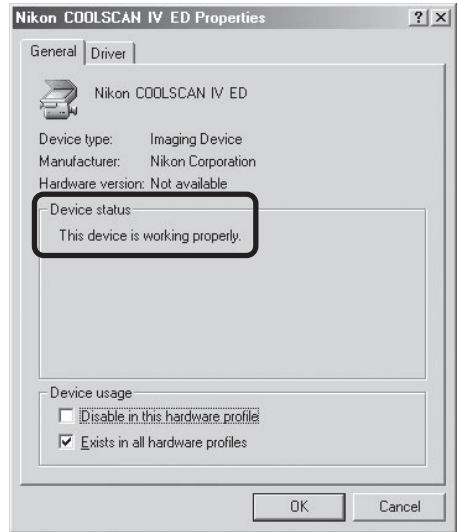
If the Scanner Is Not Listed

If your scanner is not listed under "Imaging Device," proceed to "Updating the Device Driver (Windows Me)" (74).



5 Confirm that the scanner is working properly

Double-click the listing for your scanner that appears under "Imaging Device." The scanner Properties dialog will be displayed. Click the General tab and confirm that "This device is working properly" appears under "Device Status." If another message is displayed, proceed to "Updating the Device Driver (Windows Me)" (74).



Updating the Device Driver (Windows Me)

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

1 Open the scanner Properties dialog

Display the Device Manager as described in steps 1–3 of "Confirming Device Registration (Windows Me)" (72). If the scanner is listed under "Other devices" or appears next to a "!", "?", or "x", double-click the entry for the scanner to display the scanner Properties dialog.

2 Click Update Driver...

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



3 Insert the Nikon Scan 3 CD

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

The Welcome Window

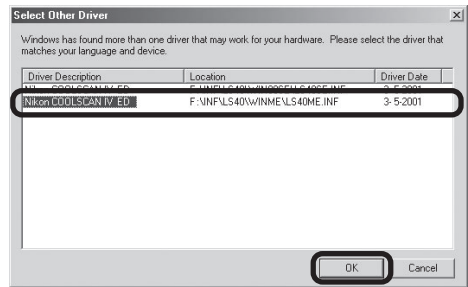
If the Welcome program starts automatically when you insert the Nikon Scan CD, click **Exit** to close the Welcome window.



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



If a list of drivers is displayed, select the driver with the path ending in **LS40ME.INF** and click **OK**.



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



- 6 Confirm device registration
Confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows Me)" (72–73).

Windows 98 Second Edition (SE)

Registering the Scanner with Windows 98 SE

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



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



The Welcome Window

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



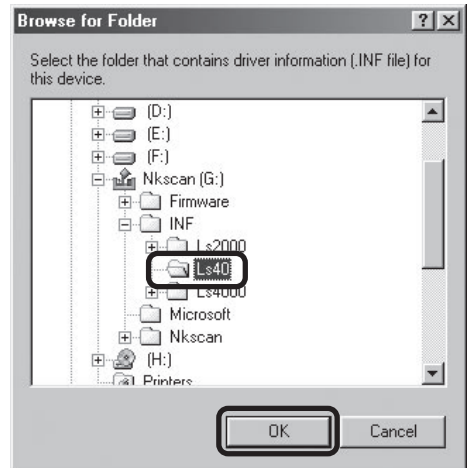
3 Select Specify a location

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



4 Select the Ls40 folder

The Browse for Folder dialog will be displayed. Click on the "+" next to the "Nkscan" and then "INF" folders to display the "Ls40" folder. Select the "Ls40" folder and click **OK**.



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5 Confirm the file path

The dialog shown at right will be displayed. Confirm that the path "\NF\LS40" appears after the drive letter of the CD-ROM drive and click **Next**.

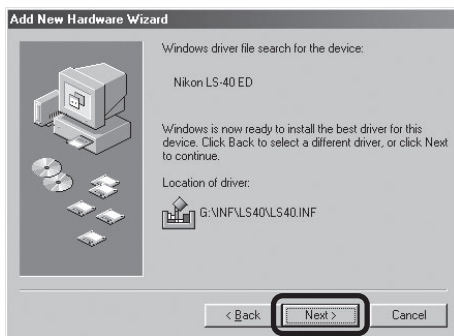
If the Correct Path Is Not Displayed

If the correct path is not displayed, repeat steps 3–5 to select the correct path.



6 Begin installation of the device drivers

Click **Next**.



7 Click **Finish**

Click **Finish** to complete installation.



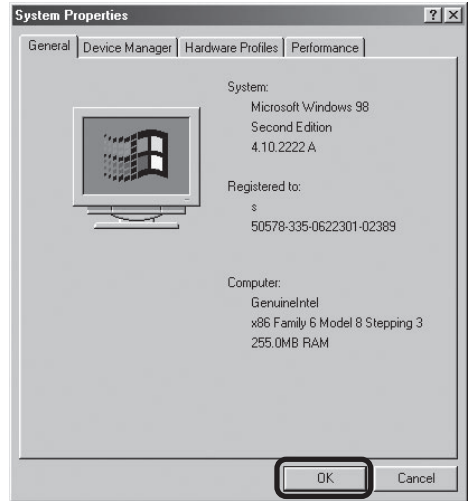
8 Confirm device registration

Confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows 98 SE)" (79).

Confirming Device Registration (Windows 98 SE)

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

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



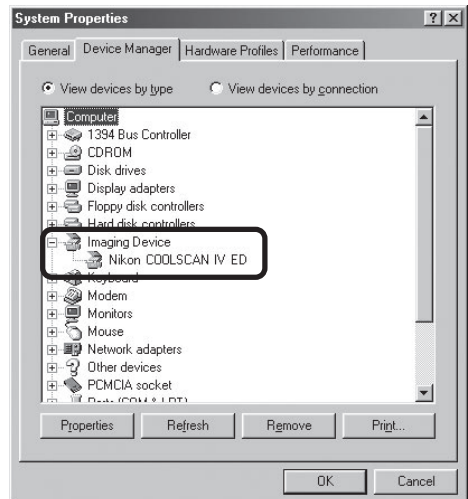
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4 Confirm that the scanner is listed under "Imaging Device"

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

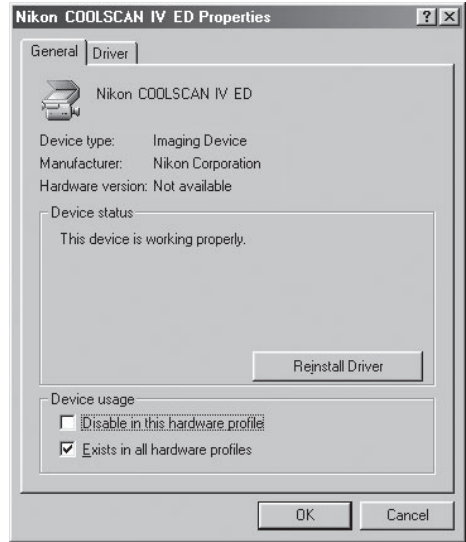
If the Scanner Is Not Listed

If your scanner is not listed under "Imaging Device," proceed to "Updating the Device Driver (Windows 98 SE)" (81).



5 Confirm that the scanner is working properly

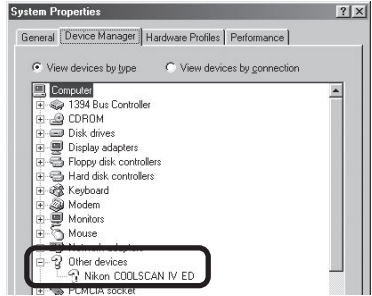
Double-click the listing for your scanner that appears under "Imaging Device." The scanner Properties dialog will be displayed. Click the General tab and confirm that "This device is working properly" appears under "Device Status." If another message is displayed, proceed to "Updating the Device Driver (Windows 98 SE)" (81).



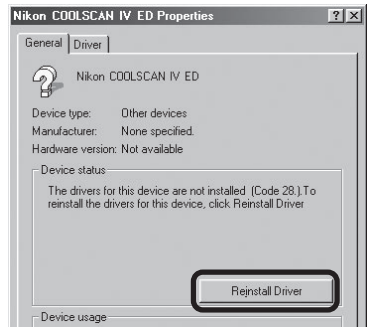
Updating the Device Driver (Windows 98 SE)

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

- 1 Open the scanner Properties dialog**
Display the Device Manager as described in steps 1–3 of “Confirming Device Registration (Windows 98 SE)” (79). If the scanner is listed under “Other devices” or appears next to a “!”, “?”, or “×”, double-click the entry for the scanner to display the scanner Properties dialog.



- 2 Click Reinstall driver**
Open the Driver tab and click **Reinstall driver**.



- 3 Click Next**
When the Update Device Driver Wizard is displayed, click **Next**.



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



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5 Insert the Nikon Scan 3 CD

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

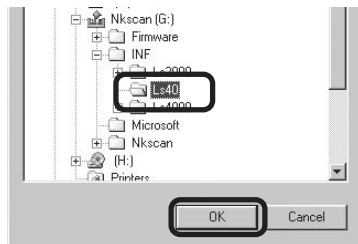
The Welcome Window

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



6 Select the Ls40 folder

The Browse for Folder dialog will be displayed. Select the "Ls40" folder under "Nkscan" > "INF" and click **OK** to return to the dialog shown in step 5. Confirm that the path "\\NF\ Ls40" appears after the drive letter of the CD-ROM drive and click **Next**.



7 Begin installation of the device drivers

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



8 Click Finish

Click **Finish** to complete installation.



9 Confirm device registration

Confirm that the scanner has been correctly registered with the system as described in "Confirming Device Registration (Windows 98 SE)" (79–80).

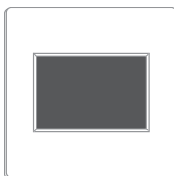
Scanning 35-mm Slides

This chapter describes how to scan 35-mm slides using the MA-20 (S) slide-mount adapter provided with your scanner.

Step 1—Ready the Slide	84
Step 2—Insert the Adapter	84
Step 3—Insert the Slide	85
Step 4—Scan the Slide	86

Step 1—Ready the Slide

The MA-20 (S) slide-mount adapter is used to scan 35-mm film mounted as slides.

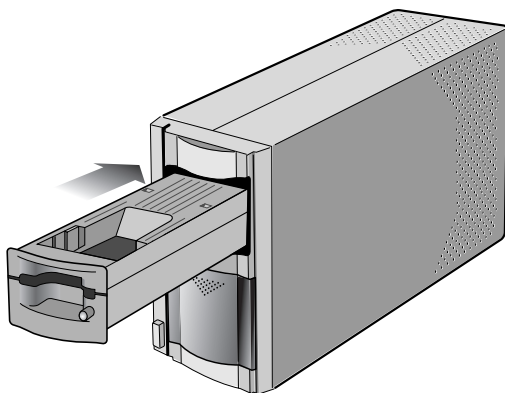


35-mm slide

Step 2—Insert the Adapter

After confirming that the scanner is ready (the scanner is ready when the status LED is not blinking), insert the MA-20 (S) slide-mount adapter into the scanner.

Open the sliding cover on the front of the scanner and slide the MA-20 (S) smoothly into the adapter slot until it is fully inserted. The status LED will blink a few times and then glow steadily.



Step 3—Insert the Slide

The MA-20 (S) scans slides one at a time. Insert the slide smoothly with the emulsion surface down (shiny surface up) and the short side of the slide aperture toward the scanner. Stop when the slide contacts the rear of the film slot.



Compatible Slides

Slides scanned in the MA-20 (S) must have mounts between 1.0 and 3.2 mm thick and from 49 to 50.8 mm in width.

Step 4—Scan the Slide

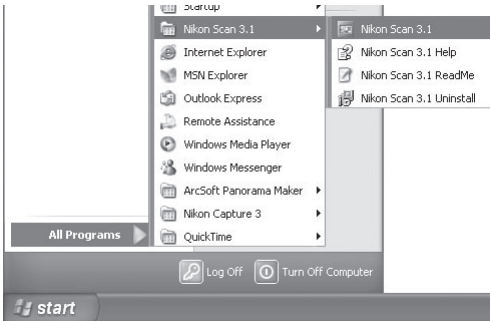
The actual scan is performed using Nikon Scan (for detailed information on using Nikon Scan, see the *Nikon Scan 3 Software Manual*).

Making a Scan

1 Start Nikon Scan

Windows

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



Mac OS X

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



Mac OS 9 or Earlier

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



Scanning Images into Other Applications

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

Windows

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

Mac OS 9 or Earlier

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

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

The Nikon Scan scan window will open on the desktop.



Scan window

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



- 3 Choose a color model
Choose a color model from the color-model menu. The most common choice for images that will be edited on a computer is **Calibrated RGB**. Choose Grayscale when scanning black-and-white (monochrome) film. CMYK is intended for professionals who need to create a file ready for printing on an industrial four-color printer.



- 4 Click the **Preview** button
Click the **Preview** button to create a preview of the image to be scanned.



Preview button

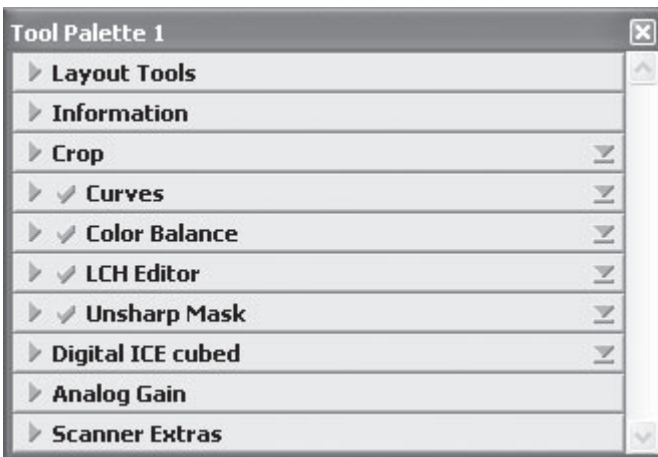
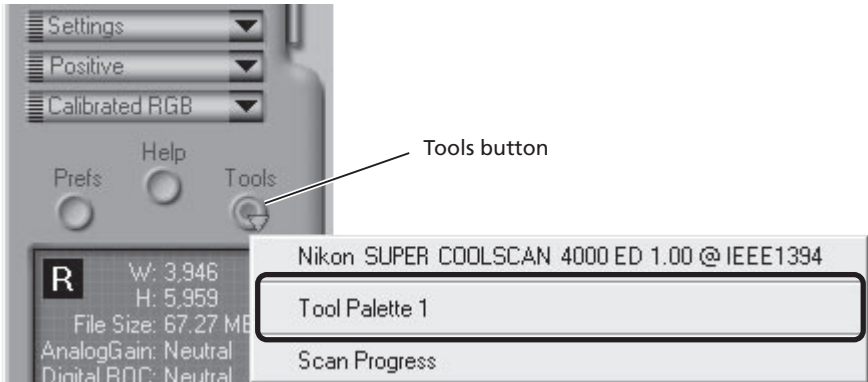
The preview will be displayed in the preview area.



Preview area

5 Adjust scan settings

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



Tool Palette 1




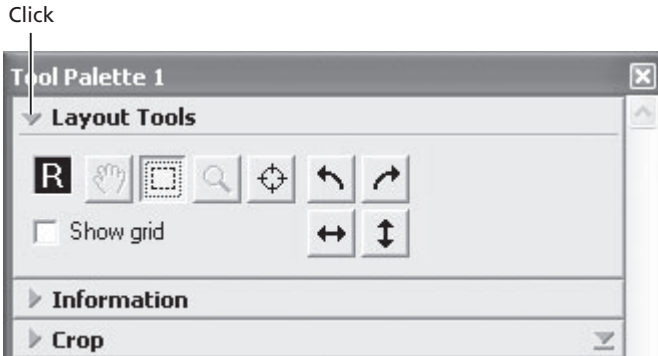
Pg. For more information on:

40 The Tool Chest





6 Rotate or flip the image

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

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



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

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

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



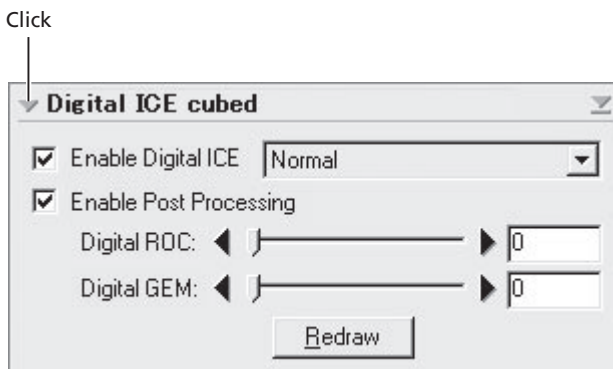
Pg. For more information on:



43 The Layout Tools palette

7 Compensate for defects

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



To remove dust and scratches from the image, check **Enable Digital ICE** and select **Normal** or **Fine** from the **Digital ICE** menu. A setting of **Fine** can be used to remove very fine scratches or barely visible dust, although this may sometimes result in reduced sharpness. 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:



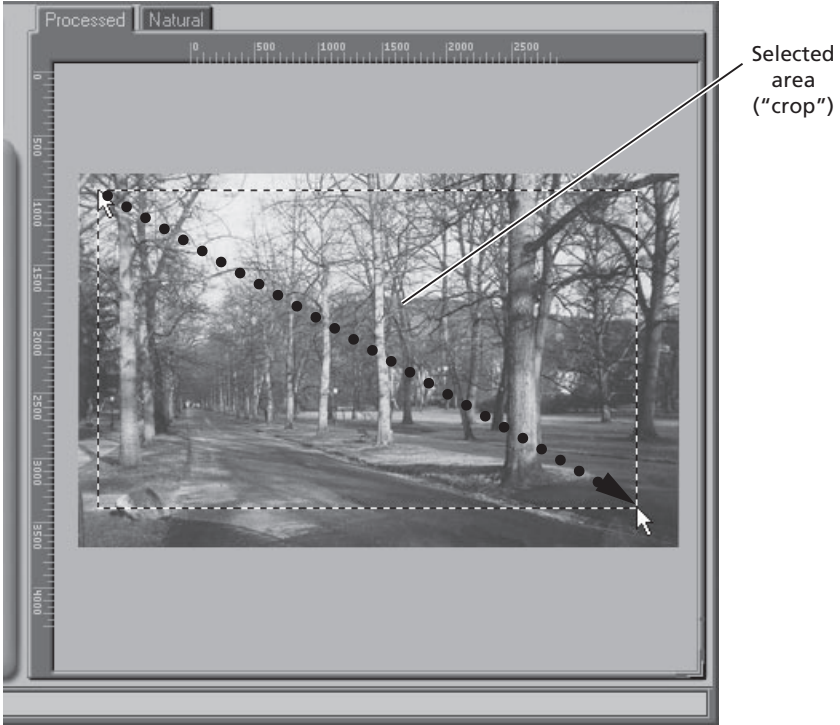
51 Digital ICE³

8 Select a crop

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

Selecting the Entire Image

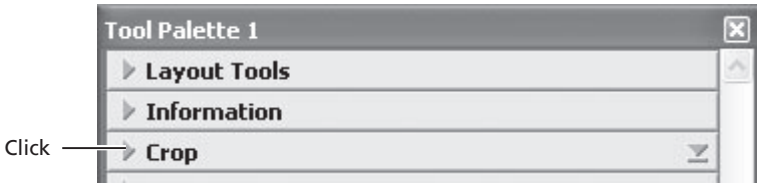
Double-click inside the current crop to select the entire image. When the entire image is selected, the borders of the crop are not indicated by a dotted line.



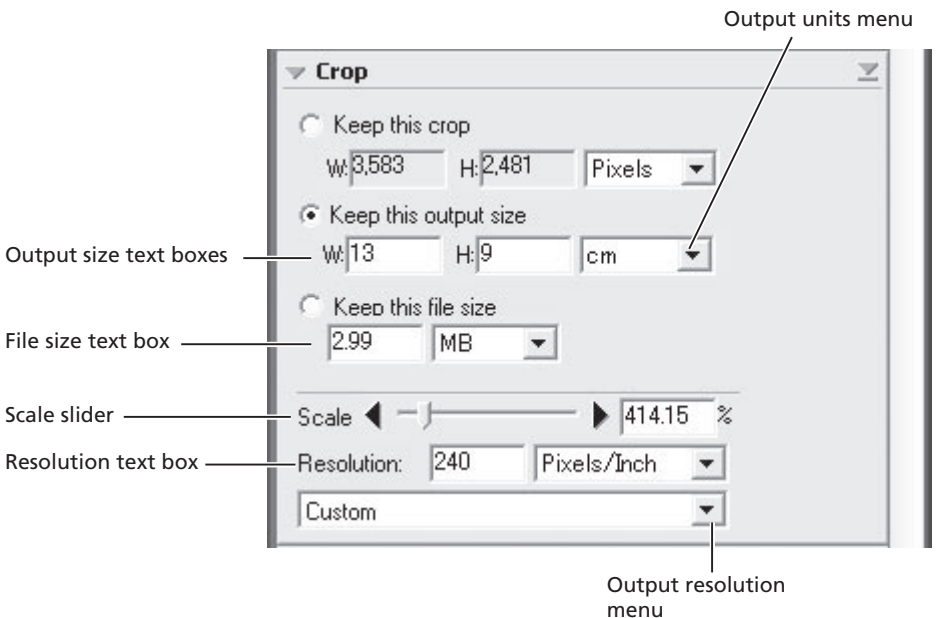
The size of the crop can be changed by dragging its boundaries. To change the position of the crop, place the cursor inside the selected area and drag it to a new location.

9 Choose an output size and resolution

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



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



- **Keep this crop**

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

- **Keep this output size**

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

- **Keep this file size**

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

10 Adjust color, contrast, and sharpness

Curves

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

Color Balance

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

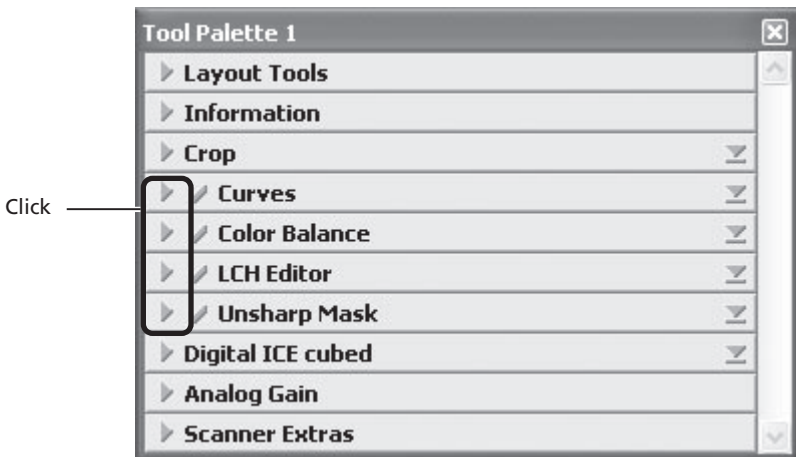
LCH Editor

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

Unsharp Mask

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

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



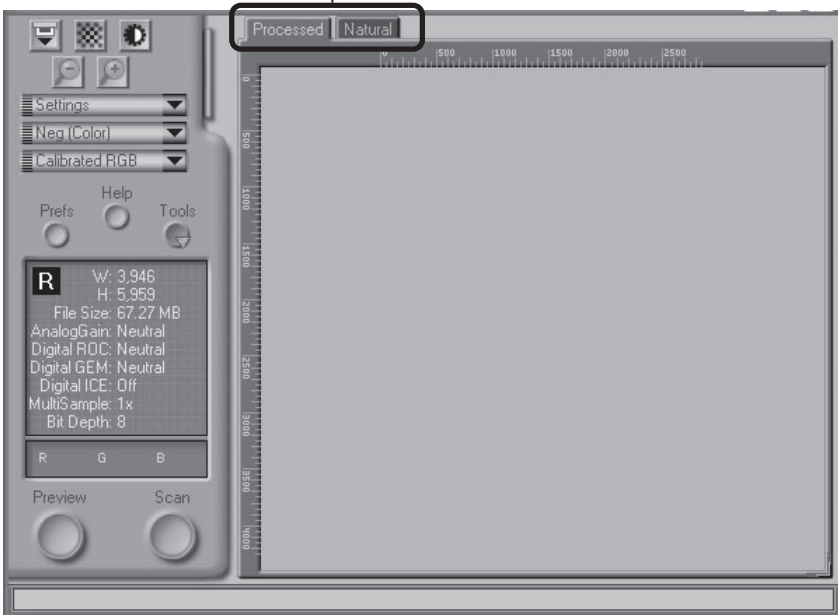
Pg. For more information on:



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

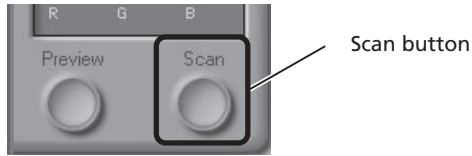
To view the effects of any changes that have been made and compare them with the original, use the Processed and Natural tabs in the preview area to switch back and forth between the processed and original image. The image produced when you click the **Scan** button to open the image in the host application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

The Processed /Natural Tabs

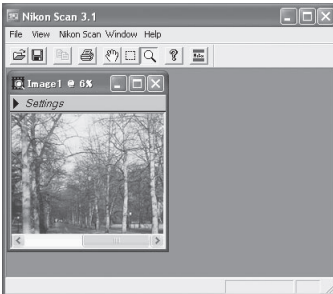


When using Nikon Scan as a stand-alone application, you can use the Ctrl-T (Windows) or ⌘-T (Macintosh) keyboard shortcut to switch between the Processed and Natural tabs.

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



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



Windows



Macintosh

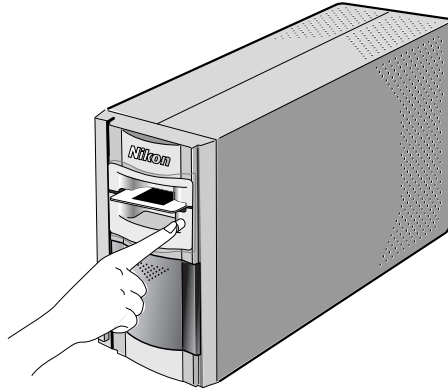
Once you have saved the scanned image, you can open it for editing in another application such as Photoshop.

Image Windows

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

12 Scan additional images

To scan additional images after closing the scan window, select the scanner from the **Nikon Scan > Tools** menu. In Windows, you can also open the scan window by selecting **Open TWAIN Source** from the **File** menu. If you are using Nikon Scan to scan images directly into another application, open the scan window by selecting **Nikon Scan** from the application's list of "Acquire" or "Import" sources. You can then repeat steps 2 to 11 to scan additional images.

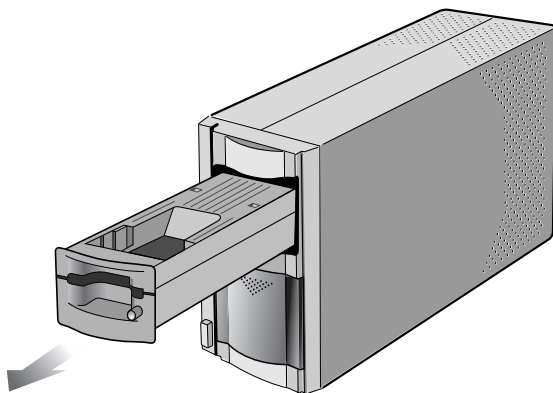


13 Exit Nikon Scan and turn the scanner off

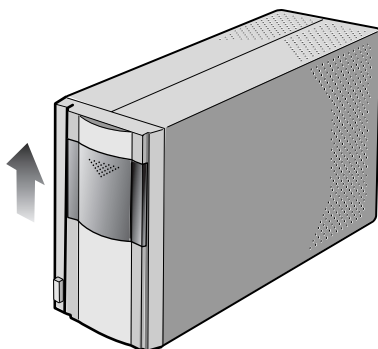
13-1. Remove the slide

Press the eject button on the front of the MA-20 (S) to partially eject the slide. You can then remove the slide by hand.

- 13-2. **Remove the film adapter**
Slide the film adapter from the adapter slot.



- 13-3. **Close the sliding cover**
Slide the cover closed.



- 13-4. **Exit Nikon Scan**
If you are using Nikon Scan as a "stand-alone" application, choose **Exit** (Windows) or **Quit** (Macintosh) from the **File** menu to exit Nikon Scan. If you are using Nikon Scan to scan images directly into another application, simply close the scan window by clicking the close box.

13-5. Turn the scanner off

COOLSCAN IV ED

Wait for the status LED to stop blinking, then press the power button to turn the scanner off.

4000 ED

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

Windows Me

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

Windows 98 SE

Click the "Unplug or Eject Hardware" button in the taskbar and select **Stop Nikon SUPER COOLSCAN 4000 ED** from the menu that appears.

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

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



Scanning 35-mm Film

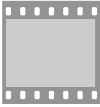
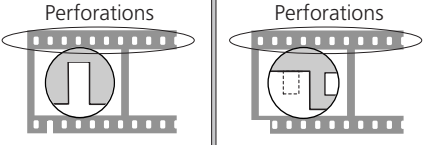
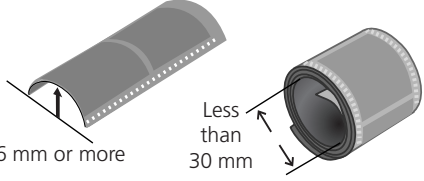
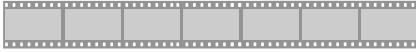
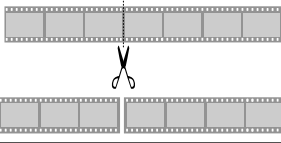
This chapter describes how to scan strips of unmounted 35-mm film. Strip film can be scanned using the SA-21 strip-film adapter or by placing film in the FH-3 film holder and inserting it in MA-20 (S) slide-mount adapter.

Film That Can Not Be Scanned in the SA-21 ...	102
Using the FH-3	105
Using the SA-21	111

Film That Can Not Be Scanned in the SA-21

Film That Can Not Be Used

The following film can not be scanned in the SA-21.

Problem	Solution
 <p>Film strip is only one frame long</p>	<p>Use the FH-3 film holder with the MA-20 (S) slide-mount adapter.</p>
 <p>Perforations are torn or missing</p>	<p>Use the FH-3 film holder with the MA-20 (S) slide-mount adapter.</p>
 <p>Film has excessive curl</p>	<p>Use the FH-3 film holder with the MA-20 (S) slide-mount adapter.</p>
 <p>Film strip is more than six frames long.</p>	 <p>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).</p>



Pg. For more information on:



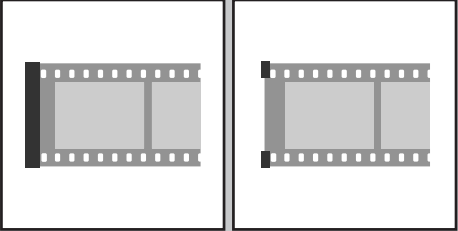
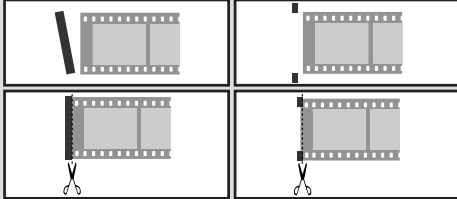
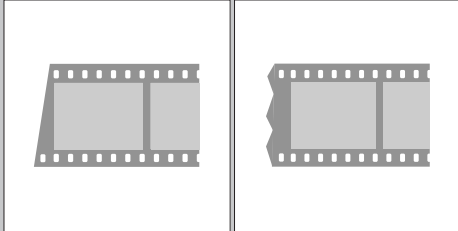
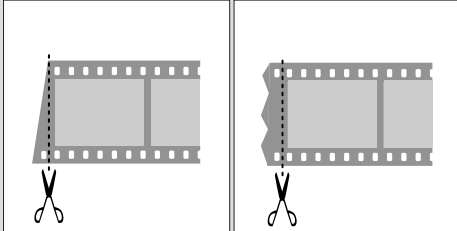
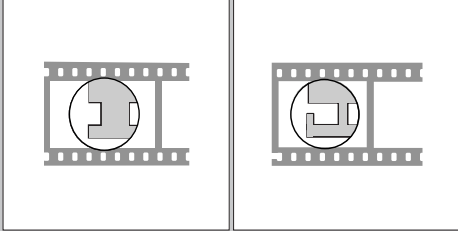
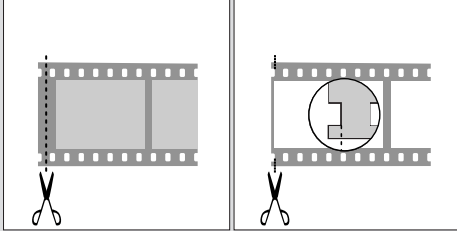
105 Using the FH-3



143 Optional accessories

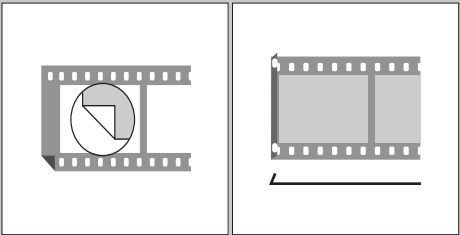
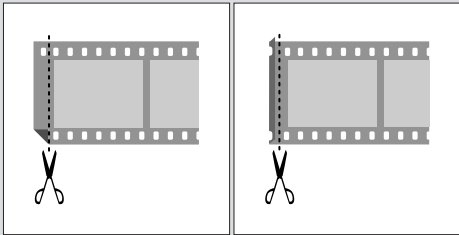
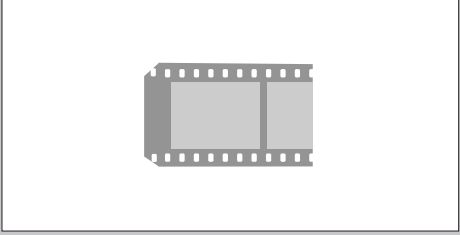
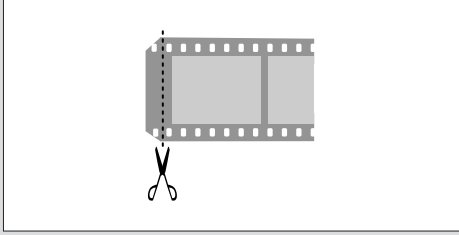
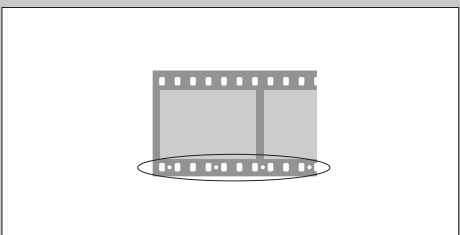
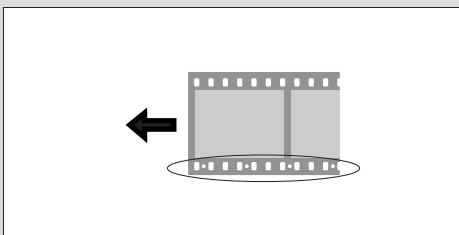
Film That Must Be Repaired Before Use

Film with the defects listed below must be repaired before it can be scanned in the SA-21. It can be scanned without preparation using the FH-3 film holder with the MA-20 (S) slide-mount adapter (105).

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.

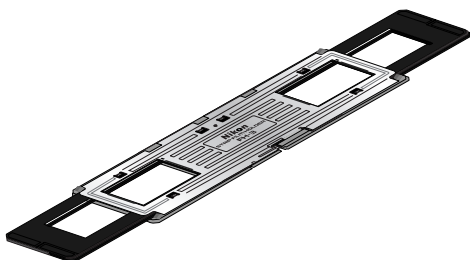
Problem	Solution
 <p data-bbox="179 478 448 510">The end of the film is folded.</p>	 <p data-bbox="560 438 1024 518">Trim the folded portion from the film, cutting the film straight across and being careful not to cut across the perforations.</p>
 <p data-bbox="173 805 453 837">The end of the film is tapered.</p>	 <p data-bbox="560 790 1024 845">Trim the end of film straight across, being careful not to cut across the perforations.</p>
 <p data-bbox="84 1117 543 1149">There are small holes in between the perforations.</p>	 <p data-bbox="560 1117 1024 1244">If the small holes are only on one side of the film, insert the film as shown above. If the small holes are on both sides on the film, use the FH-3 film holder with the MA-20(S) slide-mount adapter.</p>



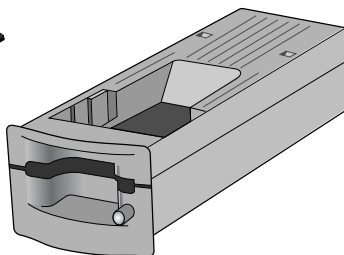
Care should be taken not to injure yourself when using scissors to trim the film. Film that has been repaired or that has just been developed may jam in the adapter. If the film jams, use the FH-3 film holder with the MA-20 (S) slide-mount adapter.

Using the FH-3

The FH-3 can be used in combination with the MA-20 (S) to scan strips of 35-mm film of one to six frames in length, including film that can not be scanned in the SA-21.

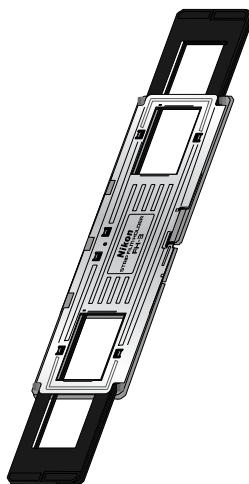


FH-3



MA-20 (S)

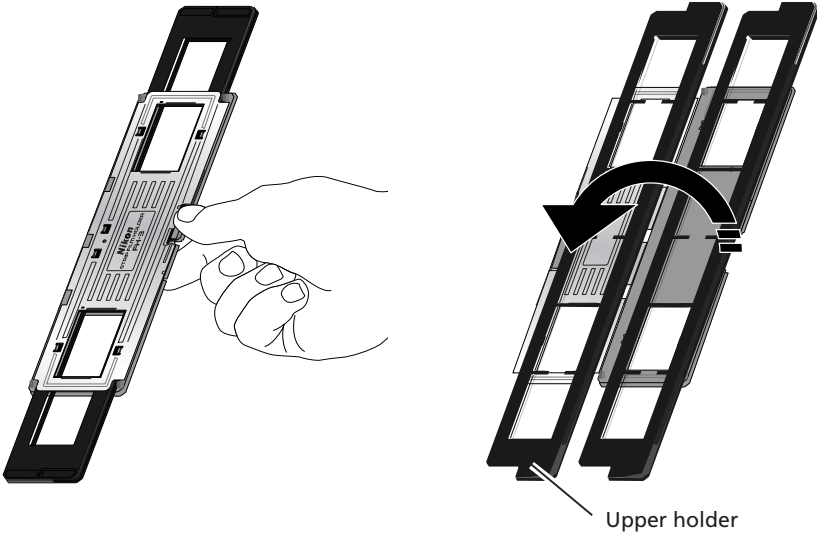
- 1 Hold the adapter with the Nikon logo face up.



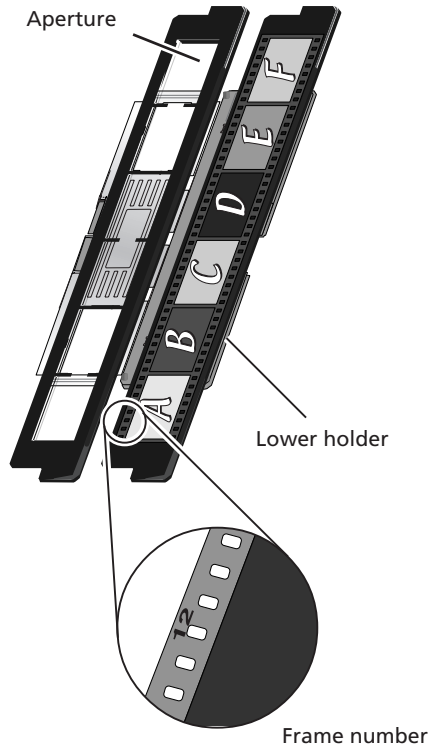
Pg. For more information on:

102 Film that can not be scanned in the SA-21

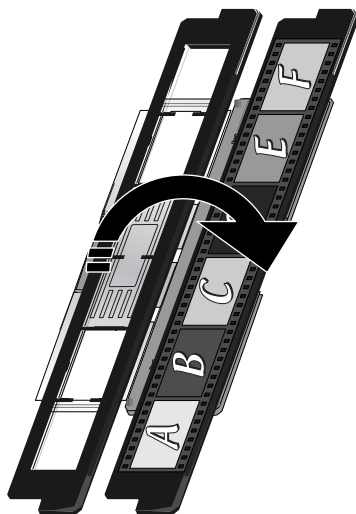
- 2 Unlatch the holder snaps and flip the upper holder open.



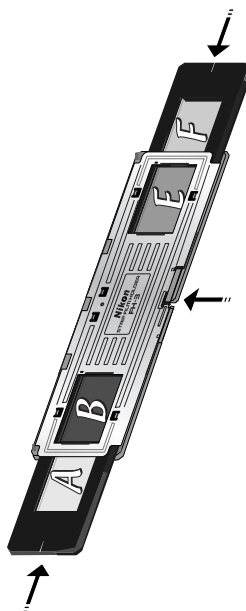
- 3 Place a strip of film in the lower portion of the holder, aligning each frame with an aperture in the lower holder. The shiny surface of the film should face up (the emulsion surface should face down), so that the frame numbers are not reversed.



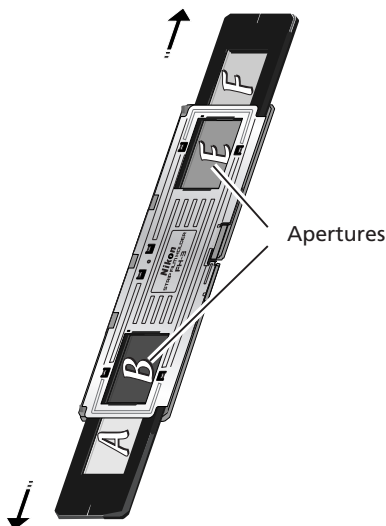
- 4 Return the upper holder to its original position, aligning the ends with the ends of the lower holder.



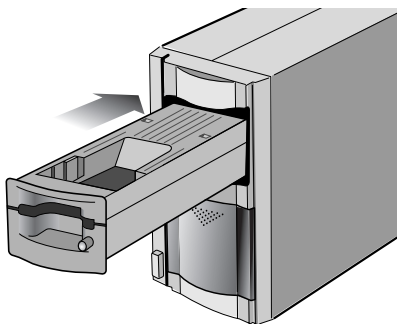
- 5 Fasten the snap on the FH-3 and fit the upper and lower ends of the holder together.



- 6 Align the frame you want to scan with either of the two apertures (see page 110 for information on scanning frames in order, starting at the first frame).



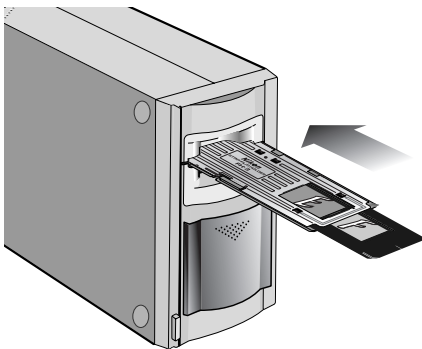
- 7 After confirming that the scanner is ready (the scanner is ready when the status LED is not blinking), insert the MA-20 (S) slide-mount adapter into the scanner.



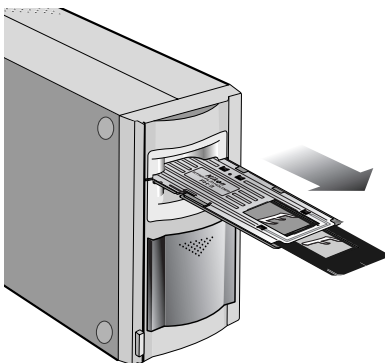
✓ Inserting the MA-20 (S)

Open the sliding cover on the front of the scanner and slide the MA-20 (S) smoothly into the adapter slot until it is fully inserted. The status LED will blink a few times and then glow steadily.

- 8 Insert the aperture containing the frame you want to scan into the MA-20 (S).



- 9 Scan the frame as described on pages 86–98 of this manual.
Insert the aperture containing the frame you want to scan into the MA-20 (S).



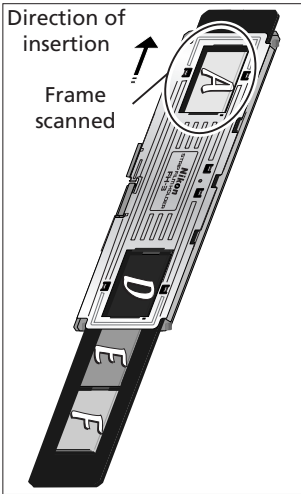
- 10 After scanning, wait for the status LED to stop blinking and then remove the FH-3 from the film slot by hand. Do not use the eject button on the MA-20 (S). You can now turn the scanner off as described on page 100 of this manual.

Using the Film Holder

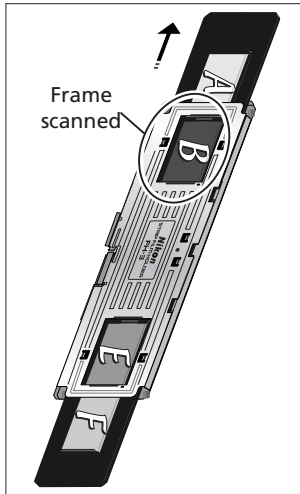
Do not use force when inserting the holder, as this could damage the holder or the scanner. To avoid damage to the film, remove dust and lint from the film holder before use. Dust and lint can affect the quality of scanned images and damage your film. Do not use the eject button on the MA-20 (S) when removing the FH-3. Remove the FH-3 by hand.

Scanning Frames in Order

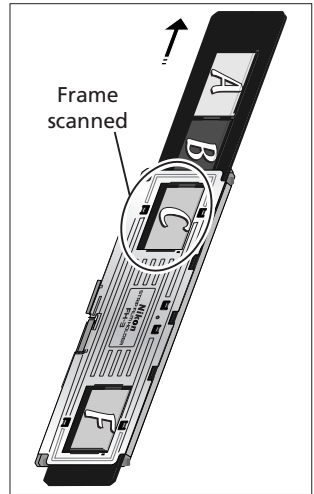
The position of the frame scanned is shown in the diagram below.



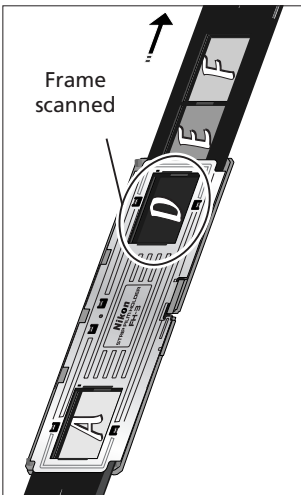
Frame 1



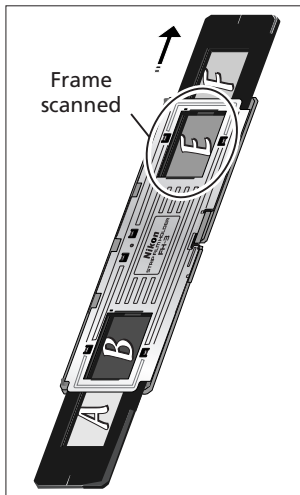
Frame 2



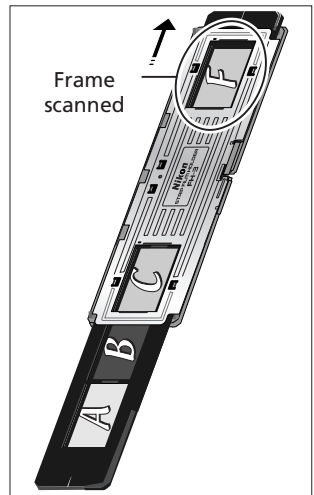
Frame 3



Frame 4



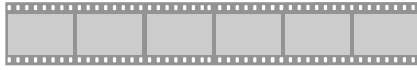
Frame 5



Frame 6

Using the SA-21

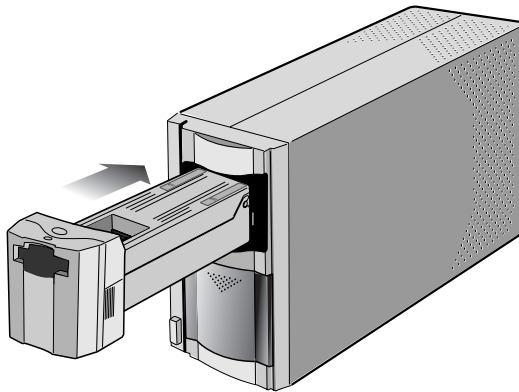
The SA-21 can be used to scan 35-mm film in strips of two to six frames (for information on film that can not be used in the SA-21, see pages 102–104 of this manual).



35-mm film in strips of two to six frames

- 1 After confirming that the scanner is ready (the scanner is ready when the status LED is not blinking), insert the SA-21 into the scanner.

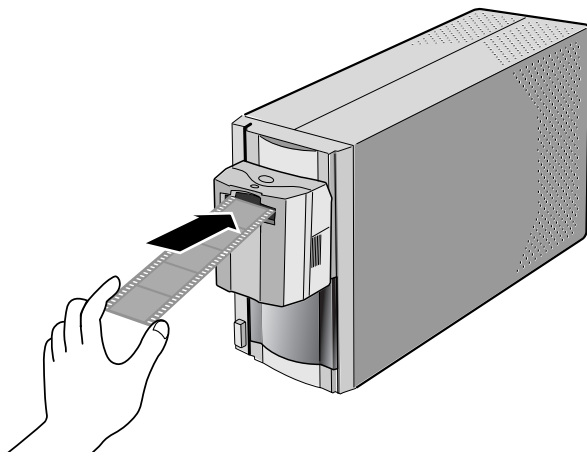
Open the sliding cover on the front of the scanner and slide the SA-21 smoothly into the adapter slot until it is fully inserted. The status LED will blink a few times and then glow steadily.



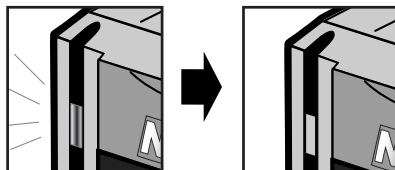
Removing the Adapter

Attempting to remove the adapter without ejecting the film can result in the adapter becoming separated from the connectors at the rear of the adapter slot, interfering with scanning. If you have attempted to remove the adapter before ejecting film, push the adapter back into the slot slightly to ensure that the connection is not interrupted. Do not attempt to remove the adapter by force, as this could damage both the adapter and scanner.

- 2 To prevent the film from curling, hold it lightly by both edges, with the emulsion surface down (shiny surface up), and insert the film as shown below. When the film has been inserted a short distance, the adapter feed mechanism will activate and load the film the rest of the way into the adapter.



The status LED will blink while the scanner readies the film for scanning. The status LED will stop blinking when the scanner is ready to begin scanning.



- 3 Scan the film as described on pages 86–98 of this manual. For information on selecting the frame to be scanned, see the following pages.

✓ Inserting Film


Once the film feed mechanism has been activated, do not attempt to remove the film by hand or otherwise interfere with the feed operation. Failure to observe this precaution could cause an error.

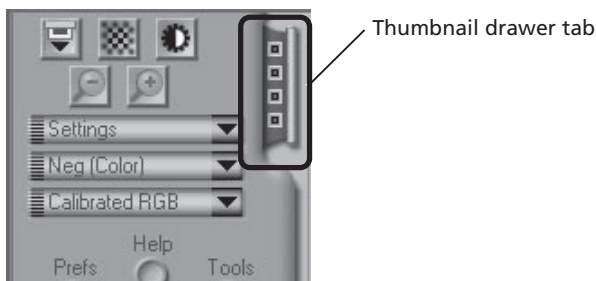
Keep the film free from dust during insertion and scanning, when the film may be partially ejected from the scanner.



The Thumbnail Drawer

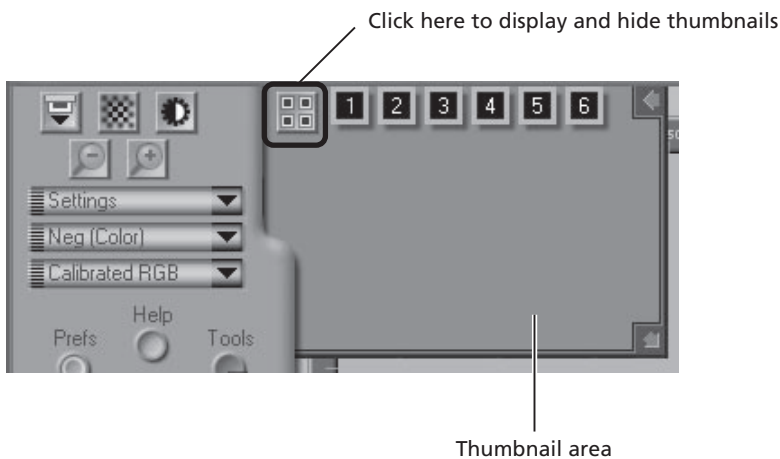
When using the SA-21 strip-film adapter, you can choose the frames to be scanned from the thumbnail drawer. For more information on the thumbnail drawer, see pages 19 to 25 of the *Nikon Scan Software Manual*.

Using the Thumbnail Drawer

After selecting the film type from the media-type menu and the color model from the color-model menu (, 87), click the thumbnail drawer tab to open the thumbnail drawer.

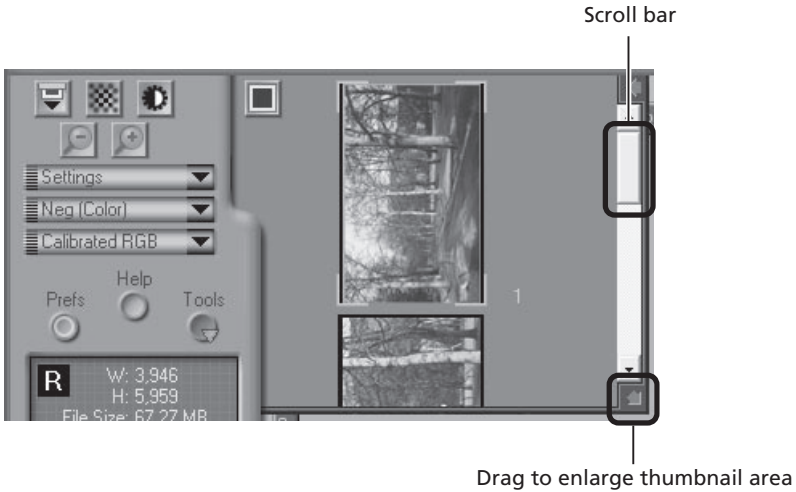


Frames are identified by frame number. To view frames as small preview images (thumbnails), click the  button. The button will change to ; click the button again to return to the frame-number display.

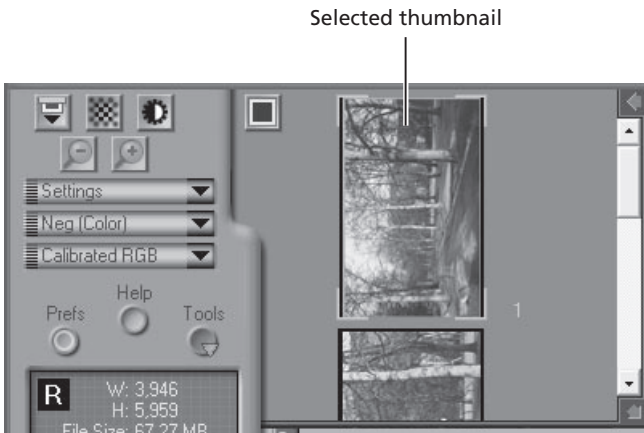


Using the Thumbnail Drawer (Continued)

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



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



Preview and scan the selected frames (📖 88–97).

4 Once scanning is complete, you can exit Nikon Scan and turn the scanner off.

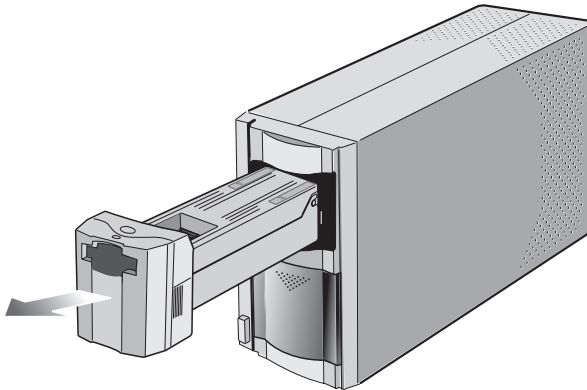
4-1. Eject the film

Click the eject button in Nikon Scan to eject the film from the scanner.



4-2. Remove the film adapter

Slide the film adapter from the adapter slot.

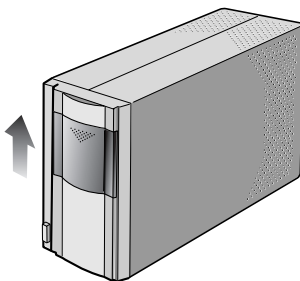


✓ Ejecting Film

The SA-21 is equipped with a locking mechanism that prevents the adapter from being removed while film is in place. Before removing the SA-21 from the scanner, be sure to eject the film by clicking the eject button in Nikon Scan (circled in the illustration above). Attempting to remove the adapter without ejecting the film can result in the adapter becoming separated from the connectors at the rear of the adapter slot, interfering with scanning. If you have attempted to remove the adapter before ejecting film, push the adapter back into the slot slightly to ensure that the connection is not interrupted. Do not attempt to remove the adapter by force, as this could damage both the adapter and scanner.

To eject film when the computer is off or Nikon Scan is not running, turn the scanner off and then on again. The film will be ejected automatically, releasing the adapter lock mechanism. Wait for the status LED to stop flashing and then remove the adapter and close the sliding cover.

- 4-3. Close the sliding cover
Slide the cover closed.



- 4-4. Exit Nikon Scan

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

- 4-5. Turn the scanner off

COOLSCAN IV ED

Wait for the status LED to stop blinking, then press the power button to turn the scanner off.

4000 ED

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

Windows Me

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

Windows 98 SE

Click the “Unplug or Eject Hardware” button in the taskbar and select **Stop Nikon SUPER COOLSCAN 4000 ED** from the menu that appears.



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

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





Nikon Scan

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

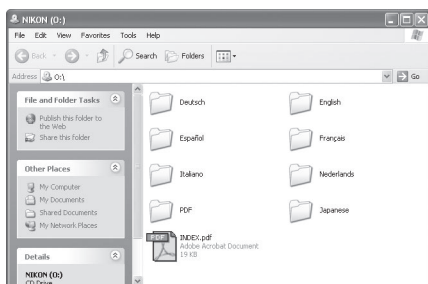
Viewing the <i>Nikon Scan 3 Software Manual</i>	118
The Scan Window	120



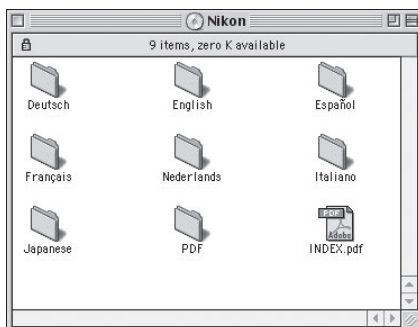
Viewing the *Nikon Scan 3 Reference Manual*

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

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



Windows



Macintosh

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



setup.exe
PackageForTheWeb Stub
InstallShield Software Corpora...

Windows



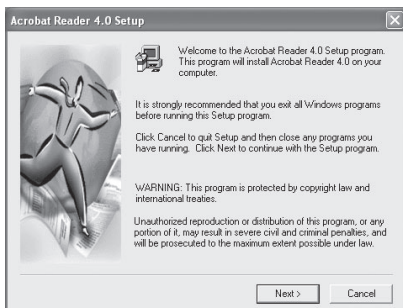
Reader Installer

Macintosh

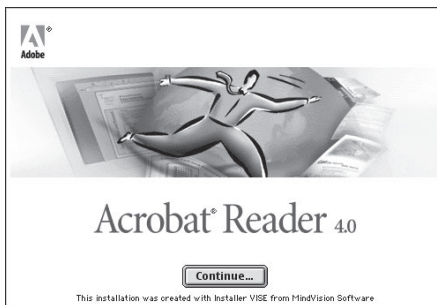


To get the most from your scanner, please read the documentation provided.

5 Follow the on-screen instructions to complete installation.

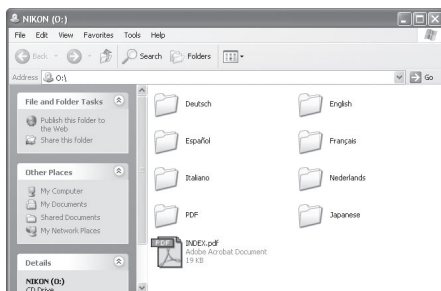


Windows

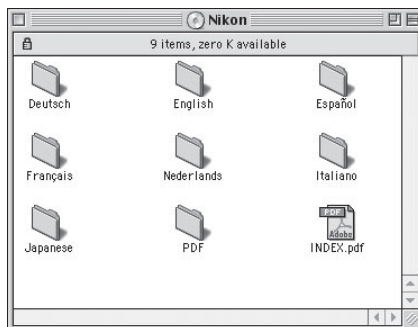


Macintosh

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



Windows



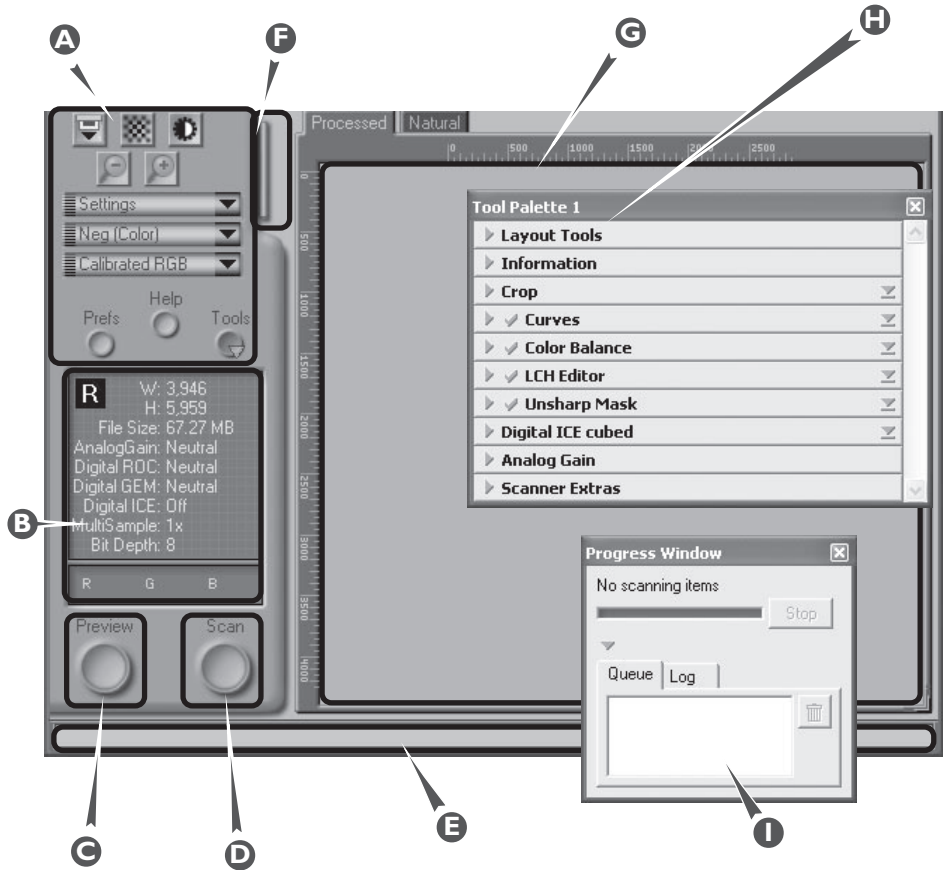
Macintosh

Important

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

The Scan Window

The Parts of the Scan Window



A Control area

Contains the most frequently used scanning and preview controls.

B Information panel

Provides information on current scan settings.

C Preview button

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

D Scan button

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

E Interactive help

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

F Thumbnail drawer tab

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

G Preview area

The preview image is displayed here.

H Tool chest

Contains tools for:

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

I Scan Progress window

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

The Control Area

Eject Button



Ejects film from the scanner.

Autofocus Button



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



Autoexposure Button



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

Zoom Buttons



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

Settings Menu



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

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: click to open the Tool Chest or Scan Progress windows

The Information Panel

Orientation



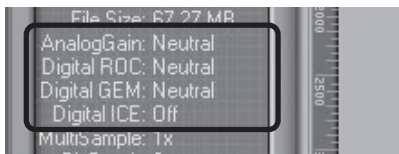
Shows the orientation of the preview image relative to the original, reflecting any flips or rotations that have been performed.

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



Displays the current bit depth (which determines the maximum number of colors in the image). When the 4000 ED is connected, it also indicates whether multi-sample scanning 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 Processed/Natural Tabs



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

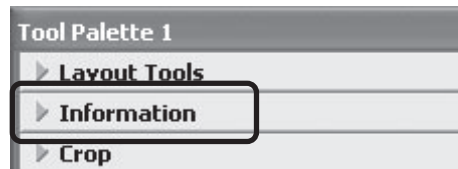
The Tool Chest

Layout Tools



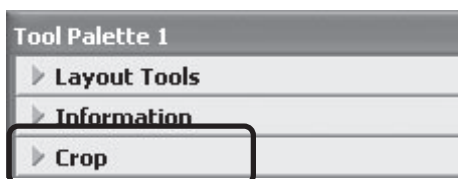
Use these tools to select the portion of the image to be scanned (the "crop") and to rotate and flip the image prior to scanning. You can also select a new focus area and scroll images that have been opened in Nikon Scan after scanning.

Information



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

Crop



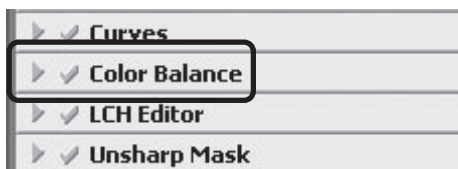
This is where you adjust the resolution and size of the image according to the output device (printer or monitor) on which the image will be displayed.

Curves



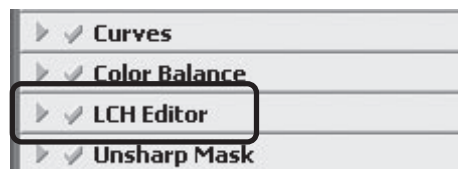
One of three color editing tools offered by Nikon Scan, the curves tool is useful when adjusting contrast and making changes to color balance that affect only a specific portion of the tone range (shadows, mid-tones, or highlights).

Color Balance



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

LCH Editor



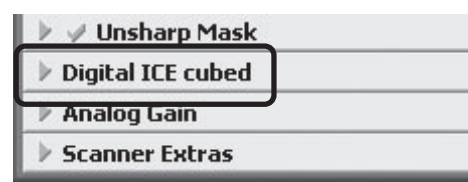
Like the Curves tool, the LCH editor can be used to adjust brightness and contrast in shadows, mid-tones, and highlights. It also incorporates hue and chroma editors, which provide extremely flexible tools for adjusting color.

Unsharp Mask



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

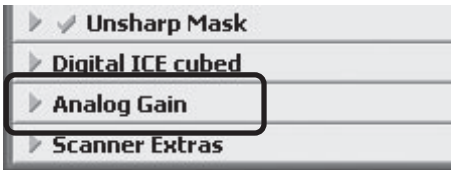
Digital ICE cubed



Three tools are available:

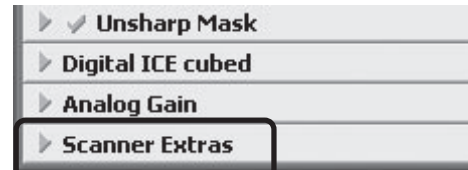
- Digital ICE: reduces the effects of dust and scratches
- Digital ROC: restores colors lost through fading
- Digital GEM: reduces the effect of film grain

Analog Gain



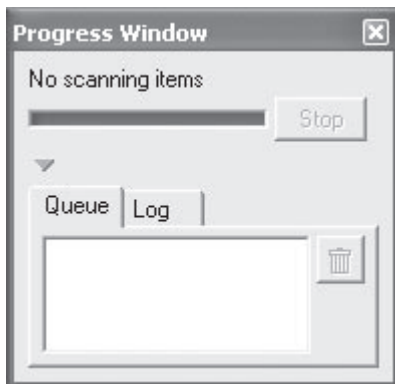
Using analog gain, you can adjust colors by directly altering the exposure value for each of the colored elements in the scanner's light source.


Scanner Extras

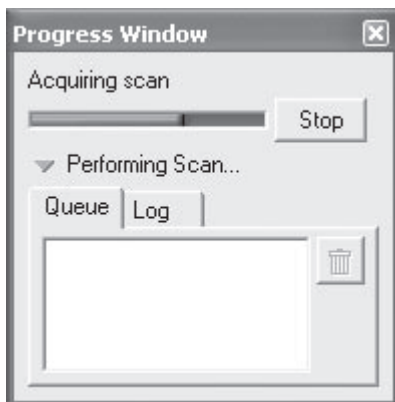


These tools offer control over features specific to your scanner.

The Scan Progress Window



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



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




Reference








This chapter includes troubleshooting instructions, maintenance tips, a list of optional accessories available for your scanner, product specifications, and an index.











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When Film Jams in the SA-21	133
Maintenance	137
Optional Accessories	143
Specifications	144
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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.

Problem	Possible Cause	
The scanner does not turn on (the status LED does not light)	<ul style="list-style-type: none">• The power cable is not properly connected After confirming that the scanner is off, reconnect the power cable.• The scanner is off Turn the scanner on.• The power supply to scanner has been interrupted Try plugging a different device into the outlet used by the scanner to determine whether the problem is caused by a failed fuse or circuit breaker.	 25  28 —
The status LED flashes rapidly (scanner not connected to computer or computer off)	<ul style="list-style-type: none">• 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	
<p>The status LED flashes rapidly (scanner connected to computer)</p>	<ul style="list-style-type: none"> • A connection error or scanner hardware malfunction has occurred Turn the scanner and computer off and disconnect the scanner from the computer. Wait five seconds, then turn the scanner on again. If the status LED flashes rapidly, a hardware malfunction has occurred. Contact your retailer or Nikon service representative for advice. If the status LED blinks slowly at first and then glows steadily, turn the scanner off and reconnect it to your computer, then start your computer and turn the scanner on. If the status LED flashes rapidly after the scanner is reconnected and turned on, there may be a problem with the interface between the scanner and the computer. Try the following measures to resolve the problem: • Disconnect all other devices that use same interface as the scanner • Re-install Nikon Scan • Update the device drivers for the USB or IEEE 1394/Firewire interface (Windows only) • Update the device drivers for your scanner (Windows only) 	<p style="text-align: center;">–</p> <p style="text-align: center;">  8  148 –  29 </p>
<p>The quality of scanned images is poor</p>	<ul style="list-style-type: none"> • 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 <i>Nikon Scan 3 Software Manual</i> for information on adjusting scanner settings, or try resetting scanner settings to factory defaults. 	<p style="text-align: center;">  112  6  88 </p>

Problem	Possible Cause	
<p>Your computer does not recognize the scanner</p>	<ul style="list-style-type: none"> • The scanner is off Turn the scanner on. • 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. • The interface cable is not properly connected After confirming that the scanner is off, reconnect the cable. • 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. • Your computer system does not meet the minimum system requirements See the <i>Nikon Scan 3 Reference Manual</i> for more information on system requirements. • The interface board is not compatible with Nikon Scan If you are using the 4000 ED, check the compatibility 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 compatibility 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. • The interface board is not correctly installed Check the documentation for your IEEE 1394 or Firewire interface board. • The device driver for your scanner is missing or corrupted (Windows only) Check that the driver is correctly installed. • Nikon Scan is not correctly installed Uninstall and re-install the software. 	 28  105  25  148  5  9  9  29  148

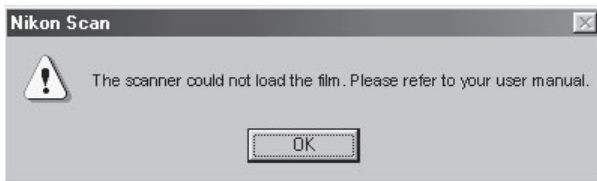
When Film Jams in the SA-21

When film jams in the SA-21, Nikon Scan will display an error and the scanner status LED will flash at rate of about five times per second. How you will handle the jam depends on whether the film is caught inside the adapter or if the problem occurred while the film was loading.



If the Film Jams During Loading

If the scanner is unable to load the film, the film will automatically be ejected and the following error message will be displayed:



Click **OK** and check whether the film is suitable for use in the SA-21. If it is, wait for the status LED to stop flashing and then reinsert the film. If the film can not be scanned in the SA-21, follow the instructions in "Film That Can Not Be Scanned in the SA-21."

If the above error occurs when no film is inserted in the scanner, it may indicate that the adapter requires cleaning. Clean the adapter as described under "Maintenance: Caring for Adapters."

If the Film Is Not Ejected

If the film is not ejected after you have clicked **OK** to close the above error message, follow the instructions under "If the Film Jams Inside the Adapter."



Pg. For more information on:

- 102 Film that can not be scanned in the SA-21
- 105 Using the FH-3
- 139 Cleaning the SA-21

If the Film Jams Inside the Adapter

If film jams inside the adapter, the following error message will be displayed:



Click **OK** to release the adapter locking mechanism. When the status LED to stop blinking, remove the adapter from the scanner, taking care to ensure that any film that may be protruding from the rear of the adapter does not come into contact with the scanner's internal parts. Remove the film from the adapter as described in the following section.

If the above error occurs when no film is inserted in the scanner, it may indicate that the adapter requires cleaning. Clean the adapter as described under "Maintenance: Caring for Adapters."

SA-21 Locking Mechanism

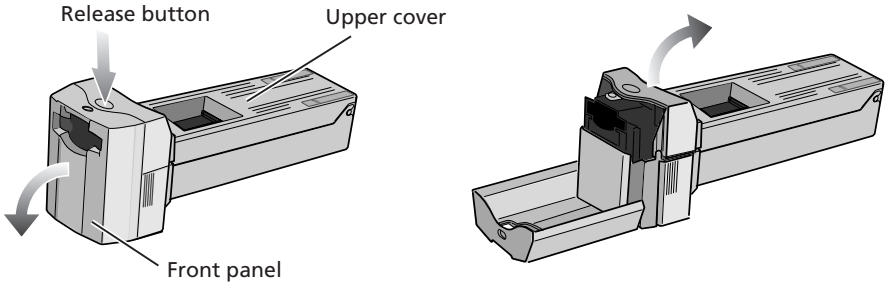
When not inserted in the scanner, the SA-21's locking mechanism is usually out of sight within the adapter. A shock or blow may sometimes cause the locking mechanism to spring out from the sides of the adapter. The adapter can nevertheless be inserted into the scanner normally.

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.

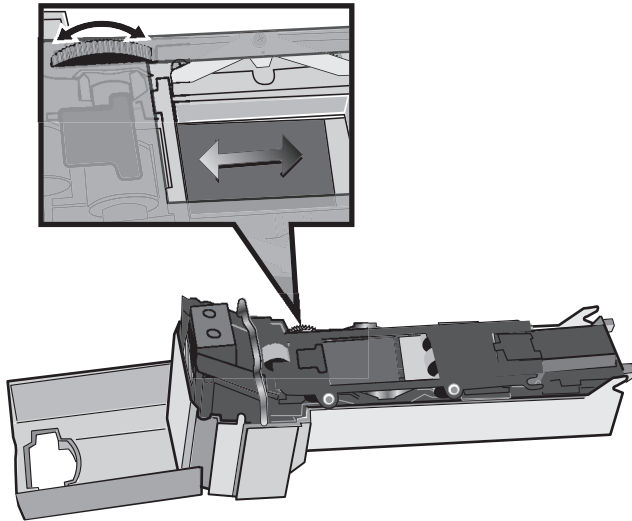
Do not reinsert the adapter immediately after removing it from the adapter slot, as this could result in damage to any film that may be protruding from the rear of the adapter.

Removing Film

- 1 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.

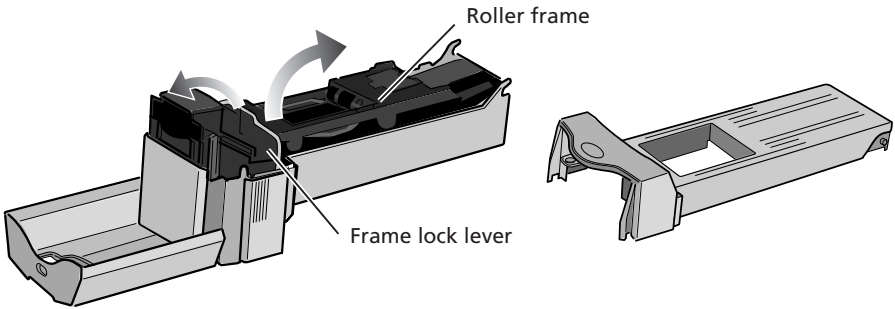


- If the end of the film strip is not visible, rotate the toothed wheel until the end of the film protrudes from either end of the adapter.

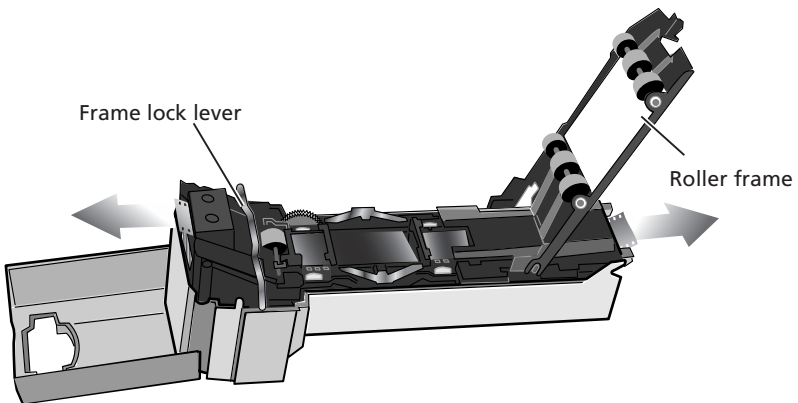


Place the adapter on a table or other flat, stable surface before opening the cover. If you hold the adapter in your hand while removing the upper cover, the adapter could fall to the floor and be damaged.

- 2 Release the frame lock lever and open the roller frame.



- 3 Pull gently on the film to remove it from the film slot or from the rear of the adapter.



- 4 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.



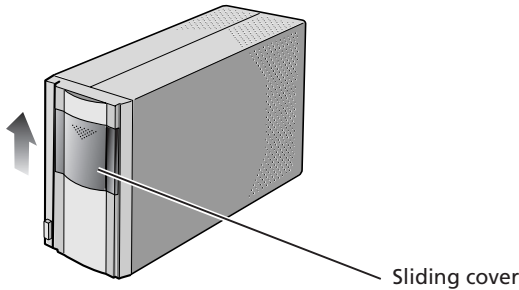
The roller frame should not be removed from the adapter. When opening the roller frame, stop when you feel resistance. Forcing the frame open could result in damage to the adapter. Work with the adapter and scanner on a table or other flat, stable surface. The adapter or scanner could be damaged should either fall to the floor.

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.



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

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

Servicing Your Scanner

Your scanner is a precision machine. We recommend that you take 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.

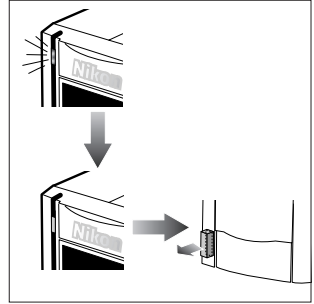
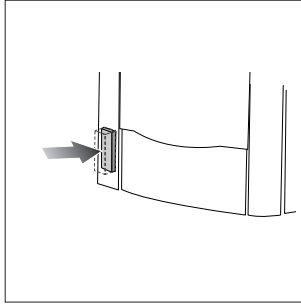
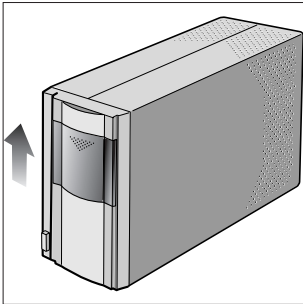
Cleaning the Scanner

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

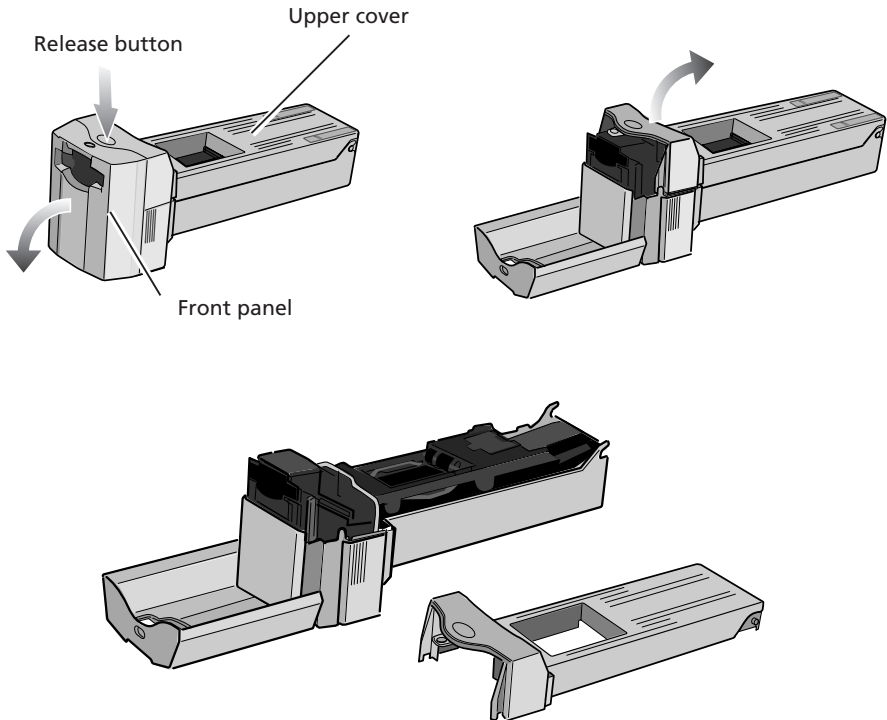
Storing the SA-21 Strip-Film Adapter

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:

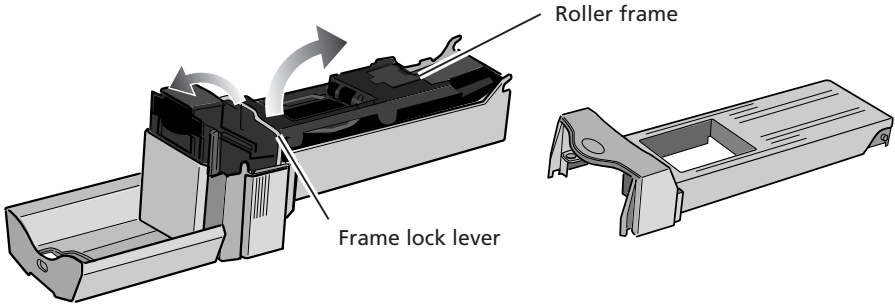
- the temperature is between minus twenty and plus sixty degrees Centigrade ($-4^{\circ}\text{F} - +140^{\circ}\text{F}$)
- the humidity is between twenty and ninety percent (no condensation)

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 the frame lock lever as shown below and open the roller frame.



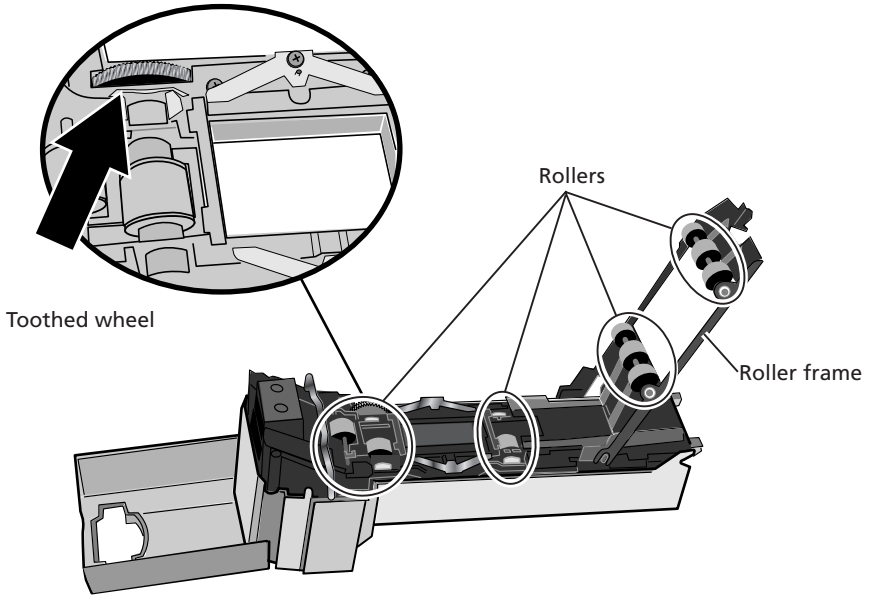
Using a dry cotton swab or a swab that has been slightly dampened with water and wrung out, remove dirt from the rollers while turning the toothed wheel slowly in either direction. Dry the rollers with a dry cotton swab or leave the roller frame open until the rollers dry.



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.

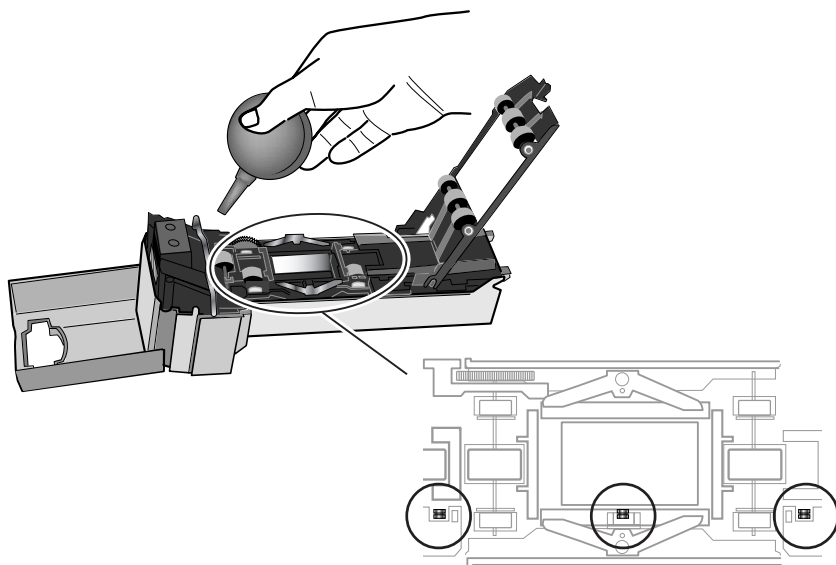
If the rollers inside the adapter are not clean, even film that is neither curled nor warped may jam in the adapter several times in succession, possibly resulting in damage to the film. Should this occur, you will need to clean the rollers. If the film continues to jam after the rollers have been cleaned, 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.



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.



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

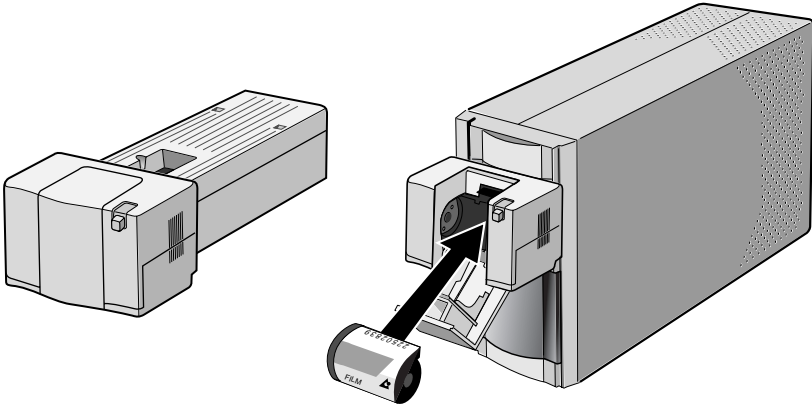
When cleaning the adapter, do not use volatile cleaners such as alcohol or paint thinner. Use a blower to remove dust. Clean dirt from the adapter with a soft dry cloth, or dampen the cloth with a neutral detergent to remove particularly stubborn stains, drying once cleaning is complete.

Optional Accessories

Options Available for the 4000 ED and COOLSCAN IV ED

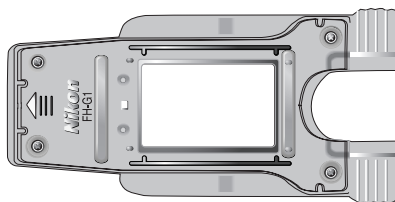
IA-20 (S) Adapter for APS (IX240) Film

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.

Specifications

Scanner Specifications

SUPER COOLSCAN 4000 ED (LS-4000 ED)

Film	<ul style="list-style-type: none">• 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), FH-3 (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), FH-3 (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	23.3 × 36.0 mm when scanning 35 mm film in the SA-21 or SA-30 24.0 × 36.0 mm when scanning 35 mm film in the FH-3 (S) 25.1 × 36.8 mm when scanning 35 mm film in the MA-20 (S) or SF-200 (S) 16.1 × 26.9 mm when scanning APS (IX240) film
Effective scan range	3529 × 5379 pixels when scanning 35 mm film in the SF-200 (S) 3546 × 5782 pixels when scanning 35 mm film in the MA-20 (S) 3654 × 5646 pixels when scanning 35 mm film in the SA-21 or SA-30 3762 × 5646 pixels when scanning 35 mm film in the FH-3 (S) 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])

Focus

Autofocus, Manual

Scanning time

Duration of Scanning on processes

ICE	ROC	GEM	Preview	Scan
-	-	-	15 s	38 s
✓	-	-	15 s	1 m 20 s
-	✓	-	52 s	1 m 00 s
-	-	✓	52 s	2 m 40 s
-	✓	✓	52 s	2 m 05 s
✓	✓	-	56 s	1 m 35 s
✓	-	✓	56 s	2 m 50 s
✓	✓	✓	56 s	2 m 55 s

Computer: FMV715GTX6 (Pentium 4 1.5GHz)
 RAM: 1GB
 OS: Windows 2000
 Software: Nikon Scan 3.1
 Board: IEEE 1394 I/F Board
 (included in the 4000 ED package)
 Adapter: MA-20 (S) Slide Mount Adapter
 Input Resolution: 4000dpi
 Scan Bit Depth: 14bit
 CMS: On
 Film: Positive

Interface

IEEE 1394

Power supply

AC 100–240 V, 50/60 Hz

Maximum power consumption while scanning

Not exceeding 20W

Power consumption at standby

Not exceeding 10W

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	<ul style="list-style-type: none">• 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 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 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 FH-3 (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) or FH-3 (S) 2870 × 4332 pixels when scanning 35 mm film in the SA-21 2120 × 3237 pixels when scanning APS (IX240) film
Effective aperture	23.3 × 36.0 mm when scanning 35 mm film in the SA-21 24.0 × 36.0 mm when scanning 35 mm film in the FH-3 (S) 25.1 × 36.8 mm when scanning 35 mm film in the MA-20 (S) 16.1 × 26.9 mm when scanning APS (IX240) film
Effective scan range	2657 × 4104 pixels when scanning 35 mm film in the SA-21 2736 × 4104 pixels when scanning 35 mm film in the FH-3 (S) 2870 × 4203 pixels when scanning 35 mm film in the MA-20 (S) 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, Manual

Scanning time

Duration of Scanning on processes

ICE	ROC	GEM	Preview	Scan
–	–	–	15 s	42 s
✓	–	–	15 s	1 m 40 s
–	✓	–	1 m 40 s	56 s
–	–	✓	1 m 40 s	1 m 40 s
–	✓	✓	1 m 40 s	1 m 30 s
✓	✓	–	2 m 05 s	1 m 55 s
✓	–	✓	2 m 05 s	2 m 40 s
✓	✓	✓	2 m 05 s	2 m 30 s

Computer: FMV715GTX6 (Pentium4 1.5GHz)
RAM: 1GB
OS: Windows 2000
Software: Nikon Scan 3.1
Adapter: MA-20 (S) Slide Mount Adapter
Input Resolution: 2900dpi
Scan Bit Depth: 8bit
CMS: On
Film: Positive

Interface USB 1.1 compliant

Power supply AC 100–240 V, 50/60 Hz

Maximum power consumption while scanning

Not exceeding 20W

Power consumption at standby

Not exceeding 10W

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 monochrome, positive or negative)
Feed Mechanism	Automatic feed with built-in motor
Power Source	Supplied from scanner
Dimensions	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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

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