

# Nikon

SUPER COOLSCAN 4000 ED



SUPER COOLSCAN 4000 ED  
with ROLL FILM ADAPTER  
SA-30 (optional)

- 4,000 dpi true optical resolution
- 14-bit A/D, 16-/8-bit output
- SCANNER NIKKOR ED lens
- Fast 38 sec. scanning  
(including image transfer to monitor)
- New setup function for color negative film
- Quick AF & Quick Preview
- High-speed IEEE 1394 interface
- Roll film compatible (optional)
- Multi-sample scanning
- Digital ICE<sup>3™</sup> (Digital ICE cubed)
  - Digital ICE™ (Image Correction & Enhancement)
  - Digital ROC™ (Reconstruction of Color)
  - Digital GEM™ (Grain Equalization & Management)

35mm/IX240 Film Scanner

## SUPER COOLSCAN 4000 ED

The professional choice for high resolution,  
high performance film scanning



# Maintain Your Professional Image

Nikon's SUPER COOLSCAN 4000 ED 35mm/IX240 film scanner is the result of the skillful integration of analog and digital technology. Its true 4,000 dpi and 16-/8-bit output ensure extremely high-quality reproduction — high-definition images in vivid color. One of the primary reasons for this scanner's high performance is Nikon's new SCANNER NIKKOR ED lens — born, naturally, of the most advanced optical technology anywhere.

Add to this Digital ICE<sup>3™</sup>, the digital automatic adjustment function and fast scanning, and you have a very high-quality, high-productivity film scanner for professionals who are looking for the best possible digital replication combined with a high degree of efficiency.

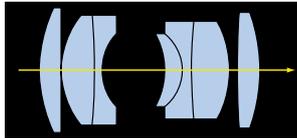
## 4,000 dpi, 22 million pixels/color, 14-bit A/D converter

The SUPER COOLSCAN 4000 ED is a 4,000 dpi optical resolution film scanner that scans an image and sends the data through a 14-bit A/D converter which features  $4 \times 10^{12}$  colors, delivering highly accurate color that is sure to satisfy discriminating professionals.

## SCANNER NIKKOR ED lens



Nikon's new lens comprises 7 elements in 4 groups, including 3 ED (Extra-low Dispersion) glass elements, and carries forth the Nikkor tradition for excellent performance — delivering reduced chromatic aberration and image distortion, and sharp images. The lens brings out the true color and tone of the image.



Lens cross-sectional view

## Customized 3,964-pixel CCD

This low-noise, 3,964-pixel CCD offers a wide dynamic range that supports high-resolution performance.

## New setup function for color negative film

This new scene analysis function, featuring intelligent tone and color auto-correction, enables quality reproduction of orange-tinted negative film.

## Multi-sample scanning

Film images comprise such a large amount of data that one scan may not be sufficient to bring out their true color and detail. The Nikon SUPER COOLSCAN 4000 ED offers multiple sample scanning capability of up to 16 times, ensuring beautifully reproduced images that are virtually free of noise.



Multi-sample scanning (16 times)

*In order to clearly present the benefit of the function, the gamma value of the images have been adjusted.*

## Cool LED illumination

Unlike halogen or fluorescent lamp lighting, the LED only illuminates during scanning, protecting the film from heat-related damage.



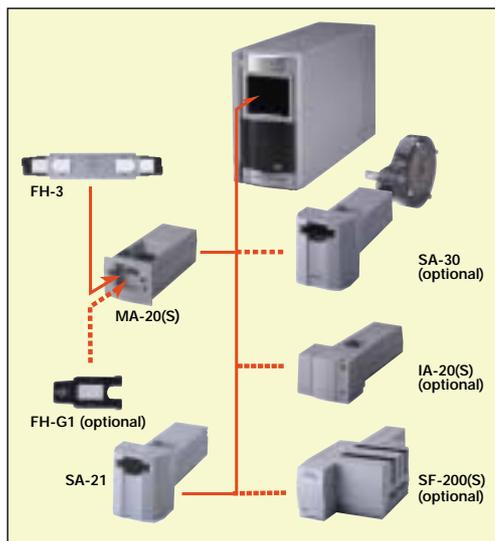
## ROLL FILM ADAPTER SA-30 (optional)

Strip type  
35mm (135) strip and roll film with 2 to 40 frames

# The Versatility You Demand

## Multiple adapters and holders

An impressive array of versatile adapters and holders enables users to scan a variety of film formats:



## STRIP FILM ADAPTER SA-21

Strip type  
35mm (135) strip film with 2 to 6 frames



## SLIDE MOUNT ADAPTER MA-20(S)

Slide type  
Width: 49-50.8mm (1.9-2.0 in.)  
Thickness: 1.0-3.2mm (0.04-0.13 in.)

(use of one to six frames requires STRIP FILM HOLDER FH-3)



MEDICAL SLIDE HOLDER FH-G1 (optional)  
Slide glass type  
26 x 76mm prepares (slide glass)



## IX240 FILM ADAPTER IA-20(S) (optional)

Film type  
IX240 (Advanced Photo System™) film cartridge



## SLIDE FEEDER SF-200(S) (optional)

No. of slides  
50 slides in 1.5mm-thick mounts



**Flexible Setting**  
The film scanner SUPER COOLSCAN 4000 ED can be placed either horizontally or vertically.

# The Speed You Need

## Quick startup

You can get right to work after turning the power on — there's no need to wait for this scanner to warm up.

## Quick AF & Quick Preview

Quick AF (with SLIDE MOUNT ADAPTER MA-20(S)) is automatically initiated once the appropriate film format for scanning has been detected, and image preview and image exposure correction capabilities are made possible by Quick Preview.

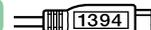
## Enhanced scanning speed

Scanning is accelerated by the incorporation of an ASIC (Application Specific Integrated Circuit). High-speed 4,000 dpi scanning takes only 38 seconds to display on the monitor.

## Batch scanning

The ability to scan multiple frames in one shot will save you time.

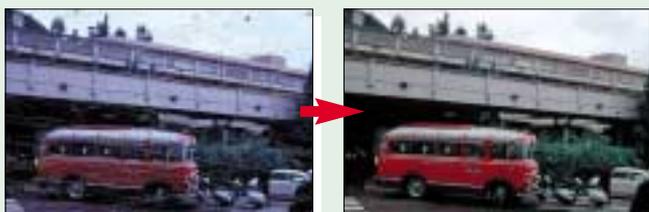
## IEEE 1394 interface



The Nikon SUPER COOLSCAN 4000 ED uses the IEEE1394 interface, enabling transfer of data at up to 400Mbit/sec. (max.). And the interface is designed for "Plug-and-Play" simplicity, making setup a breeze.

## Digital ICE<sup>3</sup>™ (Digital ICE cubed)

Professionals, and anyone who has positive or negative images that are faded, scratched or over- or underexposed, now have the power to bring them back to life. Digital ICE<sup>3</sup>™ is a suite of digital tools designed for color correction and enhancement of images. Digital ICE™, Digital ROC™ and Digital GEM™ work to reconstruct original color and equalize image grain.



Europe 1963

with ICE<sup>3</sup>

## 2 Digital ROC™ (Reconstruction of Color)

This function brings faded color back to life, determining the ideal color tone for each individual image. You can set the degree to which the color is adjusted to suit your personal preference.



Hawaii 1963

with ROC

## 1 Digital ICE™ (Image Correction & Enhancement)



The Digital ICE™ rids images of fingerprints, dust, scratches and more.

In addition to the three RGB channels that pick up the colors of the image, there's a fourth defect channel that detects damage on the surface of the film and makes necessary repairs digitally.

with ICE

Digital ICE™ applies to color film and color process monochrome film, but is not recommended for use with Kodachrome film.

## 3 Digital GEM™ (Grain Equalization & Management)

Digital GEM™ equalizes the image grain and smooths out the overall tone of the image. You can set the degree of grain equalization to suit your personal preference.



with GEM

Digital ICE<sup>3</sup> (Digital ICE cubed) is Digital ICE, Digital ROC and Digital GEM. Digital ICE<sup>3</sup> (Digital ICE cubed), Digital ICE, Digital ROC and Digital GEM are trademarks of Applied Science Fiction Inc. Digital ICE<sup>3</sup> (Digital ICE cubed) are technologies developed by Applied Science Fiction Inc.

## Driver software Nikon Scan 3

The SUPER COOLSCAN 4000 ED is an easy scanner to use, giving you the comprehensive control you need for professional results. A completely redesigned Photoshop™ plug-in for Mac OS™, and a TWAIN source for Microsoft® Windows® users are bundled with the scanner. The new Nikon Scan 3 driver runs with any Photoshop™ or TWAIN-compatible image-editing software, as well as stand-alone.

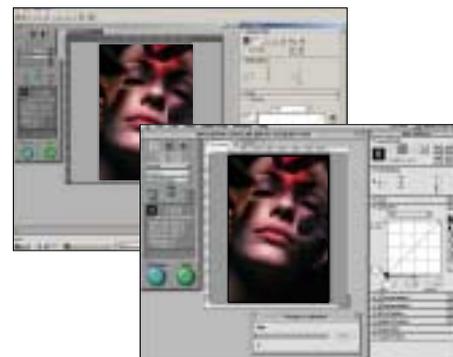
### Easy Scan

From simple scanning to advanced editing, even a beginner can use Nikon Scan 3 thanks to the easy-to-understand GUI (graphical user interface). The image display can be resized and drag-and-drop

can be performed. Preview, rotation, reversal, enlargement/reduction display, trimming, resolution setting, and various adjustments can also be done.

### Thumbnail Scan

Nikon Scan 3 is best suited for scanning six-frame strip films and Advanced Photo System™ films. It can display thumbnails at high speed, enabling the selection of any frame or continuous scanning of all frames. You can select and display any frame by entering frame numbers. Batch scanning is also available for any number of frames.



## 35mm/IX240 Film Scanner LS-4000 ED Specifications

<b>Reading system/Optics</b>	
<b>Film type</b>	35mm (135)/IX240 film, slide glass for microscope
<b>Reading resolution</b>	4,000 dpi
<b>Types of film adapter and holder</b>	STRIP FILM ADAPTER SA-21 (2 to 6 frames) SLIDE MOUNT ADAPTER MA-20(S) STRIP FILM HOLDER FH-3 (1 to 6 frames) IX240 FILM ADAPTER IA-20(S) (15/25/40 frames; optional) ROLL FILM ADAPTER SA-30 (2 to 40 frames; optional) SLIDE FEEDER SF-200(S) (1 to 50 frames; optional) MEDICAL SLIDE HOLDER FH-G1 (for slide glass) (optional)
<b>Scanning area (max.)</b>	25.1 x 38.0mm (3,946 x 5,959 pixels)
<b>Effective area (size/pixels)</b>	SA-21: 23.3 x 36.0mm (3,654 x 5,646) MA-20(S): 25.1 x 36.8mm* (3,946 x 5,782) FH-3: 24.0 x 36.0mm (3,762 x 5,646) IA-20(S): 16.1 x 26.9mm (2,525 x 4,219) SA-30: 23.3 x 36.0mm (3,654 x 5,646) SF-200(S): 25.1 x 36.8mm* (3,946 x 5,782) FH-G1: 22.9 x 35.0mm (3,591 x 5,488)
<b>Illumination</b>	R, G, B, and D-LED array
<b>Imaging optics</b>	SCANNER NIKKOR ED lens (7 elements in 4 groups including 3 ED glass elements)
<b>Focusing</b>	Autofocus and Manual focus

<b>Scanning/Signal processing</b>	
<b>Scan time</b>	Approx. 38 sec. at 4,000 dpi (35mm), 16-bit output (typical scan time with display, Windows, CMS off)
<b>Density range</b>	4.2
<b>Thumbnail scanning and batch scanning</b>	35mm (135) strip film: 2 to 6 frames IX240 film cartridge: 15/25/40 frames 35mm (135) strip film (with SA-30): 2 to 40 frames 35mm (135) mount film (with SF-200(S)): 1 to 50 frames
<b>A/D conversion</b>	14 bits
<b>Output data</b>	16 bits, 8 bits per color channel (user selectable)
<b>Digital ICE<sup>3</sup>™</b>	Digital ICE™, Digital ROC™, Digital GEM™
<b>Multi-sample scanning</b>	2, 4, 8, 16 times (user selectable)
<b>Color Management System</b>	Built-in

<b>Data transfer</b>	
<b>Interface</b>	IEEE1394 (6 pin)

<b>Operating conditions</b>	
<b>Power requirements</b>	100~240 VAC, 0.3~0.2A, 50/60Hz
<b>Environmental</b>	<b>Temperature:</b> 10~35°C (50~95°F) <b>Relative humidity:</b> 20~60% RH (non-condensing)
<b>Dimensions (W x H x D)</b>	93 x 169 x 315mm (3.7 x 6.6 x 12.4 in.)
<b>Weight (approx.)</b>	3kg (6.6 lbs.)

<b>Others</b>	
<b>Accessories included*</b>	STRIP FILM ADAPTER SA-21, SLIDE MOUNT ADAPTER MA-20(S), STRIP FILM HOLDER FH-3, IEEE 1394 board, IEEE 1394 cable (6 pin-6 pin), Nikon Scan 3 Driver Software, AC power cord, Manual

\* Accessories may differ in each country or region.

## Nikon Scan 3 Driver Software Requirements

	For Macintosh®	For Windows®
<b>CPU</b>	Power PC G3 or later (Power PC G4 or later recommended)	MMX Pentium 166 MHz or better (Pentium II or better recommended)
<b>OS</b>	System 8.6 or later	Windows 98 Second Edition (SE) <sup>†</sup> , Windows Me, Windows 2000 or later
<b>RAM</b>	32 MB (64 MB or more recommended)**	
<b>Hard-Disk Space</b>	20 MB free for installation with additional 20 MB available while Nikon Scan is running (200 MB or more recommended, or 400 MB or more when using Digital ROC™ or Digital GEM™)	
<b>Video Resolution</b>	640 x 480 pixels or greater with 16-bit RGB color (thousands of colors) or more	
<b>Interface</b>	FireWire® Support 2.3.3 or later recommended † Built-in ports supported from FireWire® Support 2.0. If you are using an old-model (beige) G3 desktop computer not equipped with an IEEE 1394 board, you can install the board that is provided.	Only boards compliant with Open Host-Controller Interface (OHCI) are supported.† If your computer has an empty PCI slot and is not equipped with a suitable board, you can install the board that is provided.
<b>Miscellaneous</b>	CD-ROM drive required for installation	

\* The IEEE 1394 driver update provided with Nikon Scan is required when using with Windows 98 SE.

\*\* A minimum of 192 MB is recommended when using Digital GEM™, Digital ROC™, IX240 FILM ADAPTER IA-20(S) (optional), or ROLL FILM ADAPTER SA-30 (optional). Additional memory is required to run the host application when Nikon Scan functions as a TWAIN source or as an acquire plug-in.

† The scanner may not function as expected when connected to an IEEE 1394 hub.



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	<b>WARNING</b>	TO ENSURE CORRECT USAGE, READ MANUALS CAREFULLY BEFORE USING YOUR EQUIPMENT. SOME DOCUMENTATION IS SUPPLIED ON CD-ROM ONLY.
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